BRITISH COLUMBIA

Ref: 187821

September 25, 2009

Dear Foster Parents,

Re: Foster Parent Training ***Period of PURPLE Crying***®.

Enclosed you will find some information on a foster parent training opportunity that is currently offered through the Prevent Shaken Baby Syndrome (SBS) Society, within Children's Hospital of British Columbia.

The ***Period of PURPLE Crying***® is an evidence-based shaken baby syndrome prevention program currently being implemented in the province. The program materials (a 10-minute DVD and 11-page booklet) are provided to all new parents by hospital maternity nurses. The ministry in partnership with SBS is enclosing this same information and materials to you so you can benefit from this new program.

Please refer to the "*Training for Foster Parents Information Sheet*" enclosed to determine how you can access this training through your Foster Parent Support Association in your community. There is a step-by-step guide on how to access this training as well as a contact phone number should you have any questions about the process.

The ministry is also offering the ***Period of PURPLE Crying***® to all social workers in the province over the next year.

Thank you for your continued support as a foster parent as well as your time and consideration to this valuable new training program.

Sincerely,

Mark Sieben
Chief Operating Officer
Ministry of Children & Family Development

Ministry of Children and Family Development

Please run Office Information.

Mailing Address:

Telephone:
Facsimile:
Web:
http://www.gov.bc.ca/mcf

Sales Order

National Center on Shaken Baby Syndrome
2955 Harrison Blvd
Suite #102
Ogden, UT 84403
(801) 627-3399
Phone #: 801-627-3399
Fax #: 801-627-3321
Web Site: www.dontshake.org

Order Number: 0002168
Order Date: 10/28/2008
Customer Number: PREV011

Quotes Good for 30 Days from Date on Quote

Sold To:
Prevent SBS British Columbia
Suite 260 - 1770 West 7th Ave.
Vancouver, BC V6J 4Y6

Ship To:
Prevent SBS British Columbia
Children's & Womens
Health Centre BC
4500 Oak Street
Vancouver, BC V6H 3N1

Confirm To:
Jocelyn Conway

Customer P.O.	Ship VIA	F.O.B.	Terms
	UPS GROUND	E-mail	Due Upon Receipt

Item Number	Unit	Ordered	Shipped	Back Order	Price	Amount
PRGM-PPL-EN	EACH	36,892.00	0.00	36,892.00	2.00	73,784.00
PURPLE Prgm ENGL			**Whse:** ASP			
PRGM-PPL-CS	EACH	3,588.00	0.00	3,588.00	2.00	7,176.00
PURPLE Prgm CANT			**Whse:** ASP			
PRGM-PPL-JP	EACH	1,012.00	0.00	1,012.00	2.00	2,024.00
PURPLE Prgm JAPN			**Whse:** ASP			
PRGM-PPL-KN	EACH	1,012.00	0.00	1,012.00	2.00	2,024.00
PURPLE Prgm KORE			**Whse:** ASP			
PRGM-PPL-PJ	EACH	3,956.00	0.00	3,956.00	2.00	7,912.00
PURPLE Prgm PUNJ			**Whse:** ASP			
PRGM-PPL-SP	EACH	1,012.00	0.00	1,012.00	2.00	2,024.00
PURPLE Prgm SPAN			**Whse:** ASP			
PRGM-PPL-VT	EACH	1,012.00	0.00	1,012.00	2.00	2,024.00
PURPLE Prgm VIET			**Whse:** ASP			
PRGM-PPL-FR	EACH	1,012.00	0.00	1,012.00	2.00	2,024.00
PURPLE Prgm FREN			**Whse:** ASP			
PRGM-PPL-PG	EACH	552.00	0.00	552.00	2.50	1,380.00
PURPLE Prgm PTGS			**Whse:** ASP			

Net Order:	100,372.00
Less Discount:	0.00
Freight:	0.00
Order Total:	100,372.00
Less Deposit:	0.00
Order Balance in US Funds	100,372.00

Seventh North American Conference on Shaken Baby Syndrome (AHT)
Proposal for Funding Registrations and Sponsorship from
MCFD Early Childhood Development

December 13, 2007

*To**: MCFD Early Childhood Development***
C/O: ***Loreen O'Byrne Director***
MCFD Early Childhood Development

Event Title: **Seventh North American Conference on Shaken Baby Syndrome**

Event Date: **October 5-7, 2008**

City: **Vancouver, BC, Canada**

Event Location: **Westin Bayshore Hotel, Vancouver, BC**

Phone: **801-627-3399** Fax: **801-627-3321** Website: **www.dontshake.org and www.dontshake.ca**

Address: **2955 Harrison Blvd. Ste 102, Ogden, UT, 84403, USA**

Contact person: **Marilyn Barr**, **(604) 662-8691 or (604) 875-2000 (5100)**
mbarr@dontshake.org

Introduction
In 2005 and again in 2006, the Ministry of Children and Family Services was a $10,000 sponsor of two Shaken Baby Syndrome / Abusive Head Trauma (SBS/SHT) symposia held in Vancouver. These symposia were one day meetings that included four international speakers and two workshop presentations. The registration for this one day conference was $125. There was such an outstanding interest in the meeting that over 150/135 people attended and many were turned away due to lack of space. In 2007 there was not an SBS conference in Vancouver in anticipation of the North American Conference on SBS/AHT that would be coming in 2008. This proposal is to request the same level of support but for a much greater benefit.

The 2008 conference is truly an international conference. There will be presenters from many countries including Australia, the United Kingdom, Canada, the United States, Estonia, France, Holland, Japan and Turkey. It is the intent of the conference organizers to invite the Honourable Tom Christensen to open the conference and make a few comments about the SBS prevention initiative in British Columbia.

This conference provides a wonderful opportunity for MCFD personnel to be trained in the most comprehensive way possible on this subject.

The conference is being sponsored by the National Center on Shaken Baby Syndrome/AHT in partnership with Prevent Shaken Baby Syndrome British Columbia.

Previous Conferences
The National Center on Shaken Baby Syndrome (NCSBS) has a mission *to prevent shaken baby syndrome through the development and implementation of education, programs, public policy and research; to establish networks, support and train families, caregivers and professionals.*

The NCSBS has sponsored six conferences in North American and two international conferences in Scotland and Australia on SBS. The seventh will be in Vancouver B.C in 2008. This will be the first and may be the last time it will be held in British Columbia. The NCSBS has an outstanding reputation worldwide and is viewed as providing the most respected and valued training offered on the subject. The planning committee is a combination of well-renowned SBS experts in North America, including our international scientific advisory board.

North American conferences are held every two years and alternate venue sites between Canada and the United States. In 2004 the conference was held in Montreal, QC, Canada and included over 500 participants and 75 of the world's most renowned experts on SBS (Program attached). In 2006 the conference moved to Park City, Utah and again had over 500 participants and 100 speakers. (Program attached).

2008 Conference on SBS
The Seventh North American Conference on Shaken Baby Syndrome will be held in Vancouver, BC, Canada, October 5-6-7, 2008 and will address all aspects of the prevention, investigation and diagnosis of shaken baby syndrome. The keynote addresses and the invited workshops are confirmed and represent the most respected experts in the world on this topic. These presentations follow this proposal.

The other 86 possible workshops will be determined by the program review committee who are currently evaluating the abstracts submitted. The complete program will be distributed in January 2008. The conference hotel has contracted with the conference organizers for outstanding room rates to make the conference affordable for participants.

The following are the overall conference goals:

- To provide a conference that is designed to reach a multi-disciplinary audience with presentation workshops in the following tracks; medical and research, child protection and social work, legal and investigations, prevention, and family impact. There will be no special background requirements of the prospective participants other than their desire to learn more about shaken baby syndrome.

- To support and enhance networking among professionals and between professionals and family members.

- To examine current practices, challenges, public policy, family involvement and research needs related to shaken baby syndrome and discuss priorities for the future.

- To provide and open forum for families of victims to discuss current and best practices with the professionals who are involved in shaken baby syndrome diagnosis, treatment and research.

Proposal
We propose that the Ministry of Children and Family Development (MCFD) become one of the sponsoring organizations for this conference. We request that the sponsorship be for $10,000 and the MCFD will be listed and recognized as a major sponsor. The $10,000 will also entitle MCFD to receive 68 complimentary registrations for MCFD personnel for the 3-day conference. This means that MCFD delegates will be able to attend sessions for a hugely reduced rate of $150 each (regular registration is $350 and physician registration is $400). They will have time to network with other professionals from North America and around the world. Additionally, MCFD will be given complimentary exhibit space if desired.

This is a once in a lifetime opportunity for personnel from the MCFD to attend this kind of an event. The conference will likely never again be in Vancouver.

The MCFD will be recognized in the following ways for their support:

- Listed as a sponsor on the NCSBS website, in the conference brochure, onsite program and at keynote sessions.
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Seventh North American Conference on
Shaken Baby Syndrome (Abusive Head Trauma)
October 5, 6 and 7, 2008
Vancouver, BC Canada

Opening of Conference Sunday, October, 5, 2008

8:00 – 12:00 p.m. (Investigation)
Investigation of Shaken Baby (Abusive Head Trauma) Cases:
A Law Enforcement and Legal Perspective

- Brian Holmgren, JD, (Nashville, TN, USA)
- Michel Pilon, Investigator, Professor of Criminology (Montreal, Canada)
- Randy Watt, Assistant Chief of Police (Ogden, UT, USA)
- Philip Wheeler, DCI (Abbots Langley, Herts, United Kingdom)

8:00 – 12:00 p.m. (Prevention)
Addressing Issues of Implementation and Sustaining Prevention Programs:

- **Evidence Based Programs and Tested Materials**
  Mark Dias, MD, FAAP, (Hershey, PA, USA)
  Ronald G. Barr, MDCM, (Vancouver, BC, CA)
- **National Legislation*:* Opportunities and Challenges**
- **Shared Stories of Program Directors**

1:00 – 5:00 p.m. (Medical)

Other Theories: Is it SBS/AHT or Something Else?

- Randy Alexander, MD, PhD, FAAP (Jacksonville, FL, USA), Pediatrician
- David Chadwick, MD, (La Mesa, CA, USA), Short Falls
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Keynote Address
Sunday Evening 6:00 – 8:00 p.m. October 5, 2008

Preserving Reason in the Debate about Inflicted Injuries
Sir Roy Meadow, MD (Leeds, United Kingdom)

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Monday – Wednesday, October 6, 7 2008

What are the Three Most Significant Developments as an Expert in your Field?
(Two Hour Presentation)
Moderator: Carole Jenny, MD, (Providence, RI, USA) Each Panel Member will describe the 3 most important developments in their field in the past three years.

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Ann-Christine Duhaime, MD, (Philadelphia, PA, USA)**Tuesday October 7, 8:00 am**
Keynote Address:
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Captain Barbara Craig, MD, FAAP (Bethesda, MD, USA);
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December 13, 2007

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C/O: ***Loreen O'Byrne, Director***
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Ministry of Children and Family Development Proposal Budget (MCFD Only) 2007 - 2011					
BC SBS Prevention Program Implementation	**Year One** **Apr/07 - Mar/08**	**Year Two** **Apr/08 - Mar/09**	**Year Three** **Apr/09 - Mar/10**	**Year Four** **Apr/10 - Mar/11**	
Program Salaries *w/benefits incl.*					
Program Manager 1.0 FTE @ 53,523	$65,474	$66,681	$67,912	$68,221	
Project Coordinator A 1.0 FTE @ 35,918 Jun hire	$40,154	$49,338	$50,330	$50,559	
Project Coordinator B 1.0 FTE @ 35,918 Jun hire	$40,154	$49,338	$50,330		
Information Specialist 1.0 FTE @ 35,918	$24,738	$49,413	$50,330	$50,559	
Sub Total	**$170,520**	**$214,770**	**$218,902**	**$169,339**	**$773,531**
Program Expenses					
Laptop/Projectors	$4,000				
Mileage and parking	$2,500	$2,500	$2,500	$2,500	
Public Education Campaign		$37,000	$32,000	$20,000	
Travel	$2,500	$5,000	$5,000	$2,500	
PURPLE materials*	$28,200	$88,696	$88,696	$88,696	
Shipping to sites	$1,000	$2,500	$2,500	$2,500	
Sub Total	**$38,200**	**$135,696**	**$130,696**	**$116,196**	**$420,788**
Evaluation Expenses					
Project Coordinator	$13,060	$13,452	$13,855	$14,271	
Data Analyst	$6,530	$6,726	$6,928	$7,136	
Post Doctoral Fellow	$24,000	$19,000	$19,000	$24,000	
Research Assistant 1	$4,500	$4,635	$4,774	$4,917	
Research Assistant 2		$13,755	$14,168	$14,593	
Penetration Assessment		$7,500	$7,500	$7,500	
Maternal Knowledge Questionnaire		$10,000	$10,000	$10,000	
General Public Knowledge Survey	$5,200			$5,200	
Patient Chart Retrieval & Abstraction/off site	$1,250	$1,288	$1,326	$1,366	
CIHI data request	$4,462			$4,462	
Project Computer	$2,500				
Sub Total	**$61,502**	**$76,356**	**$77,551**	**$93,445**	**$308,854**
Program Budget Total	**$270,222**	**$426,822**	**$427,149**	**$378,980**	**$1,503,173**
Less funds from Research Grant Year 4	-$74,398				-$74,398
Funds Requested from MCFD	**$195,824**	**$426,822**	**$427,149**	**$378,980**	**$1,428,775**

February, 2007

Ministry of Children and Family Development
Preventing Shaken Baby Syndrome and Infant Abuse:
The *Period of PURPLE Crying* Program

Proposal: A province-wide implementation of the *Period of PURPLE Crying* program for the prevention of Shaken Baby Syndrome [SBS] (abusive traumatic brain injury) in infants.
Target: Implement a universal prevention program for all 40,000 births/year in BC over 4 years.
Outcomes: (1) Bring about a cultural change in knowledge of crying and shaking in parents of newborns and society generally to permanently reduce shaking and SBS;
(2) Reduce incidence of SBS by 50% in 4 years.
Program Description: Each parent of a newborn receives a "triple dose" of education about normal infant crying and dangers of shaking an infant: (1) in hospital maternity wards; (2) by home visitor public health nurses; and (3) through a public education campaign. Other health centers, physicians (family practice, pediatricians and ER physicians and nurses), early child specialists, First Nations, minority and at risk populations will be targeted.
Evaluation: 6 components to measure reaching goals:
(1) active surveillance of traumatic head injuries in infants at BC Children's Hospital;
(2) active surveillance of SBS cases and abusive injuries from 5 provincial child protection services;
(3) active review of BC Coroner's cases for deaths due to SBS/abuse;
(4) passive surveillance with CIHI (Can. Inst. Health Info) and Ministry of Health discharge data, compared with rest of Canada;
(5) passive surveillance with Canadian Pediatric Society Surveillance data system.
(6) process evaluation of program "penetration," effects, and accessibility in the community.
Background and Significance:
Physical abuse is a leading cause of death and morbidity in infants under age 2. SBS is the leading cause of death and morbidity in infants under age 1 and peaks at 3 months. Incidence ranges from 22-30/100,000 births. Twenty-five per cent die; 80% of survivors have life-long permanent disability. Estimated medical costs $32,000 initially; $1 million lifetime, not counting legal costs and incarceration of perpetrator. Typical crying in normal infants is the stimulus in over 90% of cases. Shaking is common. 1.9% of parents in British Columbia believe it is a good way to soothe their infant.
SBS is preventable. Maternity ward education of parents may reduce SBS incidence by 25-47% (current best practice). ***Period of PURPLE Crying*** program should improve on best practice by (1) linking understanding of normal development (crying) to dangers of shaking; (2) higher acceptability to parents (educational rather than threat); (3) higher acceptability to nurses; (4) available in 7 languages; (5) "triple dose" primary universal community-based education.
MCFD Support: **Phase I** (2004-2007): With other partners, MCFD supported randomized controlled trial of *Period of PURPLE Crying* materials to change knowledge, attitudes and behavior when delivered by public health home visitor nurses before 2 weeks of age. Cost: $386,644 (52% of project costs: see page 2). Results: (1) improved crying knowledge by 4.5-22%; (2) increased walk away when frustrated behavior by 69%; (3) *increased* sharing of knowledge and prevention by 9-13% overall, ranging from 5-38% depending on caregiver.
Phase II Implementation (2007-2011) Proposed: With at least 7 other financial partners (see budget), MCFD component requested: **07/08** $195,824 **08/09** $424,822; **09/10** $427,149, **10/11** $378,980.

Summary: This proposal describes a comprehensive, empirically-based prevention program to reduce a ***preventable*** health burden in British Columbia. It incorporates best practices, but goes beyond it by (1) using an empirically tested program (*The Period of PURPLE Crying*) previously tested in BC; (2) using the home visitor nurse program, unique in N. America for optimal program delivery; and (3) bringing about a cultural change in understanding crying and shaking baby syndrome to sustain improvement. Successful implementation would make British Columbia the first province- or state-wide jurisdiction in North America to do so.

Proposal submitted to the
Ministry of Children and Family Development
Preventing Shaken Baby Syndrome and Infant Abuse:
The *Period of PURPLE Crying* Program
February 14, 2007

Introduction

This grant proposal describes a province-wide implementation of the *Period of PURPLE Crying* program[1] for the prevention of abusive traumatic brain injury among infants (more commonly known as Shaken Baby Syndrome). We propose to implement this universal prevention program for all of the approximately 40,000 births a year in British Columbia over a four-year period. The project represents a unique collaboration of birthing hospitals, public heath nurses, and the BC Children's Hospital. The BC Shaken Baby Prevention Program will be the lead agency and the evaluation will be conducted by the Center for Community Child Health Research of the Child and Family Research Institute (CFRI). The goals will be to create a cultural change in parents' understanding and response to infant crying and a 50% decrease in the number of cases of traumatic brain injury (shaken baby syndrome).

The program to be implemented is based on the most current research but improves on best practices that have recognized limitations to provide an optimal likelihood of success in reaching these goals. It exploits the unique opportunity that British Columbia provides because of its public health nurse home visitor program, not available anywhere else in North America. It provides a "triple dose" of education about crying and the dangers of shaking an infant. Parents will receive the information in three ways: (1) in hospital maternity wards after the birth of their baby, (2) by home visitor public health nurses, and (3) through a public education campaign. In addition, other key health centers, physicians (including family practice, pediatricians and emergency room doctors), early child health specialists, and First Nations, minority and at risk populations will be specifically targeted and informed about the program.

The program will have a 6-component evaluation to determine whether it reaches its goals. This will include (1) active surveillance of traumatic head injuries in infants; (2) active surveillance of abusive head trauma (shaken baby syndrome cases) from child protection services; (3) review of Coroner's cases of deaths due to abuse; (4) a passive surveillance program based on discharge data sets; (5) a surveillance program based on the Canadian Pediatric Surveillance Program; and (6) a process evaluation to determine whether the program reaches expected penetration levels (95% or better) and is understood by parents and the community at large (i.e. whether there is a cultural change);

This is **Phase II** of a two-phase program to provide a rigorous evaluation of effectiveness of a provincial program to prevent Shaken Baby Syndrome. In **Phase I**—funded primarily by the Ministry of Children and Family Development along with other partners—the intervention materials of the *Period of PURPLE Crying* were tested in a rigorous randomized controlled trial (RCT) for their ability to change knowledge, attitudes and behavior when delivered by public

[1] The *Period of PURPLE Crying* is a concept coined by Dr. Ronald G. Barr, supported by research from his laboratory and that of several other scientists over the last twenty years (see, for example, Barr, Green and Hopkins, eds *Crying as a Sign, a Signal and Symptom*, MacKeith Press/Cambridge University Press, 2000).

health home visitor nurses within the first 2 weeks after birth. The preliminary results indicate that the materials are effective in enhancing key knowledge and behavioral features relevant to reducing SBS injuries. A more complete description of these results follows. In addition, **Phase I** material development included translation of the materials into 5 other languages (5 more are in process). This **Phase II** proposal now exploits these positive results and describes the province-wide implementation and evaluation of this prevention program.

Significance of Shaken Baby Syndrome (SBS): Problem this Program Addresses

Physical abuse is the leading cause of serious head injury and death in children aged 2 and younger. Although most commonly referred to as Shaken Baby Syndrome (SBS), it is also referred to by a number of other designations, including Inflicted Traumatic Brain Injury, Abusive Head Trauma, Inflicted Childhood Neurotrauma, and Shaken Impact Syndrome, among others. All of these designations include Shaken Baby Syndrome, but some are broader definitions, often including abusive head trauma that occurs by mechanisms in addition to, or concurrent with, shaking injury. For purposes of this proposal, we will use the term Shaken Baby Syndrome (SBS), unless another phrase is required for a specific purpose.

Shaken Baby Syndrome usually results in death or a range of extremely damaging injuries. Approximately 20-25% of hospitalized babies who are shaken die (Keenan et al., 2003; King, MacKay, Sirnick, & Canadian Shaken Baby Study Group, 2003). Of those who survive, as many as 80% have significant, life long brain injuries (King et al., 2003). The costs associated with the initial hospitalization and long term care for victims of shaken baby syndrome are substantial. A study sponsored by the Missouri Children's Trust Fund followed 214 children with shaken baby syndrome (Bopp, Fraser, Fitch, 1997). The initial medical costs totaled $6.9 million or $32,508 per patient (Bopp, et al., 1997). Since 25% of shaken baby syndrome victims die the cost is far more serious than a financial one.

The most reliable estimates of incidence in North America are from N. Carolina, where there were an average of 29.7 cases per 100,000 person-years for children under one year of age (Keenan et al., 2003). In an Edinburgh study (Barlow & Minns, 2000) a very similar incidence of 24/100,000 infants was reported. In an unpublished report from the KIDS data base in the US, incidences of 23, 24 and 26 hospitalized cases per 100,000 births were reported for 1997, 2000, and 2003 (Leventhal et al., In preparation). Unfortunately, there are no equivalent studies in Canada or BC.

There is increasing evidence that shaking as an "acceptable" parental care giving strategy that is a critical risk behavior for SBS is more widespread than anticipated. A Dutch study reported that 5% of parents consider shaking an appropriate strategy for calming infants (van der Wal, van den Boom, Pauw-Plomp, & de Jonge, 1998). By anonymous telephone survey, 2.6% of N. and S. Carolina parents endorse shaking as an appropriate "disciplinary" response in infants less than 2 years old (Theodore et al., 2005). Surprisingly to us, in our **Phase I** study which was not anonymous, 1.9% of mothers who did not receive the *Period of PURPLE Crying* materials ***agreed*** that 'Shaking a baby is a good way to help a baby stop crying' in the control group in BC. In other countries, preliminary evidence of shaking at rates of 15-60% is being documented in three international studies (Runyan, Seattle Conference on Measuring Incidence of Inflicted Childhood

Neurotrauma, October 5, 2006). Although not all shaking episodes produce brain damage, Runyan estimates from their N. Carolina data that one infant is admitted to the pediatric intensive care unit with inflicted traumatic brain injury for every 151 parents who endorse shaking, and 1 death occurs for every 335 parents who endorse shaking (Runyan, Keynote address, National Center on Shaken Baby Syndrome Conference, Park City, Sept 13, 2006).

In sum, Shaken Baby Syndrome represents a major public health problem that threatens the development of British Columbia's youngest infants, and is a leading *but preventable* cause of physical and mental handicap among infants and young children. This proposal describes a comprehensive, empirically-based prevention program to reduce this health burden in British Columbia. Successful implementation would make British Columbia the first province-wide (or state-wide) jurisdiction in North America to do so.

Preventing Shaken Baby Syndrome through education about crying as the most important stimulus to shaking.

The *Period of PURPLE Crying* prevention program is unique among SBS prevention efforts in several important ways: (1) it approaches prevention through educating parents and the community about *normal infant development*, specifically, crying in normal infants, rather than being limited to warnings of the negative consequences of shaking; (2) it uses highly attractive, *positive* messages for caregivers rather than negative warnings about bad consequences; (3) it aims to bring about a *cultural change* in our understanding of infant crying in caregivers and the community generally; and (4) it is designed to *increase "penetration rates"* to caregivers and be widely acceptable to health care professionals and groups disseminating the intervention. Here we briefly summarize the evidence on which this is based.

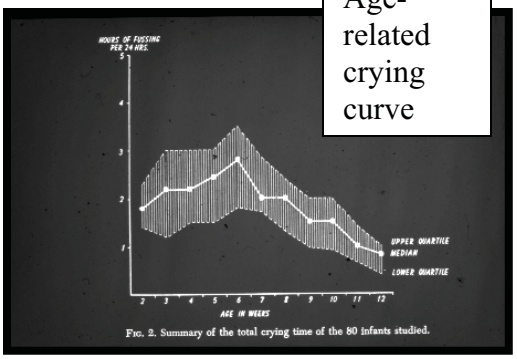


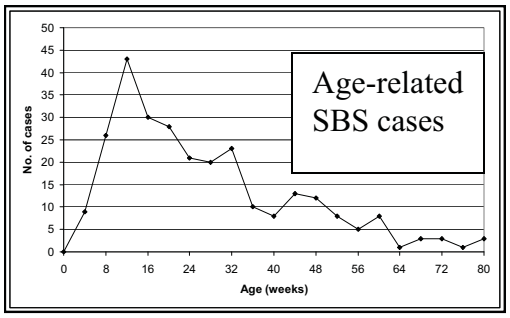
Fig. 2. Summary of the total crying time of the 80 infants studied.

Age-related crying curve

It is now clear that crying, especially inconsolable crying, is the most common trigger for shaking and physical abuse (Barr, Trent, & Cross, 2006; Lee & Barr, 2007). Furthermore, research has shown that *all normal* babies have inconsolable crying in the first few months (Barr, 2000; Ghosh & Barr, 2000). Some have much more than others, with infants in approximately the top 20% considered to experience colic. These infants may have weeks to months of inconsolable crying bouts that occur in the first four months, usually peaking during the second month (Barr, 1990). It is also clear that there is little a parent can do to reduce it, and that the inconsolable crying bouts are not reduced regardless of care giving response (Barr, 2000; St.James-Roberts et al., 2006).

Critical to the preventability of shaking episodes is the underlying dynamic connecting crying with shaking. Parents who would never consider hitting their baby become frustrated with the continual crying to the point that they "just shake him (or her)." If the shaking is mild, there may be no external signs of harm. However, the shaking may stun and quiet the baby temporarily. This makes the parent think the shaking stopped the crying and that no harm was done. The importance of crying as a trigger for SBS was reported by one of this project's partners, Dr.

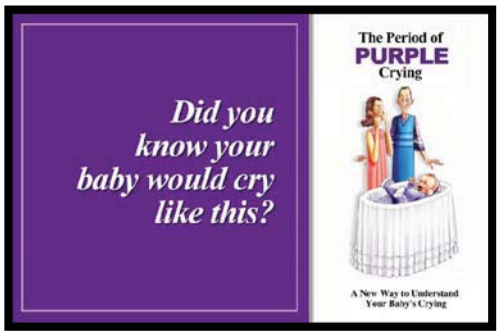
Ronald Barr (Barr et al., 2006; Lee, Barr et al., 2007). The age when babies begin to increase their crying (two weeks) is the same age that infants begin to be hospitalized for SBS. Further, the increase and then decrease in crying amounts are reflected in increases and decreases of hospitalizations for SBS. The peak age of SBS hospitalizations is slightly later than the peak age of crying, probably because many cases are the result of repeated shakings (Barr et al., 2006).



In this program, we take advantage of this critical connection between normal crying and shaking to educate parents and the general public both about normal crying behavior and the dangers of shaking. This goes beyond other prior efforts to prevent shaken baby syndrome. First, it uses the virtually universal interest in infant crying as a normal developmental phenomenon to reach all caregivers. Many new parents would never consider themselves capable of shaking and do not pay attention to warnings to "not shake," but are interested in learning about crying. Second, it is much more acceptable to maternity and public health nurses who are very willing to share a positive message about crying and shaking, but reticent to present new mothers with a "negative" message simply about "not shaking." Third, it helps all supporters of parents, including health care professionals, relatives, transient caregivers and others to accept and spread this understanding. In short, this approach is an important developmental message about infants available to everyone, is much more acceptable than other "don't shake" prevention efforts, and should achieve much higher "penetration" than other available programs.

The *Period of PURPLE Crying* Program

The *Period of PURPLE Crying* is the name for the educational information about the properties of early crying in normally developing infants that are uniformly frustrating to caregivers and appropriate action steps that caregivers need to know. It is presented in two components that reinforce each other: (1) an attractive 11-page booklet ("Did you know your infant would cry like this?") and (2) a 10-minute DVD (or video). [Please see cover of booklet (right). A copy of the booklet is included in this application.] These are currently available in English and five other languages, and will be available in eight languages in 2007. The educational information and action steps are brief, memorable, and easy to transmit. The information and action steps target many points in the causal pathways linking the features of early crying to caregiver frustration, anger, shaking and abuse.



The educational component helps caregivers understand the normality of the frustrating properties of crying—even in babies with colic—and that, in almost every case, they will come to an end at about four months. Each of the letters of the word **PURPLE** refers to one of these properties:

P for **Peak of Crying**—Crying peaks during the second month, decreasing after that;
U for **Unexpected**—Crying comes and goes unexpectedly, for no apparent reason;
R for **Resists Soothing**—Crying continues despite all soothing efforts by caregivers;
P for **Pain-like Face**—Infants look like they are in pain, even when they are not;
L for **Long Lasting**—Crying can go on for 30-40 minutes, and longer;
E for **Evening Crying**—Crying occurs more in the late afternoon and evening.

The behavioral component—**three action steps**—guides caregivers on how to respond to crying in order to reduce crying as much as possible and to prevent shaking and abuse. These action steps are:

1. First, caregivers should respond to their baby with **"Comfort, carry, walk and talk"** behaviors. This encourages caregivers first to increase contact with their infant to reduce some of the fussing, to attend to their infant's needs, and not to neglect them.

2. Second, it is **"OK to walk away"** if and when the crying becomes too frustrating. If it is, caregivers should put the baby in a safe place and then walk away.

3. It is **"Never OK to shake or hurt"** your baby to stop its crying under any circumstances.

Developing the Empirical Support for a Community-based SBS Prevention Program

In addition to the research on which the *Period of PURPLE Crying* approach is based (see above), we undertook to establish that the materials would be appropriate for use in British Columbia by (1) partnering with the province's public health home visiting nurses, and (2) carrying out a randomized controlled trial (RCT) of the ability of the *PURPLE* materials to affect parental knowledge, attitudes and behavior.

Phase I: ***Period of PURPLE Crying*** **Materials Development in BC**

Educational Materials and Parent Focus Groups: In 2004-2007 major product development and testing of the *Period of PURPLE Crying* Prevention Program materials took place. The materials were refined through 28 parent and professional's focus groups lead by professional independent focus leaders. Participants in the parent focus groups included mothers and fathers of infants between 4 weeks and 8 months of age. Participants came from a wide variety of backgrounds, including race, economic status and family makeup. The focus groups included; 16 for mothers, 2 for fathers, 1 First Nations, 2 Chinese, 2 Punjabi, 3 Spanish and 2 Korean. The materials have been translated in all these languages and in 2007 will be translated into Vietnamese, French and Japanese. At the First Nations parent focus group there were 13 parents, both mothers and fathers and an elder. They indicated at that group that they felt the materials were very culturally sensitive and relevant to them. The Elder said at the meeting, "this program should be given to every family, everywhere." The materials were also reviewed by over 35 highly regarded pediatric and research physicians, consultants at the School of Public Health, University of California, Berkeley and B.C. public health nurses. All who reviewed the materials offered constructive feedback, and generally found the information very valuable to parents.

Based on feedback from focus group participants and others, the initial list of materials, which included a 12-minute video, a 12-page booklet, a magnet, a bib and a certificate, was narrowed down to a 10 minute video and an 11 page, full color booklet. Based on public health nurses input, all bottles, formula, bumper pads and blankets in the crib were taken out of the film. The booklet and video have undergone numerous revisions based on feedback and then tested again each time.

The focus groups repeatedly showed that the materials help break down barriers and inaccurate beliefs about infant crying. Parents, who started a focus group claiming to never be troubled by their infant's cries, would watch or read the materials and then share personal and emotional struggles about dealing with crying.

The program components have been designed to overcome the challenges of providing programs to parents by ensuring the following elements for the intervention. The materials are:

- Educational, and attractive to parents of newborns on the first day of life.
- Clear, memorable, salient, meaningful, attractive, positive message.
- Grade 3 level language
- Multicultural
- Valuable for all parents
- Acceptable to Public Health Nurses
    - No bottles, blankets, bumper pads, etc.
- Economical. $2 for the DVD in an attractive case and the 11 page full color booklet for orders of 50,000 or more.
- Stand alone if necessary (each parent has copy)

Phase I: ***Period of PURPLE Crying*** **Randomized Controlled Trial Results (2004-2007)**

Here we briefly describe the results of the study in which the *Period of PURPLE Crying* materials were assessed. It is important to understand that these results are preliminary, have not been submitted for publication, and should not be circulated.

A unique feature of this trial is that the *PURPLE* materials were given by public health nurses in the homes of parents with new infants within 2 wks of birth. The purpose of the study was to assess whether the *Period of PURPLE Crying* materials were able to change knowledge, attitudes and behaviors concerning crying and shaking compared to an active intervention control group provided with analogous infant safety information. The study was funded primarily by the BC Ministry of Children and Family Development. As described above, the intervention materials consisted of 2 components: a 12 minute DVD (or video) and a booklet ("Did you know your infant would cry like this").The control arm received a similar DVD and booklet about infant safety (back to sleep, wall plugs, not leaving your infant unattended on a table, etc.). Parents were also given approximately 5 minutes of instruction on how to complete the Baby's Day Diary (see below).

Parents were recruited by research assistants (RA's) and community nurse liaisons in hospitals at birth. Parents accepting to be in the study were then communicated to their local health unit, and home visiting nurses from their health unit arranged their usual post-birth first visit. During that visit, they obtained written consent for study participation; provided the materials, and encouraged parents to read and view them. However, to eliminate bias, the nurses had not seen either the *PURPLE* materials or the Control materials, and were blind to which intervention the parents received.

At **5 weeks of age** (usual peak crying), mothers completed a 4-day, previously validated Baby's Day Diary (Barr et al., 1988; Barr, Kramer, Pless, Boisjoly, & Leduc, 1989; Calinoiu et al., 1998; Hunziker & Barr, 1986; St.James-Roberts, Hurry, & Bowyer, 1993). At **2 months of age**, parents received a Computer Assisted Telephone Interview (CATI), administered independently by a professional telephone survey company (TSU). The interview included questions (some with reversed polarity) concerning knowledge, attitude and behaviors related to crying, shaking and infant safety. These were grouped into 6 scales: Crying Knowledge, Shaking Knowledge, Safety Knowledge, Crying Behavior, Active Behavior, Passive Behavior; the scoring of each converted into ranges of 0 to 100 (with 100 positive).

The **Crying Knowledge** scale consisted of 8 questions tapping knowledge about aspects of crying that were not unique but that might be expected to be different if parents were exposed to the *Period of PURPLE Crying* materials (e.g. 'Infants cry more in later afternoon and evening'; 'A good parent should be able to soothe his or her infant'). **Shaking Knowledge** (5 questions) asked about dangers of shaking (e.g. 'Shaking can cause serious health problems or even death'). **Crying Behavior** asked about behaviors all caregivers are likely to do, but might do more if exposed to *PURPLE* (e.g. 'You picked up your infant when she or he fussed or cried'). **Active** and **Passive Behavior** scales asked for responses "When your infant's crying was unsoothable, how often did you…." use behavioral responses ('active' e.g. 'pass the baby to someone else for a while') or self-talk ('passive' e.g. 'tell yourself the baby is ok').

Of these, the Crying Knowledge scale was the most direct test of receiving the *PURPLE* information; the Crying Behavior scale tapped common behaviors that might or might not change; the Active and Passive Behavior scales targeted responses specifically to *unsoothable* crying. Although the Shaking Knowledge scale is important, changes might *not* occur due to the intervention for 3 reasons: (1) programs warning of the dangers of shaking have been available for years; (2) other such information sources, including the "Baby's Best Chance" that public health nurses distribute currently, are available in the community, and (3) prior reports (Dias, 2005) indicated that awareness is very high (>75%). Consequently, further increases on this scale might not be obtained if awareness was high (it was, see below).

Three **behavior measures** were derived from the diary: (1) Contact while Distressed (minutes/24 hrs); (2) Pick up while Distressed (rate/24 hrs), and (3) Walk Away with Inconsolable Crying (rate/24 hrs). Because they are prospective and rely less on memory, positive results would be very suggestive that behavior, and not just knowledge and attitudes, were effected.

To determine if information was **shared**, other questions asked who took care of the infant in mother's absence (listing 11 possible care givers, or no-one). If others were used, it was asked

of each whether information on crying, leaving baby unattended, shaking, sleeping on back, and walking away if frustrated was transferred.

It is important to note that this is a *conservative* test of the efficacy of these materials. In contrast to real life, nurses did not know what the materials said, could not and did not reinforce them, and there was no reinforcement 'outside' of the *PURPLE* information for the crying knowledge (most parent advice is wrong on these points [Catherine, Barr et al., 2006 abstract]).

We report here preliminary analyses from the first 1174 subjects. Diaries were completed in approximately 70% of the sample. Analyses are by intention to treat using completed data for each instrument. Overall, 96% saw the video or read the materials or both; 82% saw the video; 89% read the materials; and 21% watched the video "a few times."

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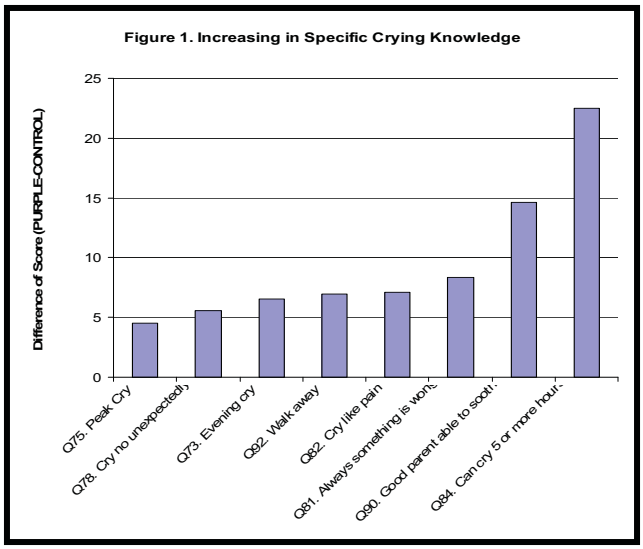
Knowledge, Attitude and Behavior Scales. The **Table** summarizes results for the questionnaire scales. Scores on the Cry Knowledge scales increased significantly in the *PURPLE* group, while Safety Knowledge increased significantly in the Control group. This indicates that DVD + booklet materials *can* change knowledge with regard to both domains. Crying Behavior did not change. Active and Passive Behavior increased in the expected direction, but are not yet significant in this sub-sample. They may be significantly different when the whole sample is analyzed.

Vancouver	PURPLE	Control	Diff	95% CI	P
Crying knowledge	63.7	58.6	5.1	+3.8,+6.5	**<0.001**
Shaking knowledge	83.9	83.4	0.5	-0.6,+1.7	0.36
Safety knowledge	84.1	85.6	-1.6	-2.7,-0.4	**0.01**
Crying behavior	48.2	48.1	0.1	-1.6.+1.7	0.95
Safety behavior	67.4	66.5	0.9	-0.6,+2.3	0.25
Active behavior	27.7	25.9	1.8	-0.6,+4.2	0.14
Passive behavior	35.7	32.9	2.8	-0.7,+6.2	0.12

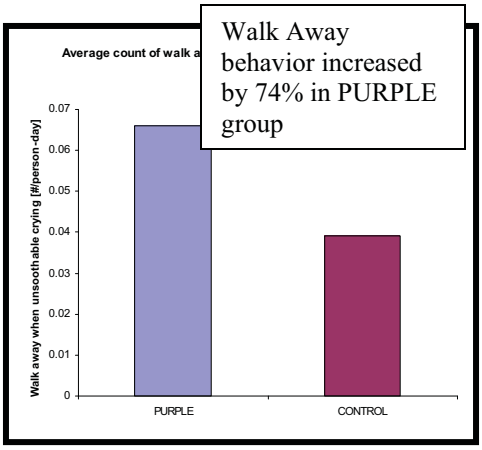
As anticipated, Shaking Knowledge score was (a) very high in both groups (>84/100) and (b) not changed. However, 3 results on individual questions from this scale were especially informative: (1) similar to the Carolinas' study (Theodore et al., 2005), 1.9% ***agreed*** that 'Shaking a baby is a ***good way*** to help a baby stop crying' in the control group; (2) *PURPLE* materials ***reduced*** agreement with that by **63%** (p=0.05); and (3) 'Shaking a baby can be very dangerous and cause serious injuries' was endorsed by >99% of both groups, indicating widespread understanding of the dangers of shaking.



To indicate what this means for individual subjects, the **Figure** depicts ***increases*** in the per cent of mothers receiving *PURPLE* materials who agree with each question in the Crying Knowledge scale. Increases attributable to *PURPLE* range from **4.5 to 22.5%**. Importantly, this includes a

14% increased understanding that *good* parents *cannot* always soothe their crying infants (Qn 80), correcting a claim routinely made incorrectly by parent advice and intervention proponents that probably contributes to frustration in the face of inconsolable crying.

Diary Behavior Measures. For the diary measures of behavior, Rate of Walk Away with Inconsolable Crying increased by **74%** (see **Figure** right). Time in Contact while Distressed and rates of Pick up while Distressed did not increase significantly. The increased walk away finding is important, because it specifically supports a behavior change 2ndary to *PURPLE* materials, where "walking away when frustrated by inconsolable crying" is recommended Action Step 2.



Sharing Cry/Shake Information with other Care Givers. Rates of temporary care giving by others were high, including 59% with fathers, 50% with grandmothers and 3% with nannies. Overall, sharing crying information, walk away if frustrated, and shaking dangers ***increased*** 9%, 12% and 13% (all $p<0.05$). There was no increase in sharing Control information (safe sleep position or leaving a child unattended: both $p>0.15$). Increases were significant for fathers, grandmothers, grandfathers, and aunts, and equivalently high but not significant for others because of small samples sizes.

In summary, preliminary results indicate that:

(1) the most important outcome (change in Crying Knowledge) reliably ***increased***; these increases ranged from 4.5 to 22% depending on the knowledge item;

(2) the erroneous and dangerous belief that shaking is a good way to soothe an infant was ***decreased*** by 63%;

(3) Walk Away behavior by diary (Action Step 2 in the *PURPLE* materials) ***increased***; and

(4) PURPLE materials ***increased*** knowledge sharing to other transient care givers.

Despite being a conservative test, these results indicate that attractive, positive educational materials about crying and shaking are read and watched voluntarily outside of the presence of a health care professional in a high proportion of recipients, can significantly alter knowledge and attitudes; can change an important behavior ("walk away when frustrated") that is considered key to preventing shaking; and are shared with other caregivers of infants at a high rate. The results also demonstrated what was suspected prior to the study; namely that awareness of the dangers of shaking is already very high, so that there is little likelihood that educational programs aimed *only* at increasing awareness of shaking danger is likely to be effective in further reducing shaken baby syndrome or abusive head trauma. Reducing the prevalence of shaking as a means of soothing infants is still likely to be important, and can be changed by educational materials.

Phase II: **Province-wide Implementation of Period of PURPLE Crying in British Columbia (2007-2011)**

Overview: This program will be the first of its kind to be implemented jurisdiction-wide in North America, and likely in the world. There are a number of reasons why this project should be implemented in British Columbia: (1) British Columbia is the best jurisdiction in North America in which to implement it because of the presence of the universal nurse home visitor program that reaches 97% of newborns within the first 3 weeks of life for 1.5 hours/visit; (2) the current state of the literature suggests, mostly on the basis of the Olds et al studies, (Olds et al., 1997) that nurse visitors are the optimum means to prevent child abuse by preventive efforts; (3) the intervention takes advantage of important and new information about a significant developmental challenge, namely, the specific properties of early infant crying, by approaching this through infant developmental education: thus, the program is also an intervention for all parents related to early child development; (4) other, less well considered and less well-documented interventions are already being introduced in various jurisdictions across North America (some mandated by law) because of the urgency and increasing salience of the shaken baby syndrome form of child abuse. In sum, this is the right time and the right place and the right program to implement.

Goals, Objectives and Timelines: As stated before, in order to make a *long term* positive effect of a sustained reduction in the number of cases of shaken baby syndrome, there will need to be a cultural change in the way our society understands (1) the meaning of increased crying in early infancy and (2) the danger of shaking as a response to the frustration with that crying. The program is conceptualized as a primary, universal, community education prevention program. The BC Shaken Baby Prevention Program staff will implement and train on the program. The Centre for Community Health Research will evaluate the effectiveness of the intervention throughout British Columbia.

In order to accomplish a cultural change, we will implement a **"triple dose**" strategy**.** Our goal is that every parent of a new baby in B.C. will receive this important information at least 3 times. The materials have a child development approach and are relevant to all parents. The new information about normal infant crying is of interest to all parents and the information about the dangers of shaking an infant or child is incorporated in this. Included in the delivery system will be an emphasis to have the program presented to First Nations' families at their equivalent organizations. We have established good working relationships with many Aboriginal Services in B.C and they are looking forward to the implementation of this program.

Dose One: The *PURPLE* Program will be given to parents, both mothers and fathers, in the hospital after the birth of their baby. Maternity nurses will be trained and provided with a script and the materials. Each family will receive a DVD and 11 page booklet about *PURPLE Crying*. When possible, the parents will watch the film in the hospital and be able to ask the nurse questions.

Dose Two: Public Heath Nurse Home Visitors will call parents before they go to visit them usually within one week of the baby's birth. They will ask the parents if they received the materials and in what language. If needed, the nurses will take a set of materials to the parents if

they have not already received them. When they arrive, they will have a script and will go through the information again and ask if there are any questions.

Dose Three: A public education campaign will provide this information to all those who did not receive it through the above methods. This is an important part of bringing about a cultural change as it is necessary to educate grandmothers, boyfriends, neighbors and relatives about the PURPLE program so the mother and father will receive support and reinforcement from them.

Reinforcement and Enhancements: Other groups who serve parents will be specifically targeted so that there is complete community coverage about the program. Child care providers through MCFD licensing, foster care workers through MCFD, midwives, advice and hot line personnel, family practice physicians, pediatricians and non-government organizations will be offered the training. This will insure that the parents get the same information wherever they go for help and advice.

Maternity services and the **public health nurses** are vital to the delivery of the program. There are 112 public health centers and 46 birthing hospitals in B.C. There are over 800 maternity and public health nurses working in these facilities. During the research phase **(Phase I)** of this initiative, we have developed partnerships with and trained about 500 of these nurses. In order to ensure the maternity and public health nurses are trained and supported, we will have two community coordinators working with them. The coordinators will be assigned to each serve 50% of the birthing hospitals based on the geographical locations of the hospitals and the numbers of births at the hospitals. Each coordinator will be responsible for serving hospitals and the nurses where there would be a total of about 20,000 births a year. In addition, Heath Units will be assigned based on the number of nurses to be trained and supported. Each coordinator will serve about 56 heath units and about 25 birthing hospitals each.

Objectives Year 1 (2007-2008)

- **Hire and train** two community coordinators by June, 2007.
- **Organize a leadership committee** consisting of representatives of organizations vital to the program including: MCFD, Ministry of Health, Non governmental organizations, Aboriginal Agencies, Child Care Administrator(s), Medical Associations and other organizations serving children and families..
- **Establish written agreements** with birthing hospitals and health units for implementation of the program for the parents they serve.
- **Maternity Services:** Establish agreements with 23 (approximately 50% of the total) birthing hospitals for program implementation; train maternity nurses at these hospitals on program delivery and how to give it to parents. Scripts will be provided.
- **Health Units**: Establish agreements with 56 health units (approximately 50% of the total) for program implementation; train nurses at these health units on the program delivery and how to give it to parents. Scripts will be provided.
- **Provide training for agencies** that serve families and train them on the program. In year 1, this will include parent and crisis hotlines, MCFD personnel and foster care workers, and day care centre personnel through MCFD licensing.
- **Develop training guide and online training** version which will accessible to all participants.

- **Public education campaign.** Broadcast and print media ads will be donated by the National Center on SBS. Adjustments for Canadian audiences will be made and translation into other languages will take place as needed. Development of relationships with media will take place with the assistance of the Department of Communication at Children's Hospital. A specific plan for social marketing will be devised.
- **Evaluation.**
    - Carry out the first public survey (Ipsos-Reid omnibus) for baseline community knowledge base
    - Patient chart retrieval and review for prospective active surveillance of head trauma admissions
    - Initial data request to CIHI for retrospective discharge data base codes back to 2001.
    - Set up data transfer arrangements with 5 CPS units in the province.
    - Set up written relationship with BC Coroner's office for active surveillance of deaths due to abusive head trauma.
    - Obtain initial data set for first 2 years of Canadian Pediatric Surveillance Program (CPSP) data for baseline

Objectives Year 2 (2008-2009)

- **Maternity Services*:*** Establish agreements with 23 more birthing hospitals (the remaining 50% of hospitals) for program implementation; train maternity nurses at these remaining birthing hospitals on program delivery and how to give it to parents. Scripts will be provided.
- **Health Units**: Establish agreements with 56 more health units (remaining 50% of health units) for program implementation; train nurses at these remaining health units on the program delivery and how to give it to parents. Scripts will be provided.
- **Provide training opportunities**, posters, scripts and services to Emergency Room personnel, midwives, family practice doctors, immunization clinics, adoption agencies, brain injury associations and the like about the *PURPLE* program and how to tell parents about it.
- **Public Education Campaign** will be fully implemented in this year. Paid and donated ads will take place, articles in news sheets, new stories, and public interest stories will be the focus.
- **2008 October.** The North American conference on SBS will take place in Vancouver. This will bring public and media attention to the subject and the BC program. The BC Province wide program will be featured at the conference.
- **Evaluation**
    - Initiate measures of "penetration" of program to new mothers
    - Initiate maternal interviews 6 months post-birth to assess message transfer, facilitators, inhibitors, memory and acceptability of program (samples of mothers from different regions).
    - Continuing active surveillance from Year 1.
    - Retrieve annual data sets from CIHI, CPSP, Coroner, CPS units

Objectives Year 3 (2009-2010)

- **Maternity Services*:*** Continue to provide support services and on-going training for maternity services. Monitor the effectiveness of the program and increase services where needed. Provide a second series of training session to all maternity units in the province.
- **Health Units**: Continue to provide support services and on-going training for public heath nurses. Monitor the effectiveness of the program and increase services where needed. Provide a second series of training sessions to all maternity units in the province.
- **Public Education Campaign** will continue through year 3. An ongoing effort to gain press attention to the program, infant crying and SBS awareness will take place.
- **Other agencies serving families** will continue to receive the training and services as in year 1 and 2.
- **Evaluation**
    - Continue "penetration" indices and maternal sampling 6-month interviews
    - Continue annual data set collections and analyses

Objectives Year 4 (2010-2011)

- **Review process evaluation** and begin process to insure the program will be institutionalized in Maternity Services, Public Health Home visitors. Participate in the development of policies that require the program and training manuals that describe it...
- **Establish methods to sustain the program.** Assist in gaining funds to support the program for ongoing years.
- **Present the results** of the program and its effectiveness to agencies that have the authority to insure it is sustained.
- **Continue to provide training, materials, services and support** to the participating organizations to insure consistency and continuity takes place and the program is widely accepted.
- **Provide a detailed report to MCFD** about the outcome of the initiative and the reduction of SBS in B.C.
- **Evaluation.**
    - Continue "penetration" indices and maternal sampling 6-month interviews
    - Continue annual data set collections and analyses
    - Carry out time 2 public survey (Ipsos-Reid omnibus poll)
    - Obtain time 2 CIHI discharge data set
    - Analyses of data sets
    - Writing papers, reports and presentations.

Implementation Timeline	Apr/07 Sep/07	Oct/07 Mar/08	Apr/08 Sep/08	Oct/08 Mar/09	Apr/09 Sep/09	Oct/09 Mar/10	Apr/10 Sep/10	Oct/10 Mar/11
Leadership Committee/Agreements								
Train and Implement in 50% of hospitals/public health units								
Train and Implement in 50% of hospitals/public health units								
Training for External Agencies								
Public Education Campaign								
Active surveillance of traumatic head injury in BC Children's Hospital.								
Active surveillance of infant abuse from Child Protection Services Units								
Review of BC Coroner's Cases								
Passive surveillance of abusive injuries through CIHI								
Passive surveillance through CPSP								
General Community Ipsos Reid Poll								
Program Penetration rates								
Parents 6-month recall survey								

Resources, Organizations, People, Campaigns and Services Used for the Implementation

Province Wide Leadership Committee. Community leaders representing the key organizations serving families such as MCFD, the Ministry of Health, Aboriginal Services, organizations serving at risk families, public health regions, maternity services, medical associations, including emergency services and child care licensing will be invited to serve on a leadership committee to support and advise us concerning interagency agreements and to help coordinate implementation. This provincial steering committee will be critical to the establishment of policies related to offering the program during the course of implementation, and for on-going support for the "institutionalized" program after the MCFD grant has been completed.

Maternity Services: Agreements with the 46 birthing hospitals in B.C will be established to provide the PURPLE program to parents after the birth of their baby. Nurses will have been trained and provided with scripts when giving the program to the parents as the "first dose." Training sessions for the nurses and implementation of the program for parents will take place as follows: 3 pilot hospitals by August, 2007; 5 hospitals by October, 2007, 15 hospitals by January, 2008, and the remaining hospitals for this year (total 23) by June, 2008. The hospitals will have been chosen and divided between the two Project Coordinators based on number of births and locality.

The nurses will be trained on the program, provided the scripts to use with parents. *PURPLE* Program coordinators will work closely with the managers to choose the delivery model that works for each ward. In some cases this may be at the bedside and in others it may be at a discharge class. Hospitals that have previously participated in the *PURPLE* research project already have excellent relationships established.

Public Heath Agencies: Agreements with the112 public health units and the 9 Aboriginal Heath Units in B.C. will be established to provide the *PURPLE* program to parents when the nurses make their visit to the families of new babies. Nurses will ask parents if they have the program and in what language. If not, they will take one to the parents. Nurses will talk to the parents about the program and have the time to answer any questions (the "second dose"). Nurses will have been trained and provided with scripts when giving the program to the parents.

Training sessions for the nurses and implementation of the program for parents will take place as follows: The health units will be split between the Project Coordinators based on number of births and locality. The nurses will be trained on the program and provided the scripts to use with parents. About two-thirds of the public health units have participated in the *PURPLE* research over the past 3 years and important and excellent relationships have been established with the *PURPLE* program administrators. The nurses are enthusiastic about participating in the implementation of the program.

Aboriginal Services. Critical to the implementation of the program will be the involvement of those agencies and organizations serving First Nation's families. The program has been reviewed by various groups within Aboriginal services, and a parent focus group with 14 First Nation's family members took place in Duncan. Throughout the last three years our program has been working with Aboriginal Services including the Vancouver Native Health Society, Caring for First Nation's Children Society and the Aboriginal Infant Development Program who have all received information about the program and are supportive in getting it started for the families they serve.

Program Guidelines for the *Period of PURPLE Crying* Education Program will be developed for distribution and training purposes by July, 2007. This will incorporate different protocols depending on the training area: maternity programs, midwives, emergency services, and community/public health units. Maternity and public health nurses will be given these scripts to use when giving the program to parents and a list of the commonly asked questions and answers.

The complete training program will also be available on the BC SBS Prevention Programs website called: Prevent SBS Canada, through its online learning management system. Having this online will provide an easily accessible, cost efficient way to provide training for nurses in outlying areas or refresher courses or for nurses missing the face-to-face training meetings. Parents will also be able to access information on the user friendly web site about infant crying and other parent support information. Parents and other caretakers will be told that for more information they can go to the website or call the BC SBS Prevention program office. There will be a section on the web site that will give parents and caretakers accurate information about infant crying and coping techniques for the parent to try and ways to keep them calmer and less frustrated. Additionally, warm and hot lines in the province will be trained about the program so they can accurately answer questions when people call.

Staffing: Two Coordinators will be hired by June, 2007 and will be responsible for the following areas: Coordinator A - Vancouver Coastal, Provincial Services, Vancouver Island, and the Northern Health Authorities, and Coordinator B - Fraser and Interior Health Authorities. This

allocates approximately half of all provincial births to each Coordinator as well as an equal number of health units. The project director and the program director will administer the program, budget, supervise all staff and ensure goals and objectives are accomplished.

Information Referral Service: The BC SBS Prevention Program's Information Referral Service will be fully developed in order to support queries from the general public, health care workers, and other professionals by September, 2007. This referral service will include professional telephone support, a website, access to various databases, a list service for SBS professionals, and a list service for victims, families of victims, foster parents, and other caregivers. It also incorporates an online presence to provide up to date, accurate, and scientifically sound information for professionals, parents and caregivers, and others. The website's training centre will provide easy access for rural and repeat training opportunities.

Translations: *PURPLE* program materials will have been translated into Cantonese (Traditional Chinese), Punjabi, Spanish, Korean, Vietnamese, French, and Japanese by the time the program is implemented. This will allow parents to receive the materials in their language of choice providing the best possibility for a cultural change to occur.

Public Education Campaign and Media Strategy: The use of the media will be used to support the primary prevention program by providing education to the general public about the *Period of PURPLE Crying* program and the dangers of shaking infants and children. This education will be the intervention initiative for the general population who would not be educated specifically by one of the other methods like the maternity nurses. Both broadcast and print media will be utilized for this purpose.

The development of a positive relationship with the media is important to this process in that advertisements alone, whether broadcast or print, are cost prohibitive. Newspaper articles and interviews on radio and local interest television shows will be sought and encouraged. These methods can be even more effective as they become part of a news story rather than a paid advertisement. The topic of shaken babies and prevention efforts are of great interest to the press. Unique to this specific initiative is interest in the new information about infant crying. This is expected to create a newsworthy interest from the press. Paid advertising on radio, television and in newspapers will also be a part of this initiative. The National Center on Shaken Baby Syndrome (NCSBS) has committed to provide, at no cost, 10, 30 and 60 second professionally produced ads for television and radio and print ads for newspaper and billboards. These ads will be in English and can also be produced in the other six languages that the *PURPLE* program is available in. This is a contribution from the NCSBS of a value of $43,720 toward this project.

Evaluation of Effectiveness

The implementation will be evaluated for its effectiveness in attaining the three primary goals of the intervention; namely,

- Attaining a "penetration" rate of 90-95% of mothers of newborn infants;
- Reducing the incidence of shaken baby syndrome and/or infant abuse by 50%;
- Achieving a cultural change in the understanding of early infant crying and its relationship to shaken baby syndrome.

Following the recommendations of the Seattle conference on Measuring the Incidence of Inflicted Childhood Neurotrauma (Shaken Baby Syndrome) in October of 2006, we will employ a "mixed method" approach to evaluating effectiveness to provide as accurate an assessment of effectiveness as is possible for a moderate cost. The components of the evaluation will include:

1) An active surveillance system of all traumatic head injury in children less than 2 years of age admitted to BC Children's Hospital;
2) An active surveillance system of all cases of infant abuse in children of less than 2 years of age known to the 5 Child Protection Service units in BC;
3) A review of BC Coroner's cases from 2002 through 2010;
4) A passive surveillance system of all abusive injuries and subtypes of abusive injuries using administrative data sets of hospital discharges (separations) for BC and the rest of Canada through the Canadian Institute of Health Information (CIHI)
5) Cases reported in the Canadian Pediatric Surveillance System, that includes BC and the rest of Canada;
6) Process evaluation, including (a) general population awareness through an Ipsos-Reid poll of change in community knowledge concerning crying and shaking; (b) documentation of program penetration rates, probably through public health unit administrative data; and (c) 6-month recall by parents receiving *PURPLE* program.

1. Active surveillance of traumatic head injury in children less than 2 years of age.

The first component will be active surveillance of traumatic head injury in children less than 2 years of age. In collaboration with pediatric neurosurgeon Dr. Ash Singhal and the department of neurosurgery at BC Children's Hospital, active surveillance of all cases of all ages of traumatic head injury commenced in August, 2006. This includes all cases that are admitted, as well as occasional cases in other hospitals that consult at a distance with the Department and with Dr. Singhal. Since BC Children's is the only pediatric hospital in the province, all cases of significant head trauma are referred for evaluation and treatment. Occasional "parked" cases at other hospitals are sometimes not transferred, but come to the attention of the neurosurgery department.

Although all cases of abusive head trauma will be tracked, for purposes of outcomes for *PURPLE* implementation, we will use all cases of children less than 2 years of age. Cases of abuse will be determined for the majority through referral to the Child Protection Team at the hospital. However, following the protocol of Keenan (Keenan et al., 2003), all cases will be reviewed for determination of abuse by an expert panel from an abstracted and personal ID stripped record. Cases will be classified as Definite, Probable, Questionable and Non-inflicted Head Injury. Following Keenan, (Keenan et al., 2003) all cases of "inflicted" head injury will be sub- classified as Shaken Baby Syndrome, Shaken Impact Syndrome and Battered Child with Inflicted Brain Injury, as well as Abusive Head Injury (with or without evidence of brain injury). Only "depersonalized" data will be included in the Inflicted Childhood Neurotrauma data set for analysis.

Primary outcome measures include annual rates of Abusive Brain Injury and Head Injury/100,000 person-years, and ratio of Abusive: Non-abusive Head Injury.

2. Active Surveillance of all cases of infant abuse in children under 2 years of age in 5 Child Protection Services in BC.

BC has five regional Child Protection Services, the largest of which is at BC Children's Hospital (Dr. Jean Hlady, Director). The others are in Prince George, Surrey, Kamloops, and Victoria. All of the teams network, and have 4 meetings together annually. We have reported to each of their meetings for the last 4 years, and they are all aware of the current evaluation (**Phase I**) and implementation (**Phase II**) of the *Period of PURPLE Crying* prevention program. As with head injuries, the vast majority of abusive head injury cases are referred to and seen at BC Children's Hospital. However, we will maintain active surveillance with all five teams. Depersonalized data from chart reviews for all abusive injuries in children less than 2 years of age will be included for analysis. Primary outcome measures will be annual rate of abusive injuries/100,000 person-years, and more specifically the annual rate of abusive head injuries/100,000 person-years.

3. Reviews of BC Coroner's Cases 2002-2010.

Cases of abusive head trauma and shaken baby syndrome who die may or may not be included in hospital active or passive surveillance systems. In order to ascertain all deaths, all cases of children less than 2 years of age who die from abusive or "undetermined" causes will be reviewed. If there is presence of head or brain trauma, evidence of abuse (definite, probable, questionable, non-abuse) will be determined. Probable and questionable cases will be reviewed by an expert panel. Only "depersonalized" data will be included in the Inflicted Childhood Neurotrauma data set for analysis. The primary outcome measure will be annual rate death due to Abusive Brain Injury and Head Injury/100,000 person-years.

4. Passive surveillance of all abusive injuries and subtypes of abusive injuries using administrative data sets of hospital discharges (separations) for BC and the rest of Canada through the Canadian Institute of Health Information (CIHI).

Since 2001, British Columbia has adopted the ICD-10 coding system for hospital discharges. This provides a series of Injury codes and Assault codes. Depending on the codes used, one can define broader or narrower incidences of abusive trauma (generally) or abusive head injury with or without retinal hemorrhage, and so on. Following the recommendations of the Seattle conference on Measuring the Incidence of Inflicted Childhood Neurotrauma (Shaken Baby Syndrome) in October of 2006 and, in particular, the paper by Wirtz, Trent et al showing that broad and narrow "definitions" of inflicted trauma have similar characteristics, we will track broader and narrower definitions of abusive injury generally and abusive head injuries more specifically in children less than 2 years of age. An important benefit of using discharge data is that it can be analyzed retrospectively. In this case, analyses can be compared back to 2001 when the ICD-10 codes were adopted. Prior to 2001, ICD-9 codes were used. While ICD-9 codes are still used predominantly in the US and are actually better at capturing abusive head injury, they are not available in BC. The other advantage of the discharge data sets is that the incidence of the

same discharge codes in BC can be compared to the incidence of the same codes in the rest of Canada as a control. Thus, for example, the incidence rates per 100,000 for children less than 1 year old in BC for Intracranial Injury (S06.0-S06.9), Retinal Hemorrhage (H35.6), and Maltreatment (T74) WITH Assault codes for Assault (X85-Y09) and Sequelae of assault/undetermined (Y87.1-87.2) averaged **31.07/100,000** between 2001 and 2004. The primary outcomes will be a combination of broad and narrow code definitions presented as a time-series and as a comparison of BC with the remainder of Canada before and after implementation of the prevention program.

5. Cases reported in the Canadian Pediatric Surveillance System (CPSP) that includes BC and the rest of Canada.

Beginning in March 2005, the Canadian Pediatric Surveillance System began to collect cases of "head injury secondary to suspected child maltreatment (abuse and neglect)." The CPSP collects cases from BC and across Canada through a two-tiered monthly mail out to all pediatricians in Canada. In response to the first mail out, pediatricians indicate whether they have encountered a case of the relatively rare conditions being surveyed. If they answer in the affirmative to one of them, a second questionnaire is sent asking for more information about the case. Reported cases are verified as being true, non-duplicative, and meeting criteria. Return rates for the first mail out averaged 82%, and for the follow-up questionnaires 93% during 2005. We will use this system to obtain BC-specific and national rates from the CPSP surveillance system.

6. Process Evaluation for Cultural Change, Program Penetration, and 6-month recall.

Cultural Change: General population awareness through an Ipsos-Reid poll of change in community knowledge concerning crying and shaking.

To gauge the effectiveness of the *Period of PURPLE Crying* program to change cultural norms around infant crying and shaking, we will use Ipsos-Reid omnibus polling to acquire a cost-effective measure of the effect of the *PURPLE* program. The omnibus polls allow us to add questions at $800-$1200 per question depending on format. We anticipate that approximately 5 questions (estimated cost $5200 per survey) will be sufficient. We will benefit from the previous experience and results that will be obtained of asking content questions in the **Phase I** evaluation just being completed. Two polls will be taken; one in Year 1 before implementation, and the second in Year 4 after full implementation. Although still under discussion, the 5 questions will probably be: one to gauge whether the *Period of PURPLE Crying* is recognized; another to determine where the respondent heard of it; two questions to gauge understanding of the key messages, and one question to gauge actions that might be taken. The per cent of households that have a child under two years of age is approximately 7%. We anticipate that the recognition of the *Period of PURPLE Crying* information should reach at least 25% of the population, and there is a good chance that it will be much more widespread than that.

Program Penetration Rates.

"Penetration rates" refer to the per cent of the targeted population who actually receive the *Period of PURPLE Crying* materials. In this program, the primary target is mothers (or parents) of

each newborn in the province. The highest reported penetration rates to date for any SBS prevention program is 69% through a maternity-based program (Dias et al., 2005). Because of the unique delivery system of the public health visitor program in BC, we are targeting, and expect, that the combined maternity ward and public health home visitor program will result in successful "penetration" rates of 90-95% or better. There are a number of possible strategies for obtaining penetration rates. A likely strategy will be by public health home visitor administrative data, but the final strategy is still under consideration.

Six-month Recall by Parents Receiving the *PURPLE* Program.

After the program is implemented, we will conduct a telephone survey of a sample of parents of newborns to ascertain their self-reported exposure to the *PURPLE* intervention (hospital, home visitor, and media campaign), their recollection and understanding of the messages, their self-reported behaviors about caring for their child during the period of *PURPLE* crying, and their dissemination of *PURPLE* crying materials and messages to other caregivers. The survey will be a semi-structured telephone interview survey with 520 new mothers. The timing of the interviews will correspond to the birth of their infant and will be conducted four to six months after the child's birth to allow for the period of *PURPLE* crying (between two and four months of age) to have occurred. The sample of mothers will be approached through Health Unit to obtain permission for the later interview. Estimating the interview completion rate at 65 percent, 100 new parents will be selected from randomly chosen health units every three months for two years (Years 2 through Year 4). The semi-structured interview guide will incorporate some of the outcome measures used to evaluate the intervention's effectiveness in the Phase I trials just completed.

Summary of Evaluation

The proposed evaluation is a cost-effective method of obtaining essential information to be able to assess the main outcomes to test effectiveness of the *Period of PURPLE Crying* program to (a) reach targeted groups; (b) reduce shaken baby syndrome and abusive injury in infants generally; and (c) achieve a cultural change in the community's understanding of early crying and its relationship to shaking. Such an evaluation is critical when the program is being introduced to assure that the program reaches its goals, and that expenditures are justified by a benefit to the population and the government of implementation and support of the program.

Names and Titles of Key Staff including their Responsibilities, Qualifications and Relevant Experience

Program Director**: **Marilyn Barr, BIS, SSW. Director, B.C. Shaken Baby Syndrome Prevention Program.

Responsibilities: Overall project director. Specifically responsible for program development, pre-testing of *PURPLE* intervention materials, training of health care professionals, provision of *PURPLE* products. (Commitment: 60% FTE).

Qualifications and experience: Marilyn has worked in the field of child abuse prevention for 29 years. In this role she has developed 3 statewide child abuse and SBS prevention campaigns, 9 national and international conferences, 7 statewide programs in courts, social services, schools and hospitals. She is a licensed social worker and has a degree in communications.

Principal Investigator : Ronald G. Barr, MA, MDCM, FRCPC. Canada Research Chair in Community Child Health Research; Professor of Pediatrics, UBC; Director, Center for Community Child Health Research, Child and Family Research Institute, BC Children's Hospital.

Responsibilities: Overall evaluation direction, rationale and justification, measures, evaluation design, outcome, and data analysis. (Commitment: 20% time, at no cost to this project).

Qualifications and experience: Developmental-behavioral pediatrician and leading expert on early infant crying, colic, infant behavior and mother-infant interaction. Developer of "Baby's Day Diary," the most widely used instrument of home assessment of infant and caregiver behavior. Past President, Society of Developmental and Behavioral Pediatrics. Director, Canadian Institute of Advanced Research Program on 'Experience-based brain and biological development.'

Participating Organizations:

BC Ministry of Children and Family Development. The primary partner in the implementation of this SBS prevention program will be the Ministry of Children and Family Development. The Ministry financially supported the evaluation of the program in Phase I. For Phase II, SBS prevention program administrators will collaborate with key Ministry personnel and leaders in the development of the specific strategies as they go forward. Directors from the MCFD will hold a position(s) on the program's steering committee. The Ministry will be recognized on the BC SBS Prevention Program's website and during the public education campaign.

BC Shaken Baby Syndrome Prevention Program. This is the only organization in Canada with a single mission to reduce SBS. Since the inception of the program 4 years ago, the following has been accomplished; province-wide environmental scan to determine need for SBS prevention, randomized controlled trial of the program called the *Period of PURPLE Crying* which recruited over 1,800 parents and 300 nurses and a 10 member research team, development of a web site devoted to education about SBS and infant crying research and information, and two symposia in Vancouver at which 234 and 145 participants attended.

The implementation of the *Period of PURPLE Crying* throughout the province will be carried out by the BC Shaken Baby Syndrome Prevention Program. This will include supervising coordinators, obtaining inter-agency corporative agreements with hospitals and health officials, Aboriginal agencies, child care licensing, foster care groups and other organizations serving families in B.C. The program implementation team includes:

1. Marilyn Barr, Director, BC Shaken Baby Syndrome Prevention Program and Executive Director of the National Center on Shaken Baby Syndrome;

2. Jocelyn Conway, Provincial Coordinator, BC Shaken Baby Syndrome Prevention Program;

3. Claire Yambao, Information Specialist, BC Shaken Baby Syndrome Prevention Program;

4. Two Community Coordinators will be hired for this project and will be employed by the BC Shaken Baby Syndrome Prevention Program.

Centre for Community Child Health Research. The evaluation component of this project will be carried out by Dr. Ronald Barr and his team from the Center for Community Child Health Research of the Child and Family Research Institute, BC Children's Hospital. Dr. Barr is the Director of the Centre. The surveillance components benefit from collaboration with the BC Injury Prevention Unit, one of the units within the Centre for Community Child Health Research.

The surveillance team includes:

1. Ronald G. Barr, MDCM, FRCPC, Director Center for Community Child Health Research;
2. Ian Pike, Director, BC Injury Prevention Unit, Centre for Community Child Health Research;
3. Ash Singhal, MD, FRCPC, Pediatric neurosurgeon, BC Children's Hospital;
4. Kate Turcotte, Social Science Researcher, BC Injury Prevention Unit;
5. Takeo Fujiwara, MD, PhD, post doctoral fellow, Centre for Community Child Health Research;
6. Cynthia Lee, Research Assistant, Child Development Laboratory, Centre for Community Child Health Research;
7. Pam Joshi, PhD Epidemiology, BC Injury Prevention Unit;
8. Research Assistant, Dept of Neurosurgery.

Additional Support for Implementation of the PURPLE Program 2007-2011

Public Heath Nurses. The public health nurses have been completely supportive of this project. It is expected that about 10 minutes of time per family for all new born babies in B.C. will take place to discuss the *Period of PURPLE Crying* information as part of their responsibilities during the home visit. This contribution equates to 10 minutes X 40,000 babies born each year X 4 years = 26,666 hours of service over the life of this project.

Maternity Nurses. Similarly, it is anticipated that maternity nurses will incorporate this in to their standard practice of delivery to newborn and maternal care. It is expected that a minimum of 5 minutes per family will be used for all newborns in B.C. This contribution equates to 5 minutes X 40,000 babies born each year X 4 years = 13,333 hours of service contributed over the life of the project.

BC Children's Hospital. The BC Children's Hospital will contribute the office space and furnishings for the 5 staff assigned to this project, the salary of the director, the leadership of the steering committee and the communications department specialists who help to implement the public education campaign. .

Francophone Services of BC. This office has agreed to fund the translation of the film and booklet, and the subsequent production of these materials, in to French in 2007, a value of $10,000.

Japanese Ministry of Health. The Ministry has approached us about having the *Period of PURPLE Crying* materials translated into Japanese. They will pay for the translation of the film and booklet and the production of these materials into Japanese in 2007, a value of $10,000.

Vancouver Foundation. The Vancouver Foundation has confirmed that we will receive a grant of $22,050 to support development of the Website which will have the URL www.dontshake.ca.

National Center on Shaken Baby Syndrome. The NCSBS is developing the broadcast and print media ads for paid and earned advertising, including billboards for this project. These materials will be contributed to this project, a contribution valued at $43,720.

Centre for Community Child Health Research. The Centre will contribute 60% of the salary of a post doctoral fellow. The post doctoral fellow, Takeo Fujiwara, will be coordinating the active and passive surveillance systems, and be the primary methodological analyst for the evaluation of the project (Contribution: $150,610 over the course of the project).

Foresters. This fund will contribute $10,000 toward general cost of the program in Year 1 (2007-2008), and $10,000 in Year 2 (2008-2009).

Fraser Health Region. This health region has committed $18,200 towards the website development in 2007, and is expected to commit an equivalent amount in 2008.

Rick Hansen Foundation. A proposal has been invited by the Foundation, and has been submitted for $18,598 to support the media campaign. (We have had support for 3 prior grants from this foundation to date for translation).

Conclusion

Although governments, investigators, child abuse workers and the general public all believe it is better to prevent abuse than to attempt to remediate the consequences, it is rare in the history of child abuse or injury prevention that the converging empirical evidence so strongly supports the possibility of making a real difference in preventing child abuse. Uniquely for the particular form of child abuse referred to as shaken baby syndrome (SBS), or abusive traumatic brain injury, the evidence strongly supports the potential effectiveness of prevention.

SBS has already been shown to

(1) be the *most severe* form of child abuse,

(2) be a *preventable* form of child abuse (25-47% reduction),

(3) have a *clear stimulus* (crying) and *risk behavior* (shaking) leading to the abuse;

(4) have educational materials with *demonstrated efficacy* in changing relevant knowledge and behavior (*Period of PURPLE Crying*).

Furthermore, in BC, we have the right systems to implement this prevention in maternity wards and to *improve on current best practice* by using the public health home visitor program to deliver the prevention. Once implemented, it should be sustainable at greatly reduced costs for decades to come, because

(1) it incorporates essential early infant development information of importance for all parents, early childhood specialists, and health professionals;

(2) implementation will have brought about a *cultural change* in our understanding of early crying and its relationship to shaken baby syndrome (analogous to changing sleeping behavior for SIDS); and

(3) it will have been demonstrated to be a cost-effective prevention strategy, both monetarily and especially in terms of decreased tragedy for the victims, their families, and society.

In summary, this is the right program in the right province at the right time to demonstrate the effectiveness of a province-wide, community-based prevention of the preventable human tragedy of shaken baby syndrome and abusive traumatic brain injury.

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Proposal submitted to the
Ministry of Children and Family Development
Preventing Shaken Baby Syndrome and Infant Abuse:
The *Period of PURPLE Crying* Program
February 14, 2007

Introduction

This grant proposal describes a province-wide implementation of the *Period of PURPLE Crying* program[1] for the prevention of abusive traumatic brain injury among infants (more commonly known as Shaken Baby Syndrome). We propose to implement this universal prevention program for all of the approximately 40,000 births a year in British Columbia over a four-year period. The project represents a unique collaboration of birthing hospitals, public heath nurses, and the BC Children's Hospital. The BC Shaken Baby Prevention Program will be the lead agency and the evaluation will be conducted by the Center for Community Child Health Research of the Child and Family Research Institute (CFRI). The goals will be to create a cultural change in parents' understanding and response to infant crying and a 50% decrease in the number of cases of traumatic brain injury (shaken baby syndrome).

The program to be implemented is based on the most current research but improves on best practices that have recognized limitations to provide an optimal likelihood of success in reaching these goals. It exploits the unique opportunity that British Columbia provides because of its public health nurse home visitor program, not available anywhere else in North America. It provides a "triple dose" of education about crying and the dangers of shaking an infant. Parents will receive the information in three ways: (1) in hospital maternity wards after the birth of their baby, (2) by home visitor public health nurses, and (3) through a public education campaign. In addition, other key health centers, physicians (including family practice, pediatricians and emergency room doctors), early child health specialists, and First Nations, minority and at risk populations will be specifically targeted and informed about the program.

The program will have a 6-component evaluation to determine whether it reaches its goals. This will include (1) active surveillance of traumatic head injuries in infants; (2) active surveillance of abusive head trauma (shaken baby syndrome cases) from child protection services; (3) review of Coroner's cases of deaths due to abuse; (4) a passive surveillance program based on discharge data sets; (5) a surveillance program based on the Canadian Pediatric Surveillance Program; and (6) a process evaluation to determine whether the program reaches expected penetration levels (95% or better) and is understood by parents and the community at large (i.e. whether there is a cultural change);

This is **Phase II** of a two-phase program to provide a rigorous evaluation of effectiveness of a provincial program to prevent Shaken Baby Syndrome. In **Phase I**—funded primarily by the Ministry of Children and Family Development along with other partners—the intervention materials of the *Period of PURPLE Crying* were tested in a rigorous randomized controlled trial (RCT) for their ability to change knowledge, attitudes and behavior when delivered by public

[1] The *Period of PURPLE Crying* is a concept coined by Dr. Ronald G. Barr, supported by research from his laboratory and that of several other scientists over the last twenty years (see, for example, Barr, Green and Hopkins, eds *Crying as a Sign, a Signal and Symptom*, MacKeith Press/Cambridge University Press, 2000).

health home visitor nurses within the first 2 weeks after birth. The preliminary results indicate that the materials are effective in enhancing key knowledge and behavioral features relevant to reducing SBS injuries. A more complete description of these results follows. In addition, **Phase I** material development included translation of the materials into 5 other languages (5 more are in process). This **Phase II** proposal now exploits these positive results and describes the province-wide implementation and evaluation of this prevention program.

Significance of Shaken Baby Syndrome (SBS): Problem this Program Addresses

Physical abuse is the leading cause of serious head injury and death in children aged 2 and younger. Although most commonly referred to as Shaken Baby Syndrome (SBS), it is also referred to by a number of other designations, including Inflicted Traumatic Brain Injury, Abusive Head Trauma, Inflicted Childhood Neurotrauma, and Shaken Impact Syndrome, among others. All of these designations include Shaken Baby Syndrome, but some are broader definitions, often including abusive head trauma that occurs by mechanisms in addition to, or concurrent with, shaking injury. For purposes of this proposal, we will use the term Shaken Baby Syndrome (SBS), unless another phrase is required for a specific purpose.

Shaken Baby Syndrome usually results in death or a range of extremely damaging injuries. Approximately 20-25% of hospitalized babies who are shaken die (Keenan et al., 2003; King, MacKay, Sirnick, & Canadian Shaken Baby Study Group, 2003). Of those who survive, as many as 80% have significant, life long brain injuries (King et al., 2003). The costs associated with the initial hospitalization and long term care for victims of shaken baby syndrome are substantial. A study sponsored by the Missouri Children's Trust Fund followed 214 children with shaken baby syndrome (Bopp, Fraser, Fitch, 1997). The initial medical costs totaled $6.9 million or $32,508 per patient (Bopp, et al., 1997). Since 25% of shaken baby syndrome victims die the cost is far more serious than a financial one.

The most reliable estimates of incidence in North America are from N. Carolina, where there were an average of 29.7 cases per 100,000 person-years for children under one year of age (Keenan et al., 2003). In an Edinburgh study (Barlow & Minns, 2000) a very similar incidence of 24/100,000 infants was reported. In an unpublished report from the KIDS data base in the US, incidences of 23, 24 and 26 hospitalized cases per 100,000 births were reported for 1997, 2000, and 2003 (Leventhal et al., In preparation). Unfortunately, there are no equivalent studies in Canada or BC.

There is increasing evidence that shaking as an "acceptable" parental care giving strategy that is a critical risk behavior for SBS is more widespread than anticipated. A Dutch study reported that 5% of parents consider shaking an appropriate strategy for calming infants (van der Wal, van den Boom, Pauw-Plomp, & de Jonge, 1998). By anonymous telephone survey, 2.6% of N. and S. Carolina parents endorse shaking as an appropriate "disciplinary" response in infants less than 2 years old (Theodore et al., 2005). Surprisingly to us, in our **Phase I** study which was not anonymous, 1.9% of mothers who did not receive the *Period of PURPLE Crying* materials ***agreed*** that 'Shaking a baby is a good way to help a baby stop crying' in the control group in BC. In other countries, preliminary evidence of shaking at rates of 15-60% is being documented in three international studies (Runyan, Seattle Conference on Measuring Incidence of Inflicted Childhood

Neurotrauma, October 5, 2006). Although not all shaking episodes produce brain damage, Runyan estimates from their N. Carolina data that one infant is admitted to the pediatric intensive care unit with inflicted traumatic brain injury for every 151 parents who endorse shaking, and 1 death occurs for every 335 parents who endorse shaking (Runyan, Keynote address, National Center on Shaken Baby Syndrome Conference, Park City, Sept 13, 2006).

In sum, Shaken Baby Syndrome represents a major public health problem that threatens the development of British Columbia's youngest infants, and is a leading *but preventable* cause of physical and mental handicap among infants and young children. This proposal describes a comprehensive, empirically-based prevention program to reduce this health burden in British Columbia. Successful implementation would make British Columbia the first province-wide (or state-wide) jurisdiction in North America to do so.

Preventing Shaken Baby Syndrome through education about crying as the most important stimulus to shaking.

The *Period of PURPLE Crying* prevention program is unique among SBS prevention efforts in several important ways: (1) it approaches prevention through educating parents and the community about *normal infant development*, specifically, crying in normal infants, rather than being limited to warnings of the negative consequences of shaking; (2) it uses highly attractive, *positive* messages for caregivers rather than negative warnings about bad consequences; (3) it aims to bring about a *cultural change* in our understanding of infant crying in caregivers and the community generally; and (4) it is designed to *increase "penetration rates"* to caregivers and be widely acceptable to health care professionals and groups disseminating the intervention. Here we briefly summarize the evidence on which this is based.

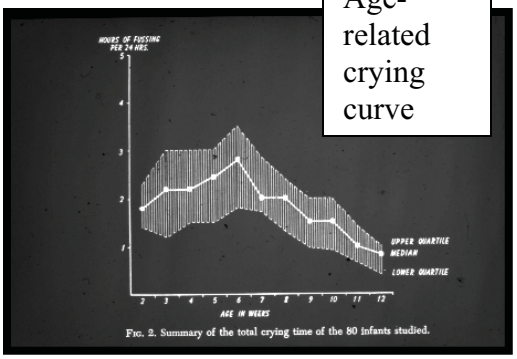


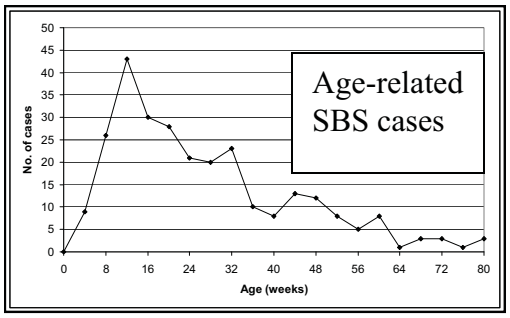
Fig. 2. Summary of the total crying time of the 80 infants studied.

Age-related crying curve

It is now clear that crying, especially inconsolable crying, is the most common trigger for shaking and physical abuse (Barr, Trent, & Cross, 2006; Lee & Barr, 2007). Furthermore, research has shown that *all normal* babies have inconsolable crying in the first few months (Barr, 2000; Ghosh & Barr, 2000). Some have much more than others, with infants in approximately the top 20% considered to experience colic. These infants may have weeks to months of inconsolable crying bouts that occur in the first four months, usually peaking during the second month (Barr, 1990). It is also clear that there is little a parent can do to reduce it, and that the inconsolable crying bouts are not reduced regardless of care giving response (Barr, 2000; St.James-Roberts et al., 2006).

Critical to the preventability of shaking episodes is the underlying dynamic connecting crying with shaking. Parents who would never consider hitting their baby become frustrated with the continual crying to the point that they "just shake him (or her)." If the shaking is mild, there may be no external signs of harm. However, the shaking may stun and quiet the baby temporarily. This makes the parent think the shaking stopped the crying and that no harm was done. The importance of crying as a trigger for SBS was reported by one of this project's partners, Dr.

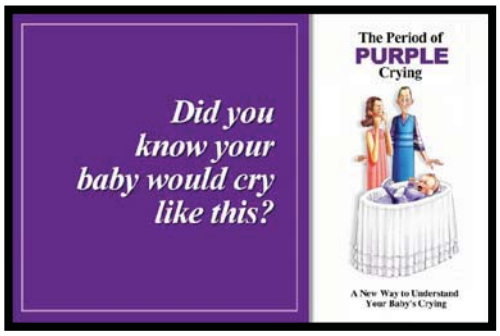
Ronald Barr (Barr et al., 2006; Lee, Barr et al., 2007). The age when babies begin to increase their crying (two weeks) is the same age that infants begin to be hospitalized for SBS. Further, the increase and then decrease in crying amounts are reflected in increases and decreases of hospitalizations for SBS. The peak age of SBS hospitalizations is slightly later than the peak age of crying, probably because many cases are the result of repeated shakings (Barr et al., 2006).



In this program, we take advantage of this critical connection between normal crying and shaking to educate parents and the general public both about normal crying behavior and the dangers of shaking. This goes beyond other prior efforts to prevent shaken baby syndrome. First, it uses the virtually universal interest in infant crying as a normal developmental phenomenon to reach all caregivers. Many new parents would never consider themselves capable of shaking and do not pay attention to warnings to "not shake," but are interested in learning about crying. Second, it is much more acceptable to maternity and public health nurses who are very willing to share a positive message about crying and shaking, but reticent to present new mothers with a "negative" message simply about "not shaking." Third, it helps all supporters of parents, including health care professionals, relatives, transient caregivers and others to accept and spread this understanding. In short, this approach is an important developmental message about infants available to everyone, is much more acceptable than other "don't shake" prevention efforts, and should achieve much higher "penetration" than other available programs.

The *Period of PURPLE Crying* Program

The *Period of PURPLE Crying* is the name for the educational information about the properties of early crying in normally developing infants that are uniformly frustrating to caregivers and appropriate action steps that caregivers need to know. It is presented in two components that reinforce each other: (1) an attractive 11-page booklet ("Did you know your infant would cry like this?") and (2) a 10-minute DVD (or video). [Please see cover of booklet (right). A copy of the booklet is included in this application.] These are currently available in English and five other languages, and will be available in eight languages in 2007. The educational information and action steps are brief, memorable, and easy to transmit. The information and action steps target many points in the causal pathways linking the features of early crying to caregiver frustration, anger, shaking and abuse.



The educational component helps caregivers understand the normality of the frustrating properties of crying—even in babies with colic—and that, in almost every case, they will come to an end at about four months. Each of the letters of the word **PURPLE** refers to one of these properties:

P for **Peak of Crying**—Crying peaks during the second month, decreasing after that;
U for **Unexpected**—Crying comes and goes unexpectedly, for no apparent reason;
R for **Resists Soothing**—Crying continues despite all soothing efforts by caregivers;
P for **Pain-like Face**—Infants look like they are in pain, even when they are not;
L for **Long Lasting**—Crying can go on for 30-40 minutes, and longer;
E for **Evening Crying**—Crying occurs more in the late afternoon and evening.

The behavioral component—**three action steps**—guides caregivers on how to respond to crying in order to reduce crying as much as possible and to prevent shaking and abuse. These action steps are:

1. First, caregivers should respond to their baby with **"Comfort, carry, walk and talk"** behaviors. This encourages caregivers first to increase contact with their infant to reduce some of the fussing, to attend to their infant's needs, and not to neglect them.

2. Second, it is **"OK to walk away"** if and when the crying becomes too frustrating. If it is, caregivers should put the baby in a safe place and then walk away.

3. It is **"Never OK to shake or hurt"** your baby to stop its crying under any circumstances.

Developing the Empirical Support for a Community-based SBS Prevention Program

In addition to the research on which the *Period of PURPLE Crying* approach is based (see above), we undertook to establish that the materials would be appropriate for use in British Columbia by (1) partnering with the province's public health home visiting nurses, and (2) carrying out a randomized controlled trial (RCT) of the ability of the *PURPLE* materials to affect parental knowledge, attitudes and behavior.

Phase I: ***Period of PURPLE Crying*** **Materials Development in BC**

Educational Materials and Parent Focus Groups: In 2004-2007 major product development and testing of the *Period of PURPLE Crying* Prevention Program materials took place. The materials were refined through 28 parent and professional's focus groups lead by professional independent focus leaders. Participants in the parent focus groups included mothers and fathers of infants between 4 weeks and 8 months of age. Participants came from a wide variety of backgrounds, including race, economic status and family makeup. The focus groups included; 16 for mothers, 2 for fathers, 1 First Nations, 2 Chinese, 2 Punjabi, 3 Spanish and 2 Korean. The materials have been translated in all these languages and in 2007 will be translated into Vietnamese, French and Japanese. At the First Nations parent focus group there were 13 parents, both mothers and fathers and an elder. They indicated at that group that they felt the materials were very culturally sensitive and relevant to them. The Elder said at the meeting, "this program should be given to every family, everywhere." The materials were also reviewed by over 35 highly regarded pediatric and research physicians, consultants at the School of Public Health, University of California, Berkeley and B.C. public health nurses. All who reviewed the materials offered constructive feedback, and generally found the information very valuable to parents.

Based on feedback from focus group participants and others, the initial list of materials, which included a 12-minute video, a 12-page booklet, a magnet, a bib and a certificate, was narrowed down to a 10 minute video and an 11 page, full color booklet. Based on public health nurses input, all bottles, formula, bumper pads and blankets in the crib were taken out of the film. The booklet and video have undergone numerous revisions based on feedback and then tested again each time.

The focus groups repeatedly showed that the materials help break down barriers and inaccurate beliefs about infant crying. Parents, who started a focus group claiming to never be troubled by their infant's cries, would watch or read the materials and then share personal and emotional struggles about dealing with crying.

The program components have been designed to overcome the challenges of providing programs to parents by ensuring the following elements for the intervention. The materials are:

- Educational, and attractive to parents of newborns on the first day of life.
- Clear, memorable, salient, meaningful, attractive, positive message.
- Grade 3 level language
- Multicultural
- Valuable for all parents
- Acceptable to Public Health Nurses
    - No bottles, blankets, bumper pads, etc.
- Economical. $2 for the DVD in an attractive case and the 11 page full color booklet for orders of 50,000 or more.
- Stand alone if necessary (each parent has copy)

Phase I: ***Period of PURPLE Crying*** **Randomized Controlled Trial Results (2004-2007)**

Here we briefly describe the results of the study in which the *Period of PURPLE Crying* materials were assessed. It is important to understand that these results are preliminary, have not been submitted for publication, and should not be circulated.

A unique feature of this trial is that the *PURPLE* materials were given by public health nurses in the homes of parents with new infants within 2 wks of birth. The purpose of the study was to assess whether the *Period of PURPLE Crying* materials were able to change knowledge, attitudes and behaviors concerning crying and shaking compared to an active intervention control group provided with analogous infant safety information. The study was funded primarily by the BC Ministry of Children and Family Development. As described above, the intervention materials consisted of 2 components: a 12 minute DVD (or video) and a booklet ("Did you know your infant would cry like this").The control arm received a similar DVD and booklet about infant safety (back to sleep, wall plugs, not leaving your infant unattended on a table, etc.). Parents were also given approximately 5 minutes of instruction on how to complete the Baby's Day Diary (see below).

Parents were recruited by research assistants (RA's) and community nurse liaisons in hospitals at birth. Parents accepting to be in the study were then communicated to their local health unit, and home visiting nurses from their health unit arranged their usual post-birth first visit. During that visit, they obtained written consent for study participation; provided the materials, and encouraged parents to read and view them. However, to eliminate bias, the nurses had not seen either the *PURPLE* materials or the Control materials, and were blind to which intervention the parents received.

At **5 weeks of age** (usual peak crying), mothers completed a 4-day, previously validated Baby's Day Diary (Barr et al., 1988; Barr, Kramer, Pless, Boisjoly, & Leduc, 1989; Calinoiu et al., 1998; Hunziker & Barr, 1986; St.James-Roberts, Hurry, & Bowyer, 1993). At **2 months of age**, parents received a Computer Assisted Telephone Interview (CATI), administered independently by a professional telephone survey company (TSU). The interview included questions (some with reversed polarity) concerning knowledge, attitude and behaviors related to crying, shaking and infant safety. These were grouped into 6 scales: Crying Knowledge, Shaking Knowledge, Safety Knowledge, Crying Behavior, Active Behavior, Passive Behavior; the scoring of each converted into ranges of 0 to 100 (with 100 positive).

The **Crying Knowledge** scale consisted of 8 questions tapping knowledge about aspects of crying that were not unique but that might be expected to be different if parents were exposed to the *Period of PURPLE Crying* materials (e.g. 'Infants cry more in later afternoon and evening'; 'A good parent should be able to soothe his or her infant'). **Shaking Knowledge** (5 questions) asked about dangers of shaking (e.g. 'Shaking can cause serious health problems or even death'). **Crying Behavior** asked about behaviors all caregivers are likely to do, but might do more if exposed to *PURPLE* (e.g. 'You picked up your infant when she or he fussed or cried'). **Active** and **Passive Behavior** scales asked for responses "When your infant's crying was unsoothable, how often did you…." use behavioral responses ('active' e.g. 'pass the baby to someone else for a while') or self-talk ('passive' e.g. 'tell yourself the baby is ok').

Of these, the Crying Knowledge scale was the most direct test of receiving the *PURPLE* information; the Crying Behavior scale tapped common behaviors that might or might not change; the Active and Passive Behavior scales targeted responses specifically to *unsoothable* crying. Although the Shaking Knowledge scale is important, changes might *not* occur due to the intervention for 3 reasons: (1) programs warning of the dangers of shaking have been available for years; (2) other such information sources, including the "Baby's Best Chance" that public health nurses distribute currently, are available in the community, and (3) prior reports (Dias, 2005) indicated that awareness is very high (>75%). Consequently, further increases on this scale might not be obtained if awareness was high (it was, see below).

Three **behavior measures** were derived from the diary: (1) Contact while Distressed (minutes/24 hrs); (2) Pick up while Distressed (rate/24 hrs), and (3) Walk Away with Inconsolable Crying (rate/24 hrs). Because they are prospective and rely less on memory, positive results would be very suggestive that behavior, and not just knowledge and attitudes, were effected.

To determine if information was **shared**, other questions asked who took care of the infant in mother's absence (listing 11 possible care givers, or no-one). If others were used, it was asked

of each whether information on crying, leaving baby unattended, shaking, sleeping on back, and walking away if frustrated was transferred.

It is important to note that this is a *conservative* test of the efficacy of these materials. In contrast to real life, nurses did not know what the materials said, could not and did not reinforce them, and there was no reinforcement 'outside' of the *PURPLE* information for the crying knowledge (most parent advice is wrong on these points [Catherine, Barr et al., 2006 abstract]).

We report here preliminary analyses from the first 1174 subjects. Diaries were completed in approximately 70% of the sample. Analyses are by intention to treat using completed data for each instrument. Overall, 96% saw the video or read the materials or both; 82% saw the video; 89% read the materials; and 21% watched the video "a few times."

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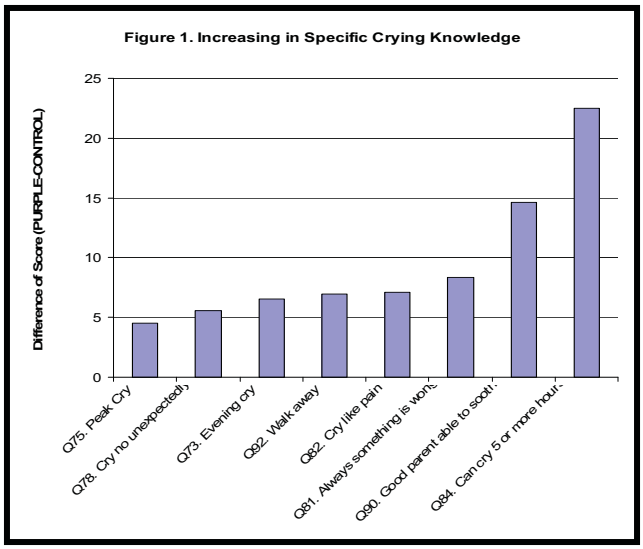
Knowledge, Attitude and Behavior Scales. The **Table** summarizes results for the questionnaire scales. Scores on the Cry Knowledge scales increased significantly in the *PURPLE* group, while Safety Knowledge increased significantly in the Control group. This indicates that DVD + booklet materials *can* change knowledge with regard to both domains. Crying Behavior did not change. Active and Passive Behavior increased in the expected direction, but are not yet significant in this sub-sample. They may be significantly different when the whole sample is analyzed.

Vancouver	PURPLE	Control	Diff	95% CI	P
Crying knowledge	63.7	58.6	5.1	+3.8,+6.5	**<0.001**
Shaking knowledge	83.9	83.4	0.5	-0.6,+1.7	0.36
Safety knowledge	84.1	85.6	-1.6	-2.7,-0.4	**0.01**
Crying behavior	48.2	48.1	0.1	-1.6.+1.7	0.95
Safety behavior	67.4	66.5	0.9	-0.6,+2.3	0.25
Active behavior	27.7	25.9	1.8	-0.6,+4.2	0.14
Passive behavior	35.7	32.9	2.8	-0.7,+6.2	0.12

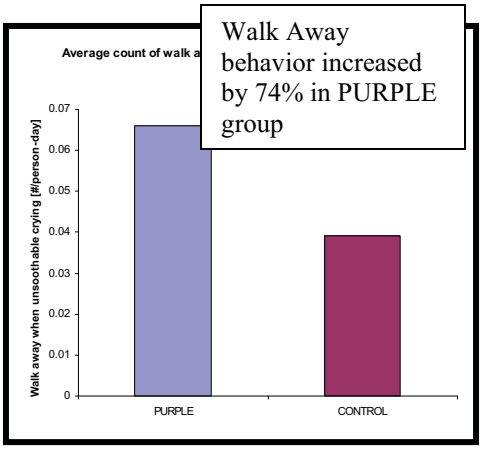
As anticipated, Shaking Knowledge score was (a) very high in both groups (>84/100) and (b) not changed. However, 3 results on individual questions from this scale were especially informative: (1) similar to the Carolinas' study (Theodore et al., 2005), 1.9% ***agreed*** that 'Shaking a baby is a ***good way*** to help a baby stop crying' in the control group; (2) *PURPLE* materials ***reduced*** agreement with that by **63%** (p=0.05); and (3) 'Shaking a baby can be very dangerous and cause serious injuries' was endorsed by >99% of both groups, indicating widespread understanding of the dangers of shaking.



To indicate what this means for individual subjects, the **Figure** depicts ***increases*** in the per cent of mothers receiving *PURPLE* materials who agree with each question in the Crying Knowledge scale. Increases attributable to *PURPLE* range from **4.5 to 22.5%**. Importantly, this includes a

14% increased understanding that *good* parents *cannot* always soothe their crying infants (Qn 80), correcting a claim routinely made incorrectly by parent advice and intervention proponents that probably contributes to frustration in the face of inconsolable crying.

Diary Behavior Measures. For the diary measures of behavior, Rate of Walk Away with Inconsolable Crying increased by **74%** (see **Figure** right). Time in Contact while Distressed and rates of Pick up while Distressed did not increase significantly. The increased walk away finding is important, because it specifically supports a behavior change 2ndary to *PURPLE* materials, where "walking away when frustrated by inconsolable crying" is recommended Action Step 2.



Sharing Cry/Shake Information with other Care Givers. Rates of temporary care giving by others were high, including 59% with fathers, 50% with grandmothers and 3% with nannies. Overall, sharing crying information, walk away if frustrated, and shaking dangers ***increased*** 9%, 12% and 13% (all $p<0.05$). There was no increase in sharing Control information (safe sleep position or leaving a child unattended: both $p>0.15$). Increases were significant for fathers, grandmothers, grandfathers, and aunts, and equivalently high but not significant for others because of small samples sizes.

In summary, preliminary results indicate that:

(1) the most important outcome (change in Crying Knowledge) reliably ***increased***; these increases ranged from 4.5 to 22% depending on the knowledge item;

(2) the erroneous and dangerous belief that shaking is a good way to soothe an infant was ***decreased*** by 63%;

(3) Walk Away behavior by diary (Action Step 2 in the *PURPLE* materials) ***increased***; and

(4) PURPLE materials ***increased*** knowledge sharing to other transient care givers.

Despite being a conservative test, these results indicate that attractive, positive educational materials about crying and shaking are read and watched voluntarily outside of the presence of a health care professional in a high proportion of recipients, can significantly alter knowledge and attitudes; can change an important behavior ("walk away when frustrated") that is considered key to preventing shaking; and are shared with other caregivers of infants at a high rate. The results also demonstrated what was suspected prior to the study; namely that awareness of the dangers of shaking is already very high, so that there is little likelihood that educational programs aimed *only* at increasing awareness of shaking danger is likely to be effective in further reducing shaken baby syndrome or abusive head trauma. Reducing the prevalence of shaking as a means of soothing infants is still likely to be important, and can be changed by educational materials.

Phase II: **Province-wide Implementation of Period of PURPLE Crying in British Columbia (2007-2011)**

Overview: This program will be the first of its kind to be implemented jurisdiction-wide in North America, and likely in the world. There are a number of reasons why this project should be implemented in British Columbia: (1) British Columbia is the best jurisdiction in North America in which to implement it because of the presence of the universal nurse home visitor program that reaches 97% of newborns within the first 3 weeks of life for 1.5 hours/visit; (2) the current state of the literature suggests, mostly on the basis of the Olds et al studies, (Olds et al., 1997) that nurse visitors are the optimum means to prevent child abuse by preventive efforts; (3) the intervention takes advantage of important and new information about a significant developmental challenge, namely, the specific properties of early infant crying, by approaching this through infant developmental education: thus, the program is also an intervention for all parents related to early child development; (4) other, less well considered and less well-documented interventions are already being introduced in various jurisdictions across North America (some mandated by law) because of the urgency and increasing salience of the shaken baby syndrome form of child abuse. In sum, this is the right time and the right place and the right program to implement.

Goals, Objectives and Timelines: As stated before, in order to make a *long term* positive effect of a sustained reduction in the number of cases of shaken baby syndrome, there will need to be a cultural change in the way our society understands (1) the meaning of increased crying in early infancy and (2) the danger of shaking as a response to the frustration with that crying. The program is conceptualized as a primary, universal, community education prevention program. The BC Shaken Baby Prevention Program staff will implement and train on the program. The Centre for Community Health Research will evaluate the effectiveness of the intervention throughout British Columbia.

In order to accomplish a cultural change, we will implement a **"triple dose**" strategy**.** Our goal is that every parent of a new baby in B.C. will receive this important information at least 3 times. The materials have a child development approach and are relevant to all parents. The new information about normal infant crying is of interest to all parents and the information about the dangers of shaking an infant or child is incorporated in this. Included in the delivery system will be an emphasis to have the program presented to First Nations' families at their equivalent organizations. We have established good working relationships with many Aboriginal Services in B.C and they are looking forward to the implementation of this program.

Dose One: The *PURPLE* Program will be given to parents, both mothers and fathers, in the hospital after the birth of their baby. Maternity nurses will be trained and provided with a script and the materials. Each family will receive a DVD and 11 page booklet about *PURPLE Crying*. When possible, the parents will watch the film in the hospital and be able to ask the nurse questions.

Dose Two: Public Heath Nurse Home Visitors will call parents before they go to visit them usually within one week of the baby's birth. They will ask the parents if they received the materials and in what language. If needed, the nurses will take a set of materials to the parents if

they have not already received them. When they arrive, they will have a script and will go through the information again and ask if there are any questions.

Dose Three: A public education campaign will provide this information to all those who did not receive it through the above methods. This is an important part of bringing about a cultural change as it is necessary to educate grandmothers, boyfriends, neighbors and relatives about the PURPLE program so the mother and father will receive support and reinforcement from them.

Reinforcement and Enhancements: Other groups who serve parents will be specifically targeted so that there is complete community coverage about the program. Child care providers through MCFD licensing, foster care workers through MCFD, midwives, advice and hot line personnel, family practice physicians, pediatricians and non-government organizations will be offered the training. This will insure that the parents get the same information wherever they go for help and advice.

Maternity services and the **public health nurses** are vital to the delivery of the program. There are 112 public health centers and 46 birthing hospitals in B.C. There are over 800 maternity and public health nurses working in these facilities. During the research phase **(Phase I)** of this initiative, we have developed partnerships with and trained about 500 of these nurses. In order to ensure the maternity and public health nurses are trained and supported, we will have two community coordinators working with them. The coordinators will be assigned to each serve 50% of the birthing hospitals based on the geographical locations of the hospitals and the numbers of births at the hospitals. Each coordinator will be responsible for serving hospitals and the nurses where there would be a total of about 20,000 births a year. In addition, Heath Units will be assigned based on the number of nurses to be trained and supported. Each coordinator will serve about 56 heath units and about 25 birthing hospitals each.

Objectives Year 1 (2007-2008)

- **Hire and train** two community coordinators by June, 2007.
- **Organize a leadership committee** consisting of representatives of organizations vital to the program including: MCFD, Ministry of Health, Non governmental organizations, Aboriginal Agencies, Child Care Administrator(s), Medical Associations and other organizations serving children and families..
- **Establish written agreements** with birthing hospitals and health units for implementation of the program for the parents they serve.
- **Maternity Services:** Establish agreements with 23 (approximately 50% of the total) birthing hospitals for program implementation; train maternity nurses at these hospitals on program delivery and how to give it to parents. Scripts will be provided.
- **Health Units**: Establish agreements with 56 health units (approximately 50% of the total) for program implementation; train nurses at these health units on the program delivery and how to give it to parents. Scripts will be provided.
- **Provide training for agencies** that serve families and train them on the program. In year 1, this will include parent and crisis hotlines, MCFD personnel and foster care workers, and day care centre personnel through MCFD licensing.
- **Develop training guide and online training** version which will accessible to all participants.

- **Public education campaign.** Broadcast and print media ads will be donated by the National Center on SBS. Adjustments for Canadian audiences will be made and translation into other languages will take place as needed. Development of relationships with media will take place with the assistance of the Department of Communication at Children's Hospital. A specific plan for social marketing will be devised.
- **Evaluation.**
    - Carry out the first public survey (Ipsos-Reid omnibus) for baseline community knowledge base
    - Patient chart retrieval and review for prospective active surveillance of head trauma admissions
    - Initial data request to CIHI for retrospective discharge data base codes back to 2001.
    - Set up data transfer arrangements with 5 CPS units in the province.
    - Set up written relationship with BC Coroner's office for active surveillance of deaths due to abusive head trauma.
    - Obtain initial data set for first 2 years of Canadian Pediatric Surveillance Program (CPSP) data for baseline

Objectives Year 2 (2008-2009)

- **Maternity Services*:*** Establish agreements with 23 more birthing hospitals (the remaining 50% of hospitals) for program implementation; train maternity nurses at these remaining birthing hospitals on program delivery and how to give it to parents. Scripts will be provided.
- **Health Units**: Establish agreements with 56 more health units (remaining 50% of health units) for program implementation; train nurses at these remaining health units on the program delivery and how to give it to parents. Scripts will be provided.
- **Provide training opportunities**, posters, scripts and services to Emergency Room personnel, midwives, family practice doctors, immunization clinics, adoption agencies, brain injury associations and the like about the *PURPLE* program and how to tell parents about it.
- **Public Education Campaign** will be fully implemented in this year. Paid and donated ads will take place, articles in news sheets, new stories, and public interest stories will be the focus.
- **2008 October.** The North American conference on SBS will take place in Vancouver. This will bring public and media attention to the subject and the BC program. The BC Province wide program will be featured at the conference.
- **Evaluation**
    - Initiate measures of "penetration" of program to new mothers
    - Initiate maternal interviews 6 months post-birth to assess message transfer, facilitators, inhibitors, memory and acceptability of program (samples of mothers from different regions).
    - Continuing active surveillance from Year 1.
    - Retrieve annual data sets from CIHI, CPSP, Coroner, CPS units

Objectives Year 3 (2009-2010)

- **Maternity Services*:*** Continue to provide support services and on-going training for maternity services. Monitor the effectiveness of the program and increase services where needed. Provide a second series of training session to all maternity units in the province.
- **Health Units**: Continue to provide support services and on-going training for public heath nurses. Monitor the effectiveness of the program and increase services where needed. Provide a second series of training sessions to all maternity units in the province.
- **Public Education Campaign** will continue through year 3. An ongoing effort to gain press attention to the program, infant crying and SBS awareness will take place.
- **Other agencies serving families** will continue to receive the training and services as in year 1 and 2.
- **Evaluation**
    - Continue "penetration" indices and maternal sampling 6-month interviews
    - Continue annual data set collections and analyses

Objectives Year 4 (2010-2011)

- **Review process evaluation** and begin process to insure the program will be institutionalized in Maternity Services, Public Health Home visitors. Participate in the development of policies that require the program and training manuals that describe it...
- **Establish methods to sustain the program.** Assist in gaining funds to support the program for ongoing years.
- **Present the results** of the program and its effectiveness to agencies that have the authority to insure it is sustained.
- **Continue to provide training, materials, services and support** to the participating organizations to insure consistency and continuity takes place and the program is widely accepted.
- **Provide a detailed report to MCFD** about the outcome of the initiative and the reduction of SBS in B.C.
- **Evaluation.**
    - Continue "penetration" indices and maternal sampling 6-month interviews
    - Continue annual data set collections and analyses
    - Carry out time 2 public survey (Ipsos-Reid omnibus poll)
    - Obtain time 2 CIHI discharge data set
    - Analyses of data sets
    - Writing papers, reports and presentations.

Implementation Timeline	Apr/07 Sep/07	Oct/07 Mar/08	Apr/08 Sep/08	Oct/08 Mar/09	Apr/09 Sep/09	Oct/09 Mar/10	Apr/10 Sep/10	Oct/10 Mar/11
Leadership Committee/Agreements								
Train and Implement in 50% of hospitals/public health units								
Train and Implement in 50% of hospitals/public health units								
Training for External Agencies								
Public Education Campaign								
Active surveillance of traumatic head injury in BC Children's Hospital.								
Active surveillance of infant abuse from Child Protection Services Units								
Review of BC Coroner's Cases								
Passive surveillance of abusive injuries through CIHI								
Passive surveillance through CPSP								
General Community Ipsos Reid Poll								
Program Penetration rates								
Parents 6-month recall survey								

Resources, Organizations, People, Campaigns and Services Used for the Implementation

Province Wide Leadership Committee. Community leaders representing the key organizations serving families such as MCFD, the Ministry of Health, Aboriginal Services, organizations serving at risk families, public health regions, maternity services, medical associations, including emergency services and child care licensing will be invited to serve on a leadership committee to support and advise us concerning interagency agreements and to help coordinate implementation. This provincial steering committee will be critical to the establishment of policies related to offering the program during the course of implementation, and for on-going support for the "institutionalized" program after the MCFD grant has been completed.

Maternity Services: Agreements with the 46 birthing hospitals in B.C will be established to provide the PURPLE program to parents after the birth of their baby. Nurses will have been trained and provided with scripts when giving the program to the parents as the "first dose." Training sessions for the nurses and implementation of the program for parents will take place as follows: 3 pilot hospitals by August, 2007; 5 hospitals by October, 2007, 15 hospitals by January, 2008, and the remaining hospitals for this year (total 23) by June, 2008. The hospitals will have been chosen and divided between the two Project Coordinators based on number of births and locality.

The nurses will be trained on the program, provided the scripts to use with parents. *PURPLE* Program coordinators will work closely with the managers to choose the delivery model that works for each ward. In some cases this may be at the bedside and in others it may be at a discharge class. Hospitals that have previously participated in the *PURPLE* research project already have excellent relationships established.

Public Heath Agencies: Agreements with the112 public health units and the 9 Aboriginal Heath Units in B.C. will be established to provide the *PURPLE* program to parents when the nurses make their visit to the families of new babies. Nurses will ask parents if they have the program and in what language. If not, they will take one to the parents. Nurses will talk to the parents about the program and have the time to answer any questions (the "second dose"). Nurses will have been trained and provided with scripts when giving the program to the parents.

Training sessions for the nurses and implementation of the program for parents will take place as follows: The health units will be split between the Project Coordinators based on number of births and locality. The nurses will be trained on the program and provided the scripts to use with parents. About two-thirds of the public health units have participated in the *PURPLE* research over the past 3 years and important and excellent relationships have been established with the *PURPLE* program administrators. The nurses are enthusiastic about participating in the implementation of the program.

Aboriginal Services. Critical to the implementation of the program will be the involvement of those agencies and organizations serving First Nation's families. The program has been reviewed by various groups within Aboriginal services, and a parent focus group with 14 First Nation's family members took place in Duncan. Throughout the last three years our program has been working with Aboriginal Services including the Vancouver Native Health Society, Caring for First Nation's Children Society and the Aboriginal Infant Development Program who have all received information about the program and are supportive in getting it started for the families they serve.

Program Guidelines for the *Period of PURPLE Crying* Education Program will be developed for distribution and training purposes by July, 2007. This will incorporate different protocols depending on the training area: maternity programs, midwives, emergency services, and community/public health units. Maternity and public health nurses will be given these scripts to use when giving the program to parents and a list of the commonly asked questions and answers.

The complete training program will also be available on the BC SBS Prevention Programs website called: Prevent SBS Canada, through its online learning management system. Having this online will provide an easily accessible, cost efficient way to provide training for nurses in outlying areas or refresher courses or for nurses missing the face-to-face training meetings. Parents will also be able to access information on the user friendly web site about infant crying and other parent support information. Parents and other caretakers will be told that for more information they can go to the website or call the BC SBS Prevention program office. There will be a section on the web site that will give parents and caretakers accurate information about infant crying and coping techniques for the parent to try and ways to keep them calmer and less frustrated. Additionally, warm and hot lines in the province will be trained about the program so they can accurately answer questions when people call.

Staffing: Two Coordinators will be hired by June, 2007 and will be responsible for the following areas: Coordinator A - Vancouver Coastal, Provincial Services, Vancouver Island, and the Northern Health Authorities, and Coordinator B - Fraser and Interior Health Authorities. This

allocates approximately half of all provincial births to each Coordinator as well as an equal number of health units. The project director and the program director will administer the program, budget, supervise all staff and ensure goals and objectives are accomplished.

Information Referral Service: The BC SBS Prevention Program's Information Referral Service will be fully developed in order to support queries from the general public, health care workers, and other professionals by September, 2007. This referral service will include professional telephone support, a website, access to various databases, a list service for SBS professionals, and a list service for victims, families of victims, foster parents, and other caregivers. It also incorporates an online presence to provide up to date, accurate, and scientifically sound information for professionals, parents and caregivers, and others. The website's training centre will provide easy access for rural and repeat training opportunities.

Translations: *PURPLE* program materials will have been translated into Cantonese (Traditional Chinese), Punjabi, Spanish, Korean, Vietnamese, French, and Japanese by the time the program is implemented. This will allow parents to receive the materials in their language of choice providing the best possibility for a cultural change to occur.

Public Education Campaign and Media Strategy: The use of the media will be used to support the primary prevention program by providing education to the general public about the *Period of PURPLE Crying* program and the dangers of shaking infants and children. This education will be the intervention initiative for the general population who would not be educated specifically by one of the other methods like the maternity nurses. Both broadcast and print media will be utilized for this purpose.

The development of a positive relationship with the media is important to this process in that advertisements alone, whether broadcast or print, are cost prohibitive. Newspaper articles and interviews on radio and local interest television shows will be sought and encouraged. These methods can be even more effective as they become part of a news story rather than a paid advertisement. The topic of shaken babies and prevention efforts are of great interest to the press. Unique to this specific initiative is interest in the new information about infant crying. This is expected to create a newsworthy interest from the press. Paid advertising on radio, television and in newspapers will also be a part of this initiative. The National Center on Shaken Baby Syndrome (NCSBS) has committed to provide, at no cost, 10, 30 and 60 second professionally produced ads for television and radio and print ads for newspaper and billboards. These ads will be in English and can also be produced in the other six languages that the *PURPLE* program is available in. This is a contribution from the NCSBS of a value of $43,720 toward this project.

Evaluation of Effectiveness

The implementation will be evaluated for its effectiveness in attaining the three primary goals of the intervention; namely,

- Attaining a "penetration" rate of 90-95% of mothers of newborn infants;
- Reducing the incidence of shaken baby syndrome and/or infant abuse by 50%;
- Achieving a cultural change in the understanding of early infant crying and its relationship to shaken baby syndrome.

Following the recommendations of the Seattle conference on Measuring the Incidence of Inflicted Childhood Neurotrauma (Shaken Baby Syndrome) in October of 2006, we will employ a "mixed method" approach to evaluating effectiveness to provide as accurate an assessment of effectiveness as is possible for a moderate cost. The components of the evaluation will include:

1) An active surveillance system of all traumatic head injury in children less than 2 years of age admitted to BC Children's Hospital;
2) An active surveillance system of all cases of infant abuse in children of less than 2 years of age known to the 5 Child Protection Service units in BC;
3) A review of BC Coroner's cases from 2002 through 2010;
4) A passive surveillance system of all abusive injuries and subtypes of abusive injuries using administrative data sets of hospital discharges (separations) for BC and the rest of Canada through the Canadian Institute of Health Information (CIHI)
5) Cases reported in the Canadian Pediatric Surveillance System, that includes BC and the rest of Canada;
6) Process evaluation, including (a) general population awareness through an Ipsos-Reid poll of change in community knowledge concerning crying and shaking; (b) documentation of program penetration rates, probably through public health unit administrative data; and (c) 6-month recall by parents receiving *PURPLE* program.

1. Active surveillance of traumatic head injury in children less than 2 years of age.

The first component will be active surveillance of traumatic head injury in children less than 2 years of age. In collaboration with pediatric neurosurgeon Dr. Ash Singhal and the department of neurosurgery at BC Children's Hospital, active surveillance of all cases of all ages of traumatic head injury commenced in August, 2006. This includes all cases that are admitted, as well as occasional cases in other hospitals that consult at a distance with the Department and with Dr. Singhal. Since BC Children's is the only pediatric hospital in the province, all cases of significant head trauma are referred for evaluation and treatment. Occasional "parked" cases at other hospitals are sometimes not transferred, but come to the attention of the neurosurgery department.

Although all cases of abusive head trauma will be tracked, for purposes of outcomes for *PURPLE* implementation, we will use all cases of children less than 2 years of age. Cases of abuse will be determined for the majority through referral to the Child Protection Team at the hospital. However, following the protocol of Keenan (Keenan et al., 2003), all cases will be reviewed for determination of abuse by an expert panel from an abstracted and personal ID stripped record. Cases will be classified as Definite, Probable, Questionable and Non-inflicted Head Injury. Following Keenan, (Keenan et al., 2003) all cases of "inflicted" head injury will be sub- classified as Shaken Baby Syndrome, Shaken Impact Syndrome and Battered Child with Inflicted Brain Injury, as well as Abusive Head Injury (with or without evidence of brain injury). Only "depersonalized" data will be included in the Inflicted Childhood Neurotrauma data set for analysis.

Primary outcome measures include annual rates of Abusive Brain Injury and Head Injury/100,000 person-years, and ratio of Abusive: Non-abusive Head Injury.

2. Active Surveillance of all cases of infant abuse in children under 2 years of age in 5 Child Protection Services in BC.

BC has five regional Child Protection Services, the largest of which is at BC Children's Hospital (Dr. Jean Hlady, Director). The others are in Prince George, Surrey, Kamloops, and Victoria. All of the teams network, and have 4 meetings together annually. We have reported to each of their meetings for the last 4 years, and they are all aware of the current evaluation (**Phase I**) and implementation (**Phase II**) of the *Period of PURPLE Crying* prevention program. As with head injuries, the vast majority of abusive head injury cases are referred to and seen at BC Children's Hospital. However, we will maintain active surveillance with all five teams. Depersonalized data from chart reviews for all abusive injuries in children less than 2 years of age will be included for analysis. Primary outcome measures will be annual rate of abusive injuries/100,000 person-years, and more specifically the annual rate of abusive head injuries/100,000 person-years.

3. Reviews of BC Coroner's Cases 2002-2010.

Cases of abusive head trauma and shaken baby syndrome who die may or may not be included in hospital active or passive surveillance systems. In order to ascertain all deaths, all cases of children less than 2 years of age who die from abusive or "undetermined" causes will be reviewed. If there is presence of head or brain trauma, evidence of abuse (definite, probable, questionable, non-abuse) will be determined. Probable and questionable cases will be reviewed by an expert panel. Only "depersonalized" data will be included in the Inflicted Childhood Neurotrauma data set for analysis. The primary outcome measure will be annual rate death due to Abusive Brain Injury and Head Injury/100,000 person-years.

4. Passive surveillance of all abusive injuries and subtypes of abusive injuries using administrative data sets of hospital discharges (separations) for BC and the rest of Canada through the Canadian Institute of Health Information (CIHI).

Since 2001, British Columbia has adopted the ICD-10 coding system for hospital discharges. This provides a series of Injury codes and Assault codes. Depending on the codes used, one can define broader or narrower incidences of abusive trauma (generally) or abusive head injury with or without retinal hemorrhage, and so on. Following the recommendations of the Seattle conference on Measuring the Incidence of Inflicted Childhood Neurotrauma (Shaken Baby Syndrome) in October of 2006 and, in particular, the paper by Wirtz, Trent et al showing that broad and narrow "definitions" of inflicted trauma have similar characteristics, we will track broader and narrower definitions of abusive injury generally and abusive head injuries more specifically in children less than 2 years of age. An important benefit of using discharge data is that it can be analyzed retrospectively. In this case, analyses can be compared back to 2001 when the ICD-10 codes were adopted. Prior to 2001, ICD-9 codes were used. While ICD-9 codes are still used predominantly in the US and are actually better at capturing abusive head injury, they are not available in BC. The other advantage of the discharge data sets is that the incidence of the

same discharge codes in BC can be compared to the incidence of the same codes in the rest of Canada as a control. Thus, for example, the incidence rates per 100,000 for children less than 1 year old in BC for Intracranial Injury (S06.0-S06.9), Retinal Hemorrhage (H35.6), and Maltreatment (T74) WITH Assault codes for Assault (X85-Y09) and Sequelae of assault/undetermined (Y87.1-87.2) averaged **31.07/100,000** between 2001 and 2004. The primary outcomes will be a combination of broad and narrow code definitions presented as a time-series and as a comparison of BC with the remainder of Canada before and after implementation of the prevention program.

5. Cases reported in the Canadian Pediatric Surveillance System (CPSP) that includes BC and the rest of Canada.

Beginning in March 2005, the Canadian Pediatric Surveillance System began to collect cases of "head injury secondary to suspected child maltreatment (abuse and neglect)." The CPSP collects cases from BC and across Canada through a two-tiered monthly mail out to all pediatricians in Canada. In response to the first mail out, pediatricians indicate whether they have encountered a case of the relatively rare conditions being surveyed. If they answer in the affirmative to one of them, a second questionnaire is sent asking for more information about the case. Reported cases are verified as being true, non-duplicative, and meeting criteria. Return rates for the first mail out averaged 82%, and for the follow-up questionnaires 93% during 2005. We will use this system to obtain BC-specific and national rates from the CPSP surveillance system.

6. Process Evaluation for Cultural Change, Program Penetration, and 6-month recall.

Cultural Change: General population awareness through an Ipsos-Reid poll of change in community knowledge concerning crying and shaking.

To gauge the effectiveness of the *Period of PURPLE Crying* program to change cultural norms around infant crying and shaking, we will use Ipsos-Reid omnibus polling to acquire a cost-effective measure of the effect of the *PURPLE* program. The omnibus polls allow us to add questions at $800-$1200 per question depending on format. We anticipate that approximately 5 questions (estimated cost $5200 per survey) will be sufficient. We will benefit from the previous experience and results that will be obtained of asking content questions in the **Phase I** evaluation just being completed. Two polls will be taken; one in Year 1 before implementation, and the second in Year 4 after full implementation. Although still under discussion, the 5 questions will probably be: one to gauge whether the *Period of PURPLE Crying* is recognized; another to determine where the respondent heard of it; two questions to gauge understanding of the key messages, and one question to gauge actions that might be taken. The per cent of households that have a child under two years of age is approximately 7%. We anticipate that the recognition of the *Period of PURPLE Crying* information should reach at least 25% of the population, and there is a good chance that it will be much more widespread than that.

Program Penetration Rates.

"Penetration rates" refer to the per cent of the targeted population who actually receive the *Period of PURPLE Crying* materials. In this program, the primary target is mothers (or parents) of

each newborn in the province. The highest reported penetration rates to date for any SBS prevention program is 69% through a maternity-based program (Dias et al., 2005). Because of the unique delivery system of the public health visitor program in BC, we are targeting, and expect, that the combined maternity ward and public health home visitor program will result in successful "penetration" rates of 90-95% or better. There are a number of possible strategies for obtaining penetration rates. A likely strategy will be by public health home visitor administrative data, but the final strategy is still under consideration.

Six-month Recall by Parents Receiving the *PURPLE* Program.

After the program is implemented, we will conduct a telephone survey of a sample of parents of newborns to ascertain their self-reported exposure to the *PURPLE* intervention (hospital, home visitor, and media campaign), their recollection and understanding of the messages, their self-reported behaviors about caring for their child during the period of *PURPLE* crying, and their dissemination of *PURPLE* crying materials and messages to other caregivers. The survey will be a semi-structured telephone interview survey with 520 new mothers. The timing of the interviews will correspond to the birth of their infant and will be conducted four to six months after the child's birth to allow for the period of *PURPLE* crying (between two and four months of age) to have occurred. The sample of mothers will be approached through Health Unit to obtain permission for the later interview. Estimating the interview completion rate at 65 percent, 100 new parents will be selected from randomly chosen health units every three months for two years (Years 2 through Year 4). The semi-structured interview guide will incorporate some of the outcome measures used to evaluate the intervention's effectiveness in the Phase I trials just completed.

Summary of Evaluation

The proposed evaluation is a cost-effective method of obtaining essential information to be able to assess the main outcomes to test effectiveness of the *Period of PURPLE Crying* program to (a) reach targeted groups; (b) reduce shaken baby syndrome and abusive injury in infants generally; and (c) achieve a cultural change in the community's understanding of early crying and its relationship to shaking. Such an evaluation is critical when the program is being introduced to assure that the program reaches its goals, and that expenditures are justified by a benefit to the population and the government of implementation and support of the program.

Names and Titles of Key Staff including their Responsibilities, Qualifications and Relevant Experience

Program Director**: **Marilyn Barr, BIS, SSW. Director, B.C. Shaken Baby Syndrome Prevention Program.

Responsibilities: Overall project director. Specifically responsible for program development, pre-testing of *PURPLE* intervention materials, training of health care professionals, provision of *PURPLE* products. (Commitment: 60% FTE).

Qualifications and experience: Marilyn has worked in the field of child abuse prevention for 29 years. In this role she has developed 3 statewide child abuse and SBS prevention campaigns, 9 national and international conferences, 7 statewide programs in courts, social services, schools and hospitals. She is a licensed social worker and has a degree in communications.

Principal Investigator : Ronald G. Barr, MA, MDCM, FRCPC. Canada Research Chair in Community Child Health Research; Professor of Pediatrics, UBC; Director, Center for Community Child Health Research, Child and Family Research Institute, BC Children's Hospital.

Responsibilities: Overall evaluation direction, rationale and justification, measures, evaluation design, outcome, and data analysis. (Commitment: 20% time, at no cost to this project).

Qualifications and experience: Developmental-behavioral pediatrician and leading expert on early infant crying, colic, infant behavior and mother-infant interaction. Developer of "Baby's Day Diary," the most widely used instrument of home assessment of infant and caregiver behavior. Past President, Society of Developmental and Behavioral Pediatrics. Director, Canadian Institute of Advanced Research Program on 'Experience-based brain and biological development.'

Participating Organizations:

BC Ministry of Children and Family Development. The primary partner in the implementation of this SBS prevention program will be the Ministry of Children and Family Development. The Ministry financially supported the evaluation of the program in Phase I. For Phase II, SBS prevention program administrators will collaborate with key Ministry personnel and leaders in the development of the specific strategies as they go forward. Directors from the MCFD will hold a position(s) on the program's steering committee. The Ministry will be recognized on the BC SBS Prevention Program's website and during the public education campaign.

BC Shaken Baby Syndrome Prevention Program. This is the only organization in Canada with a single mission to reduce SBS. Since the inception of the program 4 years ago, the following has been accomplished; province-wide environmental scan to determine need for SBS prevention, randomized controlled trial of the program called the *Period of PURPLE Crying* which recruited over 1,800 parents and 300 nurses and a 10 member research team, development of a web site devoted to education about SBS and infant crying research and information, and two symposia in Vancouver at which 234 and 145 participants attended.

The implementation of the *Period of PURPLE Crying* throughout the province will be carried out by the BC Shaken Baby Syndrome Prevention Program. This will include supervising coordinators, obtaining inter-agency corporative agreements with hospitals and health officials, Aboriginal agencies, child care licensing, foster care groups and other organizations serving families in B.C. The program implementation team includes:

1. Marilyn Barr, Director, BC Shaken Baby Syndrome Prevention Program and Executive Director of the National Center on Shaken Baby Syndrome;

2. Jocelyn Conway, Provincial Coordinator, BC Shaken Baby Syndrome Prevention Program;

3. Claire Yambao, Information Specialist, BC Shaken Baby Syndrome Prevention Program;

4. Two Community Coordinators will be hired for this project and will be employed by the BC Shaken Baby Syndrome Prevention Program.

Centre for Community Child Health Research. The evaluation component of this project will be carried out by Dr. Ronald Barr and his team from the Center for Community Child Health Research of the Child and Family Research Institute, BC Children's Hospital. Dr. Barr is the Director of the Centre. The surveillance components benefit from collaboration with the BC Injury Prevention Unit, one of the units within the Centre for Community Child Health Research.

The surveillance team includes:

1. Ronald G. Barr, MDCM, FRCPC, Director Center for Community Child Health Research;
2. Ian Pike, Director, BC Injury Prevention Unit, Centre for Community Child Health Research;
3. Ash Singhal, MD, FRCPC, Pediatric neurosurgeon, BC Children's Hospital;
4. Kate Turcotte, Social Science Researcher, BC Injury Prevention Unit;
5. Takeo Fujiwara, MD, PhD, post doctoral fellow, Centre for Community Child Health Research;
6. Cynthia Lee, Research Assistant, Child Development Laboratory, Centre for Community Child Health Research;
7. Pam Joshi, PhD Epidemiology, BC Injury Prevention Unit;
8. Research Assistant, Dept of Neurosurgery.

Additional Support for Implementation of the PURPLE Program 2007-2011

Public Heath Nurses. The public health nurses have been completely supportive of this project. It is expected that about 10 minutes of time per family for all new born babies in B.C. will take place to discuss the *Period of PURPLE Crying* information as part of their responsibilities during the home visit. This contribution equates to 10 minutes X 40,000 babies born each year X 4 years = 26,666 hours of service over the life of this project.

Maternity Nurses. Similarly, it is anticipated that maternity nurses will incorporate this in to their standard practice of delivery to newborn and maternal care. It is expected that a minimum of 5 minutes per family will be used for all newborns in B.C. This contribution equates to 5 minutes X 40,000 babies born each year X 4 years = 13,333 hours of service contributed over the life of the project.

BC Children's Hospital. The BC Children's Hospital will contribute the office space and furnishings for the 5 staff assigned to this project, the salary of the director, the leadership of the steering committee and the communications department specialists who help to implement the public education campaign. .

Francophone Services of BC. This office has agreed to fund the translation of the film and booklet, and the subsequent production of these materials, in to French in 2007, a value of $10,000.

Japanese Ministry of Health. The Ministry has approached us about having the *Period of PURPLE Crying* materials translated into Japanese. They will pay for the translation of the film and booklet and the production of these materials into Japanese in 2007, a value of $10,000.

Vancouver Foundation. The Vancouver Foundation has confirmed that we will receive a grant of $22,050 to support development of the Website which will have the URL www.dontshake.ca.

National Center on Shaken Baby Syndrome. The NCSBS is developing the broadcast and print media ads for paid and earned advertising, including billboards for this project. These materials will be contributed to this project, a contribution valued at $43,720.

Centre for Community Child Health Research. The Centre will contribute 60% of the salary of a post doctoral fellow. The post doctoral fellow, Takeo Fujiwara, will be coordinating the active and passive surveillance systems, and be the primary methodological analyst for the evaluation of the project (Contribution: $150,610 over the course of the project).

Foresters. This fund will contribute $10,000 toward general cost of the program in Year 1 (2007-2008), and $10,000 in Year 2 (2008-2009).

Fraser Health Region. This health region has committed $18,200 towards the website development in 2007, and is expected to commit an equivalent amount in 2008.

Rick Hansen Foundation. A proposal has been invited by the Foundation, and has been submitted for $18,598 to support the media campaign. (We have had support for 3 prior grants from this foundation to date for translation).

Conclusion

Although governments, investigators, child abuse workers and the general public all believe it is better to prevent abuse than to attempt to remediate the consequences, it is rare in the history of child abuse or injury prevention that the converging empirical evidence so strongly supports the possibility of making a real difference in preventing child abuse. Uniquely for the particular form of child abuse referred to as shaken baby syndrome (SBS), or abusive traumatic brain injury, the evidence strongly supports the potential effectiveness of prevention.

SBS has already been shown to

(1) be the *most severe* form of child abuse,

(2) be a *preventable* form of child abuse (25-47% reduction),

(3) have a *clear stimulus* (crying) and *risk behavior* (shaking) leading to the abuse;

(4) have educational materials with *demonstrated efficacy* in changing relevant knowledge and behavior (*Period of PURPLE Crying*).

Furthermore, in BC, we have the right systems to implement this prevention in maternity wards and to *improve on current best practice* by using the public health home visitor program to deliver the prevention. Once implemented, it should be sustainable at greatly reduced costs for decades to come, because

(1) it incorporates essential early infant development information of importance for all parents, early childhood specialists, and health professionals;

(2) implementation will have brought about a *cultural change* in our understanding of early crying and its relationship to shaken baby syndrome (analogous to changing sleeping behavior for SIDS); and

(3) it will have been demonstrated to be a cost-effective prevention strategy, both monetarily and especially in terms of decreased tragedy for the victims, their families, and society.

In summary, this is the right program in the right province at the right time to demonstrate the effectiveness of a province-wide, community-based prevention of the preventable human tragedy of shaken baby syndrome and abusive traumatic brain injury.

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BRITISH COLUMBIA

Ref: 187821

SEP 16 2009

Dear Foster Parents:

Re: Foster Parent Training ***Period of PURPLE Crying®***

Enclosed you will find some information on a foster parent training opportunity that is currently offered through the Prevent Shaken Baby Syndrome (SBS) Society, within Children's Hospital of BC.

The ***Period of PURPLE Crying®*** is an evidence-based shaken baby syndrome prevention program currently being implemented in the province. The program materials (a 10-minute DVD and 11-page booklet) are provided to all new parents by hospital maternity nurses. The ministry, in partnership with SBS, is enclosing this same information and materials to you so you can benefit from this new program.

Please refer to the "*Training for Foster Parents Information Sheet*" enclosed to determine how you can access this training through your Foster Parent Support Association in your community. There is a step by step guide on how to access this training as well as a contact phone number should you have any questions about the process.

The ministry is also offering the ***Period of PURPLE Crying®*** to all social workers in the province over the next year.

Thank you for your continued support as a foster parent as well as your time and consideration to this valuable new training program.

Sincerely,

Mark Sieben
Chief Operating Officer

Ministry of Children and Family Development
Office of the Chief Operating Officer
PO Box 9721 Stn Prov Govt
Victoria, BC V8W 9S2
4th fl, 765 Broughton St
Victoria, BC V8W 1E2
Telephone: 250-387-3006
Facsimile: 250-356-6534
Web: http://www.gov.bc.ca/mcf

Period of PURPLE Crying®: A New Shaken Baby Syndrome Prevention Program in BC

The *Period of PURPLE Crying* is a new province-wide program that changes the way parents and caregivers are educated about normal infant crying and the dangers of shaken baby syndrome. The program provides educational information about the properties of early crying in normally developing infants that are uniformly frustrating to caregivers and appropriate action steps that caregivers need to know. As of January 31, 2009 every birthing hospital in BC is providing new parents with the *Period of PURPLE Crying* program before discharge.

The educational component helps caregivers understand the normality of the frustrating properties of crying—even in babies with colic—and that, in almost every case, they will come to an end at about five months. Each of the letters in the word ***PURPLE*** refers to one of these properties:

P for **Peak of Crying**—Crying peaks during the second month, decreasing after that;
U for **Unexpected**—Crying comes and goes unexpectedly, for no apparent reason;
R for **Resists Soothing**—Crying continues despite all soothing efforts by caregivers;
P for **Pain-like Face**—Infants look like they are in pain, even when they are not;
L for **Long Lasting**—Crying can go on for 30-40 minutes, and longer;
E for **Evening Crying**—Crying occurs more in the late afternoon and evening.

Parents and caregivers are always encouraged to check with their physician or primary caregiver if they are concerned about their infant's crying. If they have an otherwise healthy, normal baby who is crying a lot in the first months of life, their baby is likely going through the ***Period of PURPLE Crying***.

The **three action steps** advise caregivers how to respond to crying in order to reduce crying as much as possible and to prevent shaking and abuse:

1. Caregivers should respond to their baby with **"comfort, carry, walk and talk"** behaviors. This encourages caregivers first to increase contact with their infant to reduce some of the fussing, to attend to their infant's needs, and to not neglect them.

2. It is "**OK to walk away**" if and when the crying becomes too frustrating. If it is, caregivers should put the baby in a safe place and then walk away to calm down.

3. It is "**Never OK to shake**" or hurt your baby to stop its crying under any circumstances.

The *Period of PURPLE Crying* is presented in two components that reinforce other - an 11-page **booklet** called "*Did you know your infant would cry like this*?" and a 10-minute **DVD.** The DVD and booklet are packaged together and are available in 10 languages – English, Cantonese, French, Japanese, Korean, Portuguese, Punjabi, Spanish, Somali, and Vietnamese. The educational information and action steps are brief, memorable, and easy to transmit.

The program is implemented in a "3 dose" strategy:

Dose 1: Mothers (and their families) who deliver their baby at any birthing hospital in BC are provided with *PURPLE* information and resources by a maternity nurse before being discharged. In the case of home births, midwives provide the information and the packet.

Dose 2: Every public health nurse who provides newborn follow up care reviews the *PURPLE* information with the new mother. In the event that a mother did not receive her *PURPLE* program at the hospital, health units are supplied with a small amount of materials to provide to these families.

Dose 3: A public education campaign will be launched this year (2010) to publicize the message to all members of society.

Reinforcements and enhancements are also vital for this change of practice which includes other professionals in contact with parents. In 2010, the *PURPLE* program will be rolled out to these groups which include but are not limited to: prenatal educators, medical office assistants, emergency personnel, social workers, physicians, childcare providers, First Nations liaisons and community groups. This is to ensure that the parent or caregiver receives a consistent message about crying and the dangers of shaking where ever they turn. Remember that reinforcements groups are not expected to provide *PURPLE* packets to families – hospitals and, sometimes, health units are responsible for this. As a member of a reinforcement group, your role is to act as a resource for parents.

Since every family having a new baby in BC gets this program it is good for medical office assistants -- especially those in Family Practice clinics -- to have this information. You can learn more about the *Period of PURPLE Crying* program, increased infant crying and shaken baby syndrome by visiting our website at **www.dontshake.ca** and clicking on the "Physician" link located in the "SBS/AHT" tab. This section contains information specific to physicians and health care professionals and can be downloaded to share with your office.

If your office deals with babies, or parents and families who have babies, you can receive a complimentary package. Medical offices are encouraged to play the DVD in the waiting room if that is possible. We would be happy to offer other resources and information. To find out more about this program, please:

1. Visit our website at **www.dontshake.ca** for content specific to physicians and health care professionals

2. Acquire complimentary posters, pamphlets and other resources

3. Contact our office at info@dontshake.ca or 604-875-2000 x 5100

Prevent Shaken Baby Syndrome BC
4480 Oak Street, K1-209 Vancouver, BC V5H 3V4
Phone: 604.875.2000 x 5100, Fax: 604.875.2770
Website: www.dontshake.ca, Email: info@dontshake.ca

BRITISH COLUMBIA	Ministry of Children and Family Development	**MODIFICATION AGREEMENT**

BETWEEN

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA,
represented by Minister Of Children and Family Development

The Ministry of Children and Family Development
(the "Province", the "Minister", a "Director", "we", "us", or "our" as applicable)

AND

Children's and Women's Health Centre of British Columbia and The University of British Columbia
(the "Contractor", "you", or "your" as applicable)

BACKGROUND

A. The parties entered into an agreement number **XLR167974** and dated **October 1**, **2007**, (the "Agreement").

B. The parties have agreed to modify the Agreement effective October 9, 2008.

AGREEMENT

The parties agree as follows:

1. To extend the term of the contract to September 30, 2009.

   To amend Schedule A (attached). Contractor may re-allocate funds within Schedule A upon approval of Ministry.

   To amend Schedule B, to increase the fees by $426,822 for a total contract aggregate amounting to $622,646.

   As per revised Schedules A and B (attached).

2. In all other respects, the Agreement is confirmed.

The parties have duly executed this modification agreement as of the _____ _____ _____.

SIGNED AND DELIVERED on behalf of the Province by its authorized representative:	**SIGNED AND DELIVERED** by or on behalf of the Contractor (or by an authorized signatory of the Contractor if a Corporation)
Authorized Representative	Contractor or Authorized Signatory
Name Aleksandra Stevanovic	Name Dr. Stuart MacLeod
Title Acting Director, Early Years	Title Executive Director, Child and Family Research Institute

DISTRIBUTION: COPY 1 - FINANCIAL SERVICES DIVISION COPY 2 - CONTRACTOR COPY 3 - ORIGINATING OFFICE

From: Geber, Joan HLTH:EX
Sent: Thursday, September 13, 2007 12:08 PM
To: Stevanovic, Aleksandra MCF:EX
Cc: O'Byrne, Loreen MCF:EX
Subject: RE: Shaken Baby Syndrome Prevention Program

Hi,

I don't know if my comments will be useful or if you'll want to pull your hair out after you read them, but here goes.

- I think that if you simply indicated that the Steering Committee should be expanded to include appropriate stakeholder representation, then gave a few examples, e.g., health authority members representing maternity care and public health nurses, Ministry of Health, and others as determined necessary for program implementation. You want to make sure the right people are there but also that they know they should consult about who else it would be appropriate to include.
- With respect to the establishments of agreements and % of providers trained, I would say that is somewhat unlikely. In the first 2 quarters, public health alone is faced with getting the vision screening up and running (including all the training), beginning the rollout of newborn hearing screening to all postpartum units across the province, dealing with flu season. Maternity nurses will be faced with the early hearing program being added to their areas. So, my suggestion is that the deliverable would be the development of a plan for establishing facilities' support and staff training. Before all this happens, they will need to actually even determine how to gain agreement across the HAs that they are willing to take this on. At the last PHN Leader's teleconference, there was no indication from them that they knew what was going on, that they would be asked to take this on, etc. Although in the past, the 5 prevention managers indicated to me they were supportive of the program. However, at that time there were no details.
- Under program evaluation, I don't know how much has been done already in terms of Privacy Impact Assessments, Information Sharing Agreements with regard to "patient chart information," or "keeping track of patients served," but I see you have no timeline around that - which is a good thing because this is a big issue. We've been working on PIAs etc for our vision screening evaluation for literally months now. Any time that info is provided from HA to PHSA or to MoH, ISAs need to be developed. When personal data is being shared (even if de-identified), PIAs need to be done.

So in summary, much of what is in the deliverables may not actually be able to be set until the right people are involved and at the table. Otherwise, there is no way they can meet them. The deliverables also need to take into account the other priorities that the Has are working on now. Let me know if you have other qx's.

Joan Geber
Director, Women's, Maternal and Children's Health
Healthy Children, Women and Seniors
Population Health and Wellness
Ministry of Health
4-2 1515 Blanshard St
Victoria, BC V8W 3C8
Phone: 250-952-3678
Fax: 250-952-1570
joan.geber@gov.bc.ca

From: Stevanovic, Aleksandra MCF:EX
Sent: Tuesday, September 11, 2007 4:29 PM
To: Geber, Joan HLTH:EX
Cc: O'Byrne, Loreen MCF:EX
Subject: Shaken Baby Syndrome Prevention Program

Hello Joan,

I need to ask you for a favour - I am drafting a contract to be signed with the Shaken Baby Syndrome Prevention Program - Dr. Ron Barr and Marilyn Barr.
Here is a draft Schedule A with deliverables, based on what the Barr's had sent to us. The red track changes are mine. Loreen and I would appreciate your opinion on the deliverables; in particular, are they realistic? Thank you so much.
Aleks << File: SCHEDULE A.doc >>

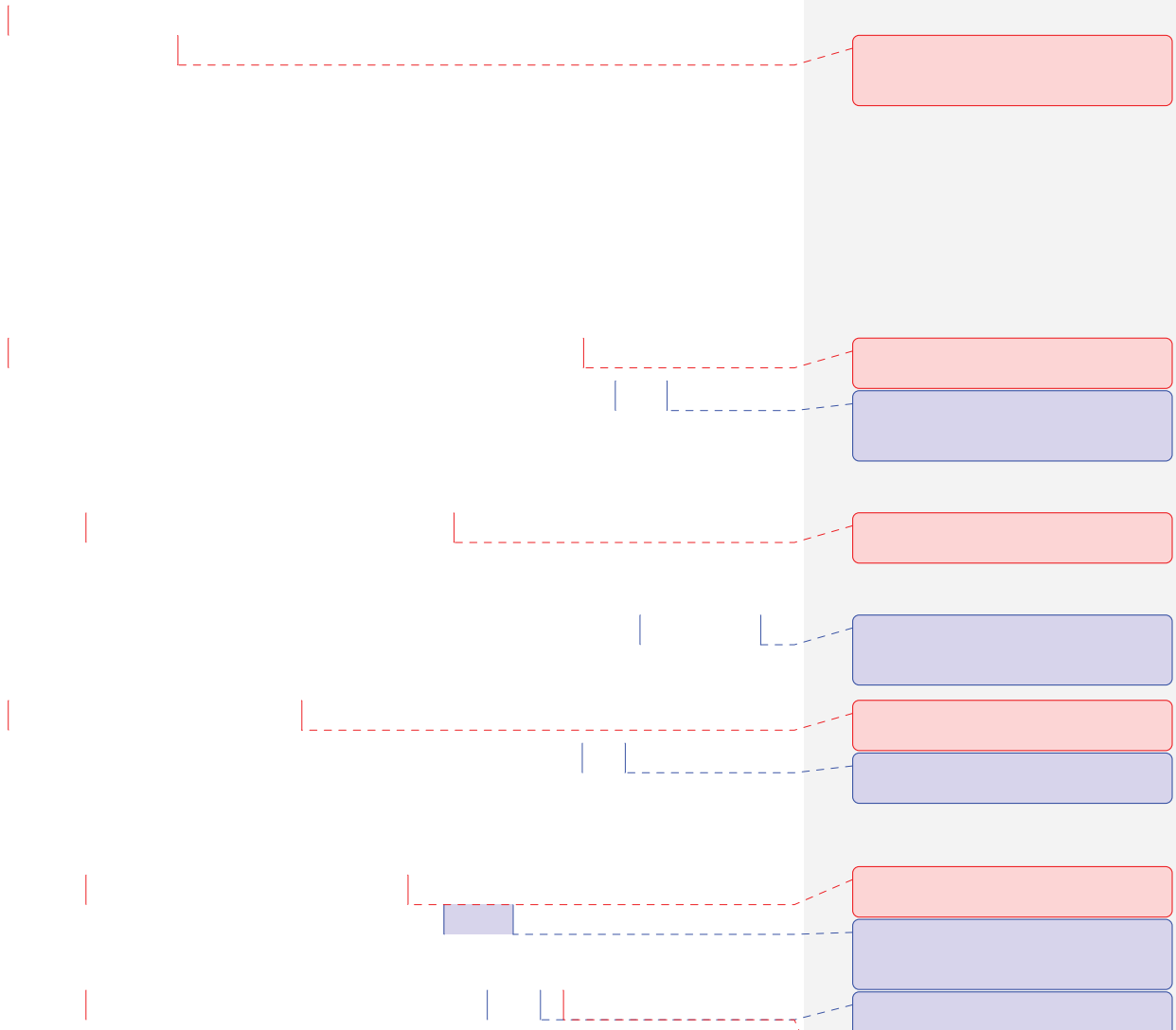
Regards,

Aleksandra Stevanovic
A/Manager
Early Years
Ministry of Children and Family Development
836 Yates Street, 3rd Floor
Victoria, BC V8W 9S5
Tel: (250) 387-1440 Fax: (250) 356-2528
Aleksandra.Stevanovic@gov.bc.ca

ECD Accomplishments

(February 12 to December 1, 2008)

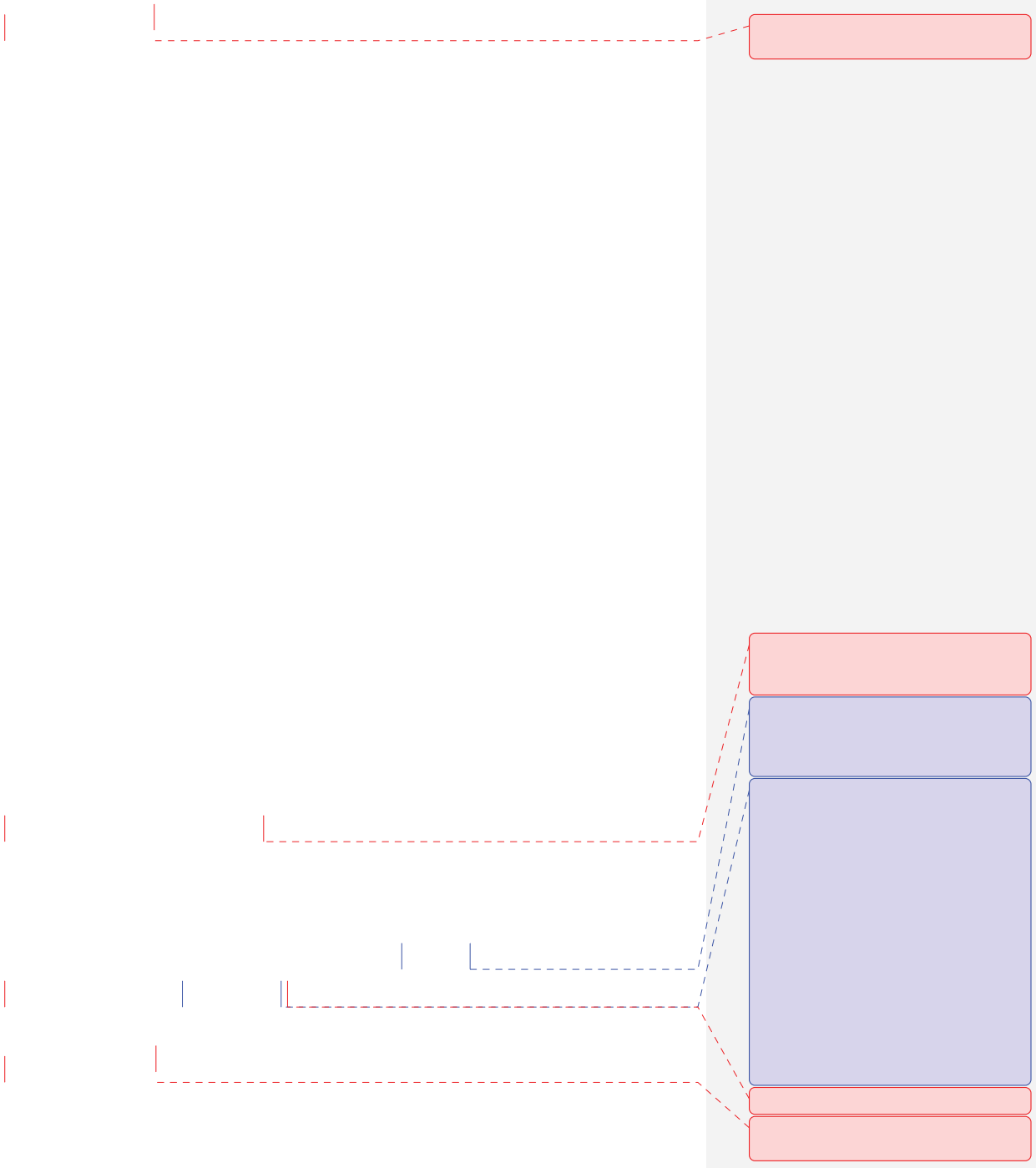
Section 1: Accomplishments/Milestone over Last Year



- *Purple Crying Initiative:*
  - Midwives are being trained both in person and online for home births and hospital births.

Comment [TB11]: Leanne – can you provide?

- The initiative has been implemented in 41 hospitals and provincial health units across the province, and is anticipated



BRITISH COLUMBIA

Solicitation # 1816
Issue Date: September 14, 2007
Closing Date: September 24, 2007

Ministry of Children and Family Development

Notice of Intent to Enter into a Contract

Notice is hereby given by the Ministry of Children and Family Development (Ministry) of the intent to enter into a contract with the Children's & Women's Health Centre of British Columbia, 4480 Oak Street, Ambulatory Care Building, Room K1-209, Vancouver, BC, V6H 3V4, for the province-wide implementation of Shaken Baby Syndrome Prevention Program *Period of* PURPLE *Crying*, led by Dr. Ronald Barr and Marilyn Barr.

Physical abuse is the leading cause of serious head injury and death in children aged 2 and younger. Shaken Baby Syndrome (SBS) usually results in death or a range of extremely damaging injuries. It is a leading, but preventable cause of physical and mental handicap among infants and young children.

The Ministry of Children and Family Development chose not to call for vendor proposals for the following reasons:

- The *Period of* PURPLE *Crying* prevention program is unique among SBS prevention efforts in several ways:
  - It approaches prevention through educating parents and the community about normal infant development, specifically, crying in normal infants, rather than being limited to warnings of the negative consequences of shaking;
  - It uses highly attractive, positive messages for caregivers rather than negative warnings about bad consequences;
  - It aims to bring about a cultural change in our understanding of infant crying in caregivers and the community generally; and
  - It is designed to increase "penetration rates" to caregivers and be widely acceptable to health care professionals and groups disseminating the intervention.

- The Ministry had supported the Phase I of the program (2004 – 2007) – the development, translation, and testing of the materials in a randomized controlled trial in the Lower Mainland over the last three years. The research project has achieved the following:
  - Preparation of various community stakeholders for a major SBS prevention program and acceptance for a large clinical trial;
  - Focus groups held to evaluate new educational materials for the prevention program;

Ministry of Children and Family Development
Director
Early Childhood Development
Mailing Address:
PO Box 9778 STN PROV GOVT
Victoria BC V8W 9S5
Telephone (250) 387-2002
Facsimile: (250) 356-2528

- Clinical research to evaluate the effectiveness of the materials before major implementation occurs; and
- Establishment of a BC Surveillance system to determine the incidence of SBS cases.

- The Children's & Women's Health Centre of British Columbia proposed to implement the *Period of* PURPLE *Crying* program for all of the approximately 40,000 births a year in British Columbia over a four-year period. The project represents a unique collaboration of birthing hospitals, public health nurses, and the BC Children's Hospital. The BC Shaken Baby Prevention Program will be the lead agency and the evaluation will be conducted by the Center for Community Child Health Research of the Child and Family Research Institute. The goals will be to create a cultural change in parents' understanding and response to infant crying and a 50% decrease in the number of cases of traumatic brain injury (SBS).

- In order to accomplish a cultural change, the program will implement a "triple dose" strategy. The goal is that every parent of a new baby in B.C. will receive this important information at least 3 times.
  - Dose One: The PURPLE Program will be given to parents, both mothers and fathers, in the hospital after the birth of their baby. Maternity nurses will be trained and provided with a script and the materials. Each family will receive a DVD and 11 page booklet about PURPLE Crying. When possible, the parents will watch the film in the hospital and be able to ask the nurse questions.
  - Dose Two: Public Health Nurse Home Visitors will call parents before they go to visit them usually within one week of the baby's birth. They will ask the parents if they received the materials and in what language. If needed, the nurses will take a set of materials to the parents if they have not already received them. When they arrive, they will have a script and will go through the information again and ask if there are any questions.
  - Dose Three: A public education campaign will provide this information to all those who did not receive it through the above methods. This is an important part of bringing about a cultural change as it is necessary to educate grandmothers, boyfriends, neighbors and relatives about the PURPLE program so the mother and father will receive support and reinforcement from them.

The Ministry intents to enter into a contract with the Children's & Women's Health Centre of British Columbia on October 01, 2007, for a period of one year with a possibility for an extension. The contract amount will be $195,824.

Vendors who wish to object to this decision, should provide, in writing, their objections to **Loreen O'Byrne, Early Years Director and Special Advisor to the Minister of State for Child Care** at the Ministry by facsimile at (250) 356-2528 **on or before 2 P.M. pacific time, September 24, 2007**. Vendors should provide specific reasons for their objection. If justified, the Purchasing Services Branch, Ministry of Management Services will convene a meeting with Ministry representatives and the vendors to receive vendor representation concerning this contract.

Vendor ability to provide the required services and skills at a lower cost in the same timeframe will be the key criterion with regard to the consideration of vendor objections.

For More Information Contact:
Loreen O'Byrne, Early Years Director and
Special Advisor to the Minister of State for Child Care, MCFD
Phone: (250) 387-2002
Fax: (250) 356-2528
Email: Loreen.Obyrne@gov.bc.ca

The *Period of PURPLE Crying*®

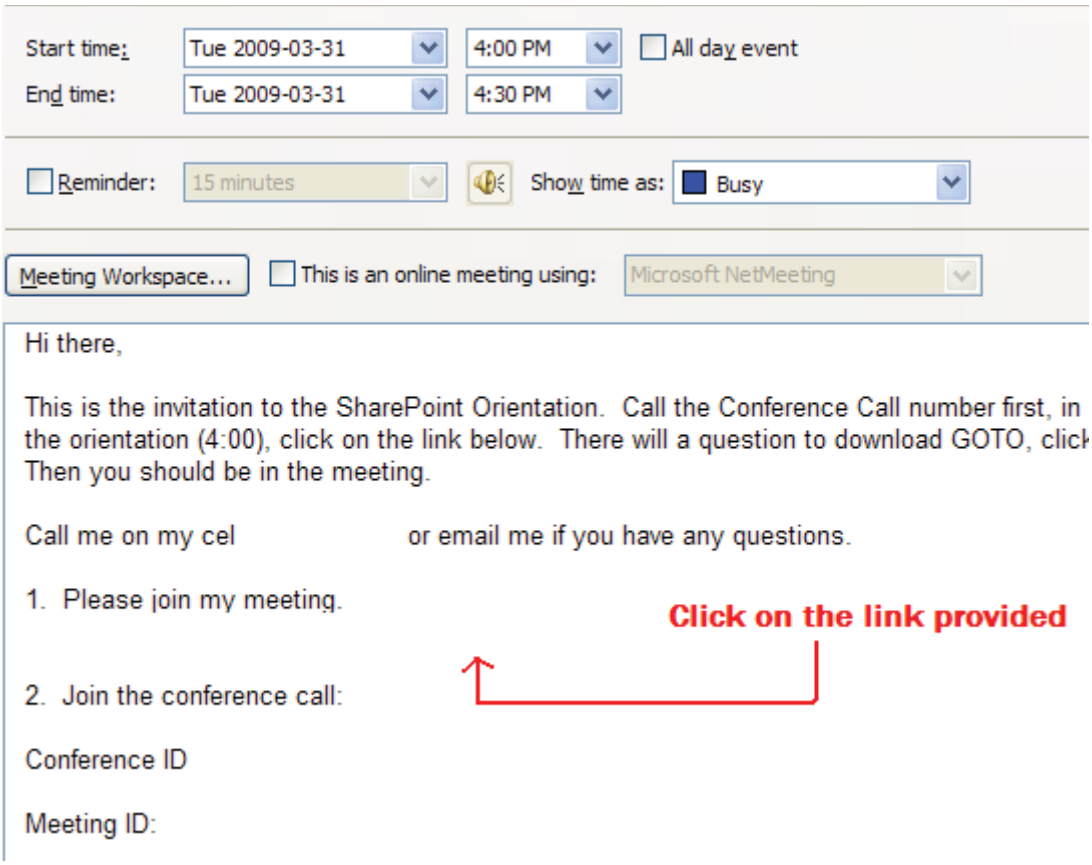
Dear Colleague,

The *Period of PURPLE Crying*® is a new program being offered from Prevent Shaken Baby Syndrome BC, a program of BC Children's Hospital. The program educates all new parents about early infant crying, especially inconsolable crying, and the dangers of shaking a baby because of the frustration over this crying. All new parents receive this 10-minute DVD and 11-page booklet at the hospital to take home with them and share with all the caregivers of their baby. Maternity nurses also spend a few minutes educating parents about the information in the booklet before discharge from hospital.

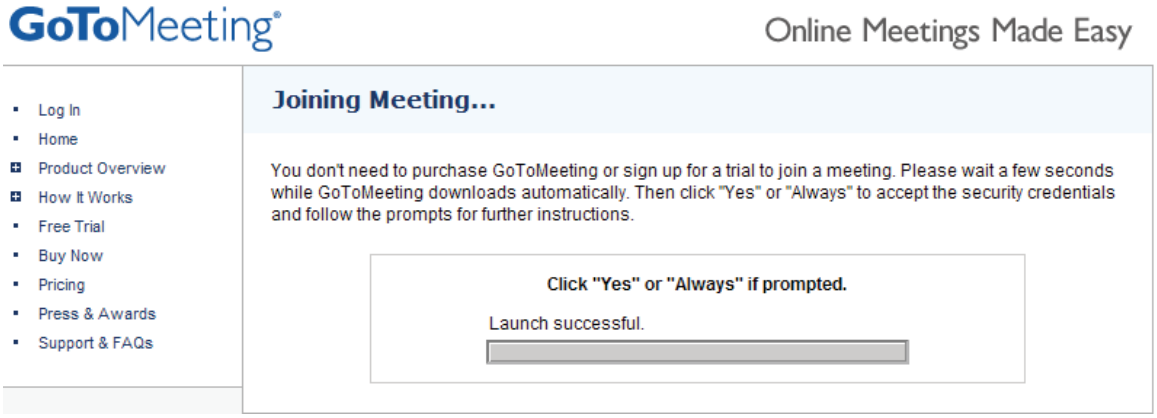
The Ministry of Children and Family Development has funded both the research and implementation of this program province-wide and is now adding the *Period of PURPLE Crying* to the Foster Parent curriculum. All Foster Parents who presently are an approved home for children 3 years of age and under will receive a copy of the *PURPLE* materials after taking the 35-minute training session. This will support one of the main recommendations from the *PURPLE* materials in that all temporary caregivers of babies view the materials **before** caring for an infant.

Social workers are also being asked to participate in the training of this new provincial Shaken Babies prevention program in order to support parents with the most updated information and research provided by the *Period of PURPLE Crying.* The training involves viewing the DVD that parents are provided by maternity staff before they leave the hospital with their newborns then joining a 50 minute presentation through a GOTO meeting (webinar) with audio connection via conference call.

GOTO Meetings are accessed through an Outlook Calendar invite. The participant is sent an invite after registering for a training session with instructions to call the conference call phone number and to click on the web link provided. The following is an example of what the body of a calendar invite would look like:



When a participant clicks on the link they will be directed to a download page. The download occurs automatically. The participant is prompted to enter their name and they are joined into the meeting.



Once joined into a meeting, the participants will see the trainer's computer screen and the power point presentation that was adapted specifically for social workers. The social worker training includes additional research and risk factors that are not included in the parent or foster parent presentations.

Participants can choose to join a meeting on their own, using their own computer and telephone, or to join as a group, gathered around one computer or by having a computer projected for all to see. A group would need access to a speaker phone in order to hear the presentation.

Respecting busy schedules, training is being arranged during regularly scheduled team meetings at the request of the team leader. If there is opportunity for the trainer to offer more than one team a time slot, they will do so. Therefore, people from across the region, or province, may be joining the training at the same time. GOTO allows for up to 14 computers to be connected at the same time.

November 18, 2009

Summary of Baseline Incidence of Cases from Review of Child Protection Service Cases 2007 and 2008

Background. This summary reports the results of the case by case review of Child Protection Service (CPS) cases at BC Children's Hospital for 2007 and 2008. The purpose of this review was to establish baseline incidences of CPS cases occurring in the two years prior to province-wide introduction of the Period of PURPLE Crying program. The method of review included:

1. Extracting charts for review by the use of key word searches as established by pretests to ensure capture of all cases of physical abuse, including shaken baby syndrome (traumatic brain injury);
2. Individual chart review of all extracted cases. Cases were reviewed by a panel that always included Dr. Jean Hlady and Dr. Ronald Barr. Other members of the CPS team were present and other members of the evaluation team were also present.
3. Review included evaluating not only the presenting complaints and discharge diagnoses, but also the *certainty* of the judgment that the injury(ies) was/were inflicted using a modified Feldman criteria (Definitely not, Unknown, Possible, Probable, and Definite). All decisions on Feldman criteria were by consensus.

Here we report the results for Definite, Probable and Possible cases for Traumatic Brain Injury (Shaken Baby Syndrome) alone, and Physical Abuse (Traumatic Brain Injury + Injuries to the Head + Injuries to the Face + Injuries to other than Head) overall for each of 2007 and 2008. Note that only cases of ages 0 to 23 months were included.

Results:

2007

Category	Possible	Probable	Definite	Total
Traumatic Brain Injury	0	0	6	6
Physical Abuse	5	2	11	19

2008

Category	Possible	Probable	Definite	Total
Traumatic Brain Injury	1	3	4	8
Physical Abuse	1	8	12	21

Preventative funding (BCASW Complaint)
March 9, 2009

- $1.4 million to expand an internationally recognized shaken baby prevention program -- Period of Purple Crying -- throughout the province.

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Crafters across BC knit caps to raise awareness of the Period of PURPLE Crying: A New Way to Understand Your Baby's Crying
BC Children's Hospital
October 18, 2010
News Release

Crafters across BC knit caps to raise awareness of the Period of PURPLE Crying: A New Way to Understand Your Baby's Crying Mom bloggers, Facebook users and tweeters got the word out, and organizers expect to receive over 1,000 hand-knit PURPLE caps for newborns.

Vancouver, B.C. - A grassroots social media campaign is spreading throughout BC and proving to be a force for good.

All across BC, moms, grandmothers and caring volunteers are feverishly knitting and crocheting tiny PURPLE baby caps using the softest of yarns. Knitting stores, fibre collectives, seniors' centres and groups of like-minded crafters have taken up the cause to help raise awareness about the Period of PURPLE Crying.

The Prevent Shaken Baby Syndrome BC program at BC Children's Hospital, an agency of the PHSA, hopes to collect over 1,000 of these hats to be distributed to new parents in birthing hospitals across BC along with the PURPLE DVD and booklet during the week of November 22 in celebration of National Child Day, which takes place November 20.

The program has caught the public imagination. The town of Elkford near the Alberta border held a PURPLE Hat Day and filled a baby bathtub and a playpen with almost 200 caps. They are now closing in on 500 baby caps. Folks in Vernon have dropped off 80 hats with plans for more. In fact, they cleaned the local knitting store out of purple yarn. In Gibsons, crafters meet at the Unwind Knit and Fibre Lounge to make the tiny hats. The Lower Mainlandalso has its share of enthusiasts. Sheryl Marie Zetner of Any Spun Thread is offering 20% off all purple yarn - all of this to raise awareness about this difficult stage of infant crying. Much of this success had to do with social media. Lower Mainland mom bloggers got behind the campaign writing over 20 posts to their readers, and almost 200 people have joined the PURPLE Cap knitting Facebook group posting photos of their creations and spurring others on. Raverly, the go-to network for knitters, has been instrumental in getting knitters and crocheters on board including posting patterns for easy-to-make newborn caps. The cap knitting campaign aims to raise awareness about the Period of PURPLE Crying which educates parents and other caregivers about the normalcy of increased crying, which is a frequently misunderstood but typical developmental stage in early infancy. Increased infant crying can be very frustrating and is the key trigger to shaking and abuse. The Period of PURPLE Crying promotes infant/parent bonding, coping strategies and other crucial parenting skills.

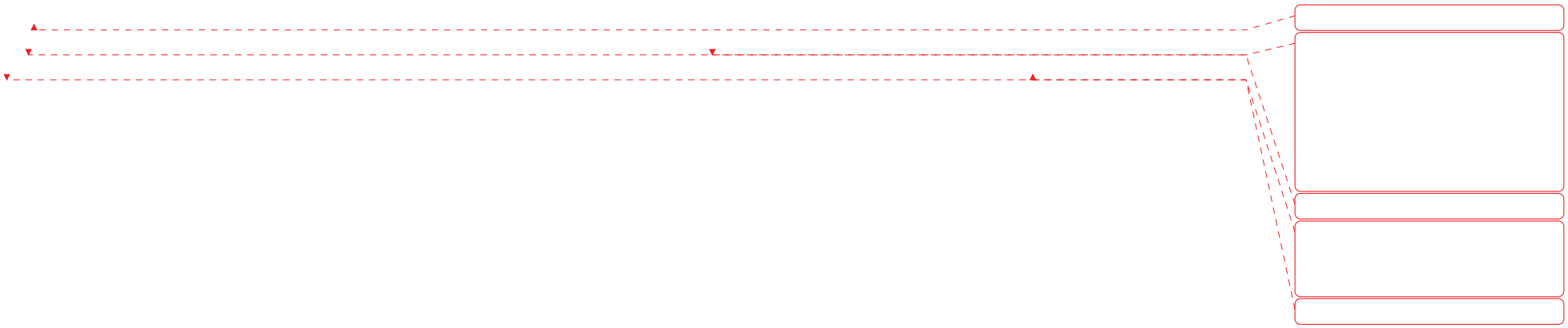
Find out more about the Period of PURPLE Crying
at http://www.purplecrying.info.

STRONG, SAFE AND SUPPORTED:
B.C.'S COMMITMENT TO CHILDREN, YOUTH AND FAMILIES.

PROGRESS REPORT - OCTOBER 30, 2008

MINISTRY OF CHILDREN AND FAMILY DEVELOPMENT
OPERATIONAL PLAN 2007 – 2012

Pillar 1: Prevention: Government will place a primary focus on preventing vulnerability in children and youth by providing strong supports for individuals, families and communities.



Pillar 1 - Action 5
Develop and implement parent/ caregiver capacity development programs.
Parent / caregiver capacity development programs pertaining to shaken baby syndrome have been implemented. Midwives are currently being trained both in person and online for home births and hospital births. The initiative has been implemented in 50 hospitals/ provincial health units across the province, and is anticipated to expand to all birthing-hospitals by the end of the year. Preliminary results indicate that the program enhances parents' knowledge regarding the dangers of shaking a baby and initiates behavioural changes relevant to reducing shaken baby syndrome. It is the only program of its kind in North America. In July 2008, the Parenting Vision Working Group identified key components of a provincial framework for parenting education and support.

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General Service Agreement

Ministry Contract No.

XLR167974

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, represented by **Ministry of Children and Family Development** **Early Years Team** (the "Province", "we", "us", or "our" as applicable) at the following address: **PO BOX 9778 STN PROV GOVT** **VICTORIA BC** Postal Code: **V8W 9S5** Fax Number: **250 356-2528**	AND **Children's and Women's Health Centre of British Columbia Branch and** **The University of British Columbia** (the "Contractor", "you", or "your" as applicable) at the following address: **Ambulatory Care Building, Room K1-209** **4480 Oak St** **Vancouver BC** Postal Code: **V6H 3V4** Fax Number:

THE PARTIES AGREE TO THE TERMS OF THE AGREEMENT SET OUT ON THE ATTACHED PAGES OF THIS DOCUMENT AND IN THE SCHEDULES OUTLINED BELOW (THIS "AGREEMENT"):

SCHEDULE A - Services

Services:
As per the attached Schedule A.

Term Start Date: **October 1, 2007** End Date: **September 30, 2008**

SCHEDULE B - Fees and Expenses

Fees: **$195,824** Expenses: **$0**

Maximum Amount: **$195,824**

THE FOLLOWING ARE SCHEDULES TO THIS AGREEMENT, IF ATTACHED:

SCHEDULE C – Approved Subcontractor(s)
SCHEDULE D – Insurance
SCHEDULE E – Privacy Protection
SCHEDULE F – Additional Terms
SCHEDULE G – Security

SIGNED AND DELIVERED on the day of , 20 on behalf of the Province by its duly authorized representative Signature: _____ Print Name: **Loreen O'Byrne, Early Years Director and Special Advisor to the Minister of State for Child Care**	**SIGNED AND DELIVERED** on the day of , 20 by or on behalf of the Contractor (or by its authorized signatory or signatories if the Contractor is a corporation) Signature(s): _____ Print Name(s): **Dr. Stuart MacLeod, Executive Director, Child & Family Research Institute** **Angus Livingstone, Managing Director, University-Industry Liaison Office**

READ TERMS ON THE ATTACHED PAGES OF THIS DOCUMENT AND IN THE SCHEDULES OUTLINED ABOVE

FOR ADMINISTRATIVE PURPOSES ONLY

MINISTRY CONTRACT NO.: _____ *REQUISITION NO:* _____ *COMMODITY CODE:* _____

CLIENT: _____ *RESP CENTRE:* _____ *SERVICE LINE:* _____ *STOB:* _____ *PROJECT:* _____

CONTRACTOR INFORMATION *WCB NO.:* _____ *SUPPLIER NO.:* _____ *TEL. NO.:* _____

E-MAIL ADDRESS: _____

Revised 2005/6

TERMS OF GENERAL SERVICE AGREEMENT

CONTRACTOR'S OBLIGATIONS

1. You must provide the services described in Schedule A (the "Services") in accordance with this Agreement. You must provide the Services during the term described in Schedule A (the "Term"), regardless of the date of execution or delivery of this Agreement.

2. Unless the parties otherwise agree in writing, you must supply and pay for all labour, materials, facilities, approvals and licenses necessary or advisable to perform your obligations under this Agreement, including the license under section 14.

3. Unless otherwise specified in this Agreement, you must perform the Services to a standard of care, skill, and diligence maintained by persons providing, on a commercial basis, services similar to the Services.

4. You must ensure that all persons you employ or retain to perform the Services are competent to perform them and are properly trained, instructed and supervised.

5. We may from time to time give you reasonable instructions (in writing or otherwise) as to the performance of the Services. You must comply with those instructions but, unless otherwise specified in this Agreement, you may determine the manner in which the instructions are carried out.

6. You must, upon our request, fully inform us of all work done by you or a subcontractor in connection with providing the Services.

7. You must maintain time records and books of account, invoices, receipts, and vouchers of all expenses incurred in relation to this Agreement, in form and content and for a period satisfactory to us.

8. You must permit us at all reasonable times to inspect and copy all accounting records, findings, software, data, specifications, drawings, reports, documents and other material, whether complete or not, that, as a result of this Agreement, are

    (a) produced by you or a subcontractor (the "Produced Material", which includes any material in existence prior to the start of the Term or developed independently of this Agreement, and that is incorporated or embedded in the Produced Material by you or a subcontractor (the "Incorporated Material")), or
    (b) received by you or a subcontractor from us or any other person (the "Received Material").

    In this Agreement, the Produced Material and the Received Material is collectively referred to as the "Material".

9. You must treat as confidential all information in the Material and all other information accessed or obtained by you or a subcontractor (whether verbally, electronically or otherwise) as a result of this Agreement, and not permit its disclosure without our prior written consent except

    (a) as required to perform your obligations under this Agreement or to comply with applicable law,
    (b) if it is information that is generally known to the public other than as result of a breach of this Agreement, or
    (c) if it is information in any Incorporated Material.

10. You must

    (a) make reasonable security arrangements to protect the Material from unauthorized access, collection, use, disclosure or disposal, and
    (b) comply with the Security Schedule, if attached as Schedule G.

11. If you receive a request for access to any of the Material from a person other than us, and this Agreement does not require or authorize you to provide that access, you must advise the person to make the request to us.

12. We exclusively own all property rights in the Material which are not intellectual property rights. You must deliver any Material to us immediately upon our request.

13. We exclusively own all intellectual property rights, including copyright, in

    (a) Received Material that you receive from us, and
    (b) Produced Material, other than any Incorporated Material.

    Upon our request, you must deliver to us documents satisfactory to us waiving in our favour any moral rights which you (or your employees) or a subcontractor (or its employees) may have in the Produced Material, and confirming the vesting in us of the copyright in the Produced Material, other than any Incorporated Material.

14. Upon any Incorporated Material being embedded or incorporated in the Produced Material, you grant us a non-exclusive, perpetual, irrevocable, royalty-free, worldwide license to use, reproduce, modify and distribute that Incorporated Material to the extent it remains embedded or incorporated in the Produced Material.

15. You must comply with the Privacy Protection Schedule, if attached as Schedule E.

16. You must maintain and pay for insurance on the terms, including form, amounts, and deductibles, outlined in Schedule D, if attached, as those terms may be modified from time to time in accordance with our directions.

17. You must apply for and, immediately on receipt, remit to us any available refund, rebate or remission of federal or provincial tax or duty that we have paid you for or agreed to pay you for under this Agreement.

18. You must comply with all applicable laws.

19. You must indemnify and save harmless us and our employees and agents from any losses, claims, damages, actions, causes of action, costs and expenses that we or any of our employees or agents may sustain, incur, suffer or be put to at any time, either before or after this Agreement ends, which are based upon, arise out of or occur, directly or indirectly, by reason of, any act or omission by you or by any of your agents, employees, officers, directors, or subcontractors in providing the Services.

20. You must not assign any of your rights under this Agreement without our prior written consent.
21. You must not subcontract any of your obligations under this Agreement without our prior written consent other than to persons listed in Schedule C, if that Schedule is attached. No subcontract, whether consented to or not, relieves you from any obligations under this Agreement. You must ensure that any subcontractor you retain fully complies with this Agreement in performing the subcontracted obligations.

22. You must not provide any services to any person in circumstances which, in our reasonable opinion, could give rise to a conflict of interest between your duties to that person and your duties to us under this Agreement.
23. You must not do anything that would result in personnel hired by you or a subcontractor being considered our employees.

24. You must not commit or purport to commit us to pay any money unless specifically authorized by this Agreement.

PAYMENT

25. If you comply with this Agreement, we must pay you

    (a) the fees described in Schedule B, and
    (b) the expenses, if any, described in Schedule B if they are supported, where applicable, by proper receipts and, in our opinion, are necessarily incurred by you in providing the Services.

    We are not obliged to pay you more than the "Maximum Amount" specified in Schedule B on account of fees and expenses.

26. In order to obtain payment of any fees and expenses under this Agreement, you must submit to us a written statement of account in a form satisfactory to us upon completion of the Services or at other times described in Schedule B.

27. We may withhold from any payment due to you an amount sufficient to indemnify us against any liens or other third party claims that have arisen or could arise in connection with the provision of the Services.

28. Our obligation to pay money to you is subject to the *Financial Administration Act*, which makes that obligation subject to an appropriation being available in the fiscal year of the Province during which payment becomes due.

29. Unless otherwise specified in this Agreement, all references to money are to Canadian dollars.

30. We certify to you that the Services purchased under this Agreement are for our use and are being purchased by us with Crown funds and are therefore not subject to the Goods and Services Tax.

31. If you are not a resident in Canada, we may be required by law to withhold income tax from the fees described in Schedule B and then to remit that tax to the Receiver General of Canada on your behalf.

TERMINATION

32. We may terminate this Agreement

    (a) for your failure to comply with this Agreement, immediately on giving written notice of termination to you, and
    (b) for any other reason, on giving at least 10 days' written notice of termination to you.

    If we terminate this Agreement under paragraph (b), we must pay you that portion of the fees and expenses described in Schedule B which equals the portion of the Services that was completed to our satisfaction before termination. That payment discharges us from all liability to you under this Agreement.

33. If you fail to comply with this Agreement, we may terminate it and pursue other remedies as well.

GENERAL

34. You are an independent contractor and not our employee, agent, or partner.

35. If you are a corporation, you represent and warrant to us that you have authorized the signatory or signatories who have signed this Agreement on your behalf to enter into and execute this Agreement on your behalf without affixing your common seal.

36. We must make available to you all information in our possession which we consider pertinent to your performance of the Services.

37. This Agreement is governed by and is to be construed in accordance with the laws of British Columbia.

38. Time is of the essence in this Agreement.

39. Any notice contemplated by this Agreement, to be effective, must be in writing and either

    (a) sent by fax to the addressee's fax number specified in this Agreement,
    (b) delivered by hand to the addressee's address specified in this Agreement, or
    (c) mailed by prepaid registered mail to the addressee's address specified in this Agreement.

    Any notice mailed in accordance with paragraph (c) is deemed to be received 96 hours after mailing. Either of the parties may give notice to the other of a substitute address or fax number from time to time.

40. A waiver of any term of this Agreement or of any breach by you of this Agreement is effective only if it is in writing and signed by us and is not a waiver of any other term or any other breach.

41. No modification of this Agreement is effective unless it is in writing and signed by the parties.

42. This Agreement and any modification of it constitute the entire agreement between the parties as to performance of the Services.

43. All disputes arising out of or in connection with this Agreement or in respect of any defined legal relationship associated with it or derived from it must, unless the parties otherwise agree, be referred to and finally resolved by arbitration under the Commercial Arbitration Act.

44. Sections 6 to 15, 17, 19, 27, 28, 31 to 33 and 43 continue in force indefinitely, even after this Agreement ends.

45. The schedules to this Agreement are part of this Agreement.

46. If there is a conflict between a provision in a schedule to this Agreement and any other provision of this Agreement, the provision in the schedule is inoperative to the extent of the conflict unless it states that it operates despite a conflicting provision of this Agreement.

47. This Agreement does not operate as a permit, license, approval or other statutory authority which you may be required to obtain from the Province or any of its agencies in order to provide the Services. Nothing in this Agreement is to be construed as interfering with the exercise by the Province or its agencies of any statutory power or duty.

48. The Agreement may be entered into by each party signing a separate copy of this Agreement (including a photocopy or faxed copy) and delivering it to the other party by fax.

49. In this Agreement,

    (a) "includes" and "including" are not intended to be limiting,
    (b) unless the context otherwise requires, references to sections by number are to sections of this Agreement,
    (c) "we", "us", and "our" refer to the Province alone and not to the combination of the Contractor and the Province which is referred to as "the parties", and
    (d) "attached" means attached to this Agreement when used in relation to a schedule.

50. If Schedule F is attached, the additional terms set out in that schedule apply to this Agreement.

PRIVACY PROTECTION SCHEDULE - E

This Schedule forms part of the agreement between Her Majesty the Queen in right of the Province of British Columbia represented by **Ministry of Children and Family Development** (the "Province") and **Children's and Women's Health Centre of British Columbia Branch and The University of British Columbia** (the "Contractor") respecting **the province-wide implementation of Shaken Baby Syndrome Prevention Program Period of PURPLE Crying** (the "Agreement").

Definitions

1. In this Schedule,
   (a) "**Act**" means the *Freedom of Information and Protection of Privacy Act* (British Columbia), as amended from time to time;
   (b) "**contact information**" means information to enable an individual at a place of business to be contacted and includes the name, position name or title, business telephone number, business address, business email or business fax number of the individual;
   (c) "**personal information**" means recorded information about an identifiable individual, other than contact information, collected or created by the Contractor as a result of the Agreement or any previous agreement between the Province and the Contractor dealing with the same subject matter as the Agreement.

Purpose

2. The purpose of this Schedule is to:
   (a) enable the Province to comply with its statutory obligations under the Act with respect to personal information; and
   (b) ensure that, as a service provider, the Contractor is aware of and complies with its statutory obligations under the Act with respect to personal information.

Collection of personal information

3. Unless the Agreement otherwise specifies or the Province otherwise directs in writing, the Contractor may only collect or create personal information that is necessary for the performance of the Contractor's obligations, or the exercise of the Contractor's rights, under the Agreement.

4. Unless the Agreement otherwise specifies or the Province otherwise directs in writing, the Contractor must collect personal information directly from the individual the information is about.

5. Unless the Agreement otherwise specifies or the Province otherwise directs in writing, the Contractor must tell an individual from whom the Contractor collects personal information:
   (a) the purpose for collecting it;
   (b) the legal authority for collecting it; and
   (c) the title, business address and business telephone number of the person designated by the Province to answer questions about the Contractor's collection of personal information.

Accuracy of personal information

6. The Contractor must make every reasonable effort to ensure the accuracy and completeness of any personal information to be used by the Contractor or the Province to make a decision that directly affects the individual the information is about.

Requests for access to personal information

7. If the Contractor receives a request for access to personal information from a person other than the Province, the Contractor must promptly advise the person to make the request to the Province unless the Agreement expressly requires the Contractor to provide such access and, if the Province has advised the Contractor of the name or title and contact information of an official of the Province to whom such requests are to be made, the Contractor must also promptly provide that official's name or title and contact information to the person making the request.

Correction of personal information

8. Within 5 business days of receiving a written direction from the Province to correct or annotate any personal information, the Contractor must annotate or correct the information in accordance with the direction.

9. When issuing a written direction under section 8, the Province must advise the Contractor of the date the correction request to which the direction relates was received by the Province in order that the Contractor may comply with section 10.

10. Within 5 business days of correcting or annotating any personal information under section 8, the Contractor must provide the corrected or annotated information to any party to whom, within one year prior to the date the correction request was made to the Province, the Contractor disclosed the information being corrected or annotated.

11 If the Contractor receives a request for correction of personal information from a person other than the Province, the Contractor must promptly advise the person to make the request to the Province and, if the Province has advised the Contractor of the name or title and contact information of an official of the Province to whom such requests are to be made, the Contractor must also promptly provide that official's name or title and contact information to the person making the request.

Protection of personal information

12. The Contractor must protect personal information by making reasonable security arrangements against such risks as unauthorized access, collection, use, disclosure or disposal, including any expressly set out in the Agreement.

Storage and access to personal information

13. Unless the Province otherwise directs in writing, the Contractor must not store personal information outside Canada or permit access to personal information from outside Canada.

Retention of personal information

14. Unless the Agreement otherwise specifies, the Contractor must retain personal information until directed by the Province in writing to dispose of it or deliver it as specified in the direction.

Use of personal information

15. Unless the Province otherwise directs in writing, the Contractor may only use personal information if that use is:
   (a) for the performance of the Contractor's obligations, or the exercise of the Contractor's rights, under the Agreement; and
   (b) in accordance with section 13.

Disclosure of personal information

16. Unless the Province otherwise directs in writing, the Contractor may only disclose personal information inside Canada to any person other than the Province if the disclosure is for the performance of the Contractor's obligations, or the exercise of the Contractor's rights, under the Agreement.

17. Unless the Agreement otherwise specifies or the Province otherwise directs in writing, the Contractor must not disclose personal information outside Canada.

Inspection of personal information

18. In addition to any other rights of inspection the Province may have under the Agreement or under statute, the Province may, at any reasonable time and on reasonable notice to the Contractor, enter on the Contractor's premises to inspect any personal information in the possession of the Contractor or any of the Contractor's information management policies or practices relevant to its management of personal information or its compliance with this Schedule and the Contractor must permit, and provide reasonable assistance to, any such inspection.

Compliance with the Act and directions

19. The Contractor must in relation to personal information comply with:
   (a) the requirements of the Act applicable to the Contractor as a service provider, including any applicable order of the commissioner under the Act; and
   (b) any direction given by the Province under this Schedule.

20. The Contractor acknowledges that it is familiar with the requirements of the Act governing personal information that are applicable to it as a service provider.

Notice of non-compliance

21. If for any reason the Contractor does not comply, or anticipates that it will be unable to comply, with a provision in this Schedule in any respect, the Contractor must promptly notify the Province of the particulars of the non-compliance or anticipated non-compliance and what steps it proposes to take to address, or prevent recurrence of, the non-compliance or anticipated non-compliance.

Termination of Agreement

22. In addition to any other rights of termination which the Province may have under the Agreement or otherwise at law, the Province may, subject to any provisions in the Agreement establishing mandatory cure periods for defaults by the Contractor, terminate the Agreement by giving written notice of such termination to the Contractor, upon any failure of the Contractor to comply with this Schedule in a material respect.

Interpretation

23. In this Schedule, references to sections by number are to sections of this Schedule unless otherwise specified in this Schedule.

24. Any reference to the "Contractor" in this Schedule includes any subcontractor or agent retained by the Contractor to perform obligations under the Agreement and the Contractor must ensure that any such subcontractors and agents comply with this Schedule.

25. The obligations of the Contractor in this Schedule will survive the termination of the Agreement.

26. If a provision of the Agreement (including any direction given by the Province under this Schedule) conflicts with a requirement of the Act or an applicable order of the commissioner under the Act, the conflicting provision of the Agreement (or direction) will be inoperative to the extent of the conflict.

27. The Contractor must comply with the provisions of this Schedule despite any conflicting provision of this Agreement or the law of any jurisdiction outside Canada.

Financial Support 2004-2007

MCFD Support:

Fiscal year 2004-2005	$ 55,700
Fiscal year 2005-2006	$125,473
Fiscal year 2006-2007	$131,073
Fiscal year 2007-2008	$ 74,398
Total	**$386,644**

Other Support:

B.C. Children's Hospital	$232,500
Human Early Learning Partnership (H.E.L.P.)	65,000
Community Care Foundation	5,000
Rick Hansen Foundation	18,598
Fraser Health Authority	28,200
Total	**$349, 298**

Partner Support for the Next Project in 2007-2011 (Implementation):

- Children's Hospital (office, director's salary) $77,500 (confirmed)
- Francophone Services of BC (translation) $10,000 (confirmed)
- Ministry of Health, Japan $10,00 (confirmed)
- Foresters (general costs) $ 5,000 (confirmed)
- Fraser Health (Web based learning Modules, cont.) $18,200 (TBD for 2008)
- Rick Hansen Foundation (Media Campaign Supplement) $18,598 (submitted 1-07)
- Vancouver Foundation (Website Development) $22,050 (confirmed)
- Volunteer time of 800 Public Health Nurses and Maternity nurses B.C wide @ 10 minutes per birth Family X 40,000 births a year X 4 years = 26,667 Donated hours of presentation time. 2/3 of these are confirmed.

Period of PURPLE Crying Contract History

**Figures based upon contract documents and invoice tracking

Year of Program	Contract Term	Contract Funding Amount Provided (and requested for Yr 3 and 4)	Funding Request (as per original proposal)
Year 1	Oct 1, 2007 – Sept 30, 2008 (12 months)	$195,824	$195,824
Year 2	Oct 9, 2008 – Sept 30, 2009 (12 months)	$426,822	$426,822
Year 3 (1/2 yr)	Oct 1, 2009 – March 31, 2010 (6 months)	$277,864.50	$427,149
Year 3 (cont.)	April 1, 2010 – March 31, 2011 (12 months)	$303,050 (new funding request)*	
Year 4	April 1, 2011 – Sept 30, 2011 (6 months)	$172,556 (new funding request)*	$378,980
TOTAL		$1,376,116.50	$1,428,775

*Remainder of Year 3 and Year 4 funding requests reduced by approximately 10% by program

NOTES:

- Public Funding Commitment = **$1.4M**
- Year 3 has become an 18 month term; Year 4 is a six month term
- Difference between original proposal and total contract funding provided and requested for the remainder of Year 3 and Year 4 = **$52,658.50** (less than original funding request)
- Total contract funding provided and invoiced for, as of March 31, 2010 = **$900,510.50**
- Budget for 2010/11 fiscal year = **$426,000**

Funding Table Provided by Finance Staff

		Budget	Contract	Var to budget
	1 April 2007		0.099	
2007/08	1 October 2007	0.196		-
	1 April 2008		0.195	
2008/09	1 October 2008	0.427		0.116
	1 April 2009		0.427	
2009/10	1 October 2009	0.427		-
	1 April 2010		0.427	
2010/11	1 October 2010	0.427		-
	1 April 2011		0.427	
2011/12	1 October 2011			(0.214)
	1 April 2012			
2012/13	1 October 2012			-

NOTE:

- Table indicates that contract funding will reach $1.426M by the end of fiscal 2010/11 (meaning Year 4 should not be funded)
- Discrepancy between contract documents and department invoice tracking and finance tracking of funding for this project

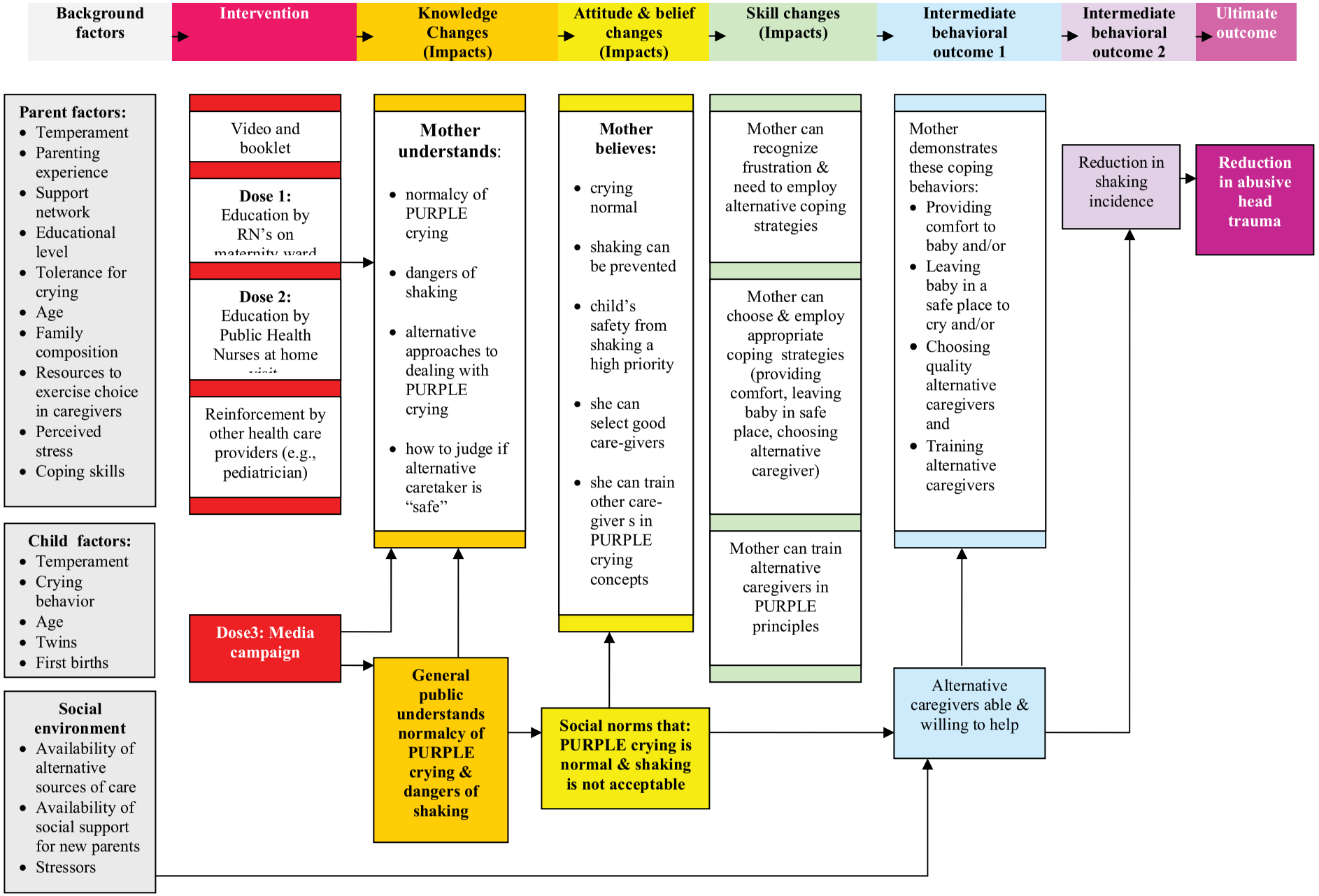
We are ready to start implementing orientation to the Period of PURPLE Crying program to MCFD staff. The goal is to orient as many MCFD staff as possible throughout the next few months. There are three main ways of implementing the orientation:

1. In-Service Trainings - more feasible for urban areas and the only restriction on how many people can attend is the size of the venue. They would take approximately 1.5 hours - includes a power point presentation about the research around Shaken Babies Syndrome and information about brain injury and assessment and viewing the 10 minute DVD. The 1.5 hours includes question and answer period and time for dialogue.

2. Video-Conferencing or GOTO meetings - GOTO meetings involved accessing the power point information on one of 9 computers (the systems capacity), while participating in a conference call with the trainers. Ideally, computers would be set up in boardrooms so that as many staff could participate as possible. This type of orientation would take about 1 hour, depending on length of discussion generated from the material. In order to conduct the GOTO meeting, the trainers would need to send out copies of the Period of Purple Crying DVD to the participating sites for review prior to the meeting - the DVD is 10 minutes long.

3. On-Line Training - SBS has on-line training set up for the nursing community across the province. MCFD staff would be provided with a password to access the site and receive the information via their own computers. Although this method does not provide opportunity for discussion, SBS would send out comprehensive packages to individual offices to help facilitate discussion during team meetings, for example. SBS will also make every attempt to have a trainer available for question and answer periods, via conference call or in-person.

Please let us know by mid-September what method(s) of training will work best for your Region.


Background factors
Intervention
Knowledge Changes (Impacts)
Attitude & belief changes (Impacts)
Skill changes (Impacts)
Intermediate behavioral outcome 1
Intermediate behavioral outcome 2
Ultimate outcome
Parent factors:
Temperament
Parenting experience
Support network
Educational level
Tolerance for crying
Age
Family composition
Resources to exercise choice in caregivers
Perceived stress
Coping skills
Child factors:
Temperament
Crying behavior
Age
Twins
First births
Social environment
Availability of alternative sources of care
Availability of social support for new parents
Stressors
Video and booklet
Dose 1: Education by RN's on maternity ward
Dose 2: Education by Public Health Nurses at home visit
Reinforcement by other health care providers (e.g., pediatrician)
Dose3: Media campaign
Mother understands:
normalcy of PURPLE crying
dangers of shaking
alternative approaches to dealing with PURPLE crying
how to judge if alternative caretaker is "safe"
General public understands normalcy of PURPLE crying & dangers of shaking
Mother believes:
crying normal
shaking can be prevented
child's safety from shaking a high priority
she can select good care-givers
she can train other care-giver s in PURPLE crying concepts
Social norms that: PURPLE crying is normal & shaking is not acceptable
Mother can recognize frustration & need to employ alternative coping strategies
Mother can choose & employ appropriate coping strategies (providing comfort, leaving baby in safe place, choosing alternative caregiver)
Mother can train alternative caregivers in PURPLE principles
Mother demonstrates these coping behaviors:
Providing comfort to baby and/or
Leaving baby in a safe place to cry and/or
Choosing quality alternative caregivers and
Training alternative caregivers
Alternative caregivers able & willing to help
Reduction in shaking incidence
Reduction in abusive head trauma

Good Morning Foster Parent Support Associations and Federations Leads!

Ellaine Ashby with the BC Federation of Foster Parent Associations, Gary Mavis with the BC Federation of Aboriginal Foster Parents, Margaret Howley with Vancouver Island Foster Parent Support Services Society, Lori Rose with Hollyburn Family Services, Joan Kirkbride with the Central Okanagan Foster Parent Association, Anne Smith and Kate Spangl with Axis Family Service and Brenda Richardson with the Interior Community Services.

Thank for you taking the time to inform and train Foster Parents in **the *Period of Purple Crying*** over this past year! Also, thank you for updating and sharing your information with Jocelyn Conway and me regarding the role you play in supporting this training and promoting the information in your communities. As discussed with you, we are implementing some strategies to increase the awareness of this training with both Foster Parents and MCFD Resources Workers in the fall of 2009. Because you have direct connection with Foster Parents and our Resource Workers we would like to share the attached letters with you as they will be sent out later this week.


Resource Team Lead Request v3....


Ministry Letter to Foster Pare...


Foster Parent Info sheet.Final...

New Foster Parent Training 53 Hours

As discussed with all of you, we appreciate the creative efforts of your organizations to insert the ***Period of Purple Crying*** into your 53 hour Foster Parent Training Curriculum to help ensure our new foster parents will be trained in the program.

Lastly, I also shared with Jocelyn your positive comments and praise regarding the quality and calibre of this training program. If you have any questions about these strategies please don't hesitate to connect with myself or Jocelyn!

Sincerely,

Jackie Behrens

June 30, 2008

The Purple Crying Initiative, a joint initiative with the Ministry of Health, was launched in the Spring of 2008. The initiative was created to decrease incidents of shaken baby syndrome. The Prevent Shaken Baby Syndrome program is now moving ahead in two phases: 1] Training of maternity and hospital nurses and midwives on the Purple Crying materials; and 2] Implementation of the program - providing the Purple Crying materials and information to parents. Midwives are being trained both in person and online for home births and hospital births. The initiative has been implemented in 50 hospitals and surrounding health units across the province, and is anticipated to expand to all birthing-hospitals by the end of the year.

In July, the Parenting Vision Working Group identified key components of a provincial framework for parenting education and support and has prepared a draft framework to be discussed at the next meeting of the working group - Sept 12, 2008.

October 30, 2008

Parent / caregiver capacity development programs pertaining to shaken baby syndrome have been implemented. Midwives are currently being trained both in person and online for home births and hospital births. The initiative has been implemented in 50 hospitals/ provincial health units across the province, and is anticipated to expand to all birthing-hospitals by the end of the year. Preliminary results indicate that the program enhances parents' knowledge regarding the dangers of shaking a baby and initiates behavioural changes relevant to reducing shaken baby syndrome. It is the only program of its kind in North America.

In July 2008, the Parenting Vision Working Group identified key components of a provincial framework for parenting education and support. A draft framework has been completed.

Ministry of Children and Family Development
Notice of Intent to Contract

Solicitation # 3187
Issue Date: March 30, 2010
Closing Date: April 7, 2010

For more information contact: Lara Woodman at 250 356-7277

Title: Shaken Baby Syndrome Prevention Program *Period of* PURPLE *Crying*

Summary Details:

Notice is hereby given by the Ministry of Children and Family Development (Ministry) of the intent to enter into a contract with the Children's & Women's Health Centre of British Columbia, 4480 Oak Street, Ambulatory Care Building, Room K1-209, Vancouver, BC, V6H 3V4, for the province-wide implementation of the Shaken Baby Syndrome Prevention Program *Period of* PURPLE *Crying*.

Physical abuse is the leading cause of serious head injury and death in children aged two and younger. Shaken Baby Syndrome (SBS) usually results in death or a range of extremely damaging injuries. It is a leading, but preventable cause of physical and mental disabilities among infants and young children.

The Ministry of Children and Family Development chose not to call for vendor proposals for the following reasons:

- The *Period of* PURPLE *Crying* prevention program is unique among SBS prevention efforts in several ways:
  - It approaches prevention through educating parents and the community about normal infant development, specifically, crying in normal infants, rather than being limited to warnings of the negative consequences of shaking;
  - It uses highly attractive, positive messages for caregivers rather than negative warnings about bad consequences;
  - It aims to bring about a cultural change in the understanding of infant crying in caregivers and the community generally; and
  - It is designed to increase "penetration rates" to caregivers and be widely acceptable to health care professionals and groups disseminating the intervention.

The Ministry supported Phase I of the program from 2004 to 2007, which included the development, translation, and testing of the PURPLE materials in a randomized controlled trial in the Lower Mainland over three years.

The Children's & Women's Health Centre of British Columbia proposed to implement the *Period of* PURPLE *Crying* program for all of the approximately 40,000 births a year in British Columbia over a four year period. The project represents a unique collaboration of birthing hospitals, public health nurses and the BC Children's Hospital. Prevent Shaken Baby Syndrome BC is the lead agency for this project. The goal of the program is to create a cultural change in parents' understanding and response to infant crying and a 50% decrease in the number of cases of traumatic brain injury (SBS).

The Ministry intends to enter into a contract with the Children's & Women's Health Centre of British Columbia on April 8, 2010, for a period of one year for a contract value of $303,050, to support Year 3 of the program. The Ministry reserves the right to extend the contract for up to two additional terms as determined. The objectives of this phase of the project include the following:

- **Continue to provide training, materials, services and support** to the participating organizations to insure consistency and continuity takes place and the program is widely accepted.
- **Develop and implement a public education campaign** that will target the general public and support systems to parents with a focus on males aged 18 to 30.
- **Continue internal process evaluation** to determine the ongoing effectiveness of the program and progress toward stated goals.
- **Evaluation.**
    - Continue active surveillance of head trauma admissions, including chart reviews;
    - Continue Child Protection Service chart review;
    - Complete baseline review of BC Coroner's Office cases;
    - Continue measures of distribution of the program by Public Health Nurses; and
    - Establish baseline annual incidence rate of Medical Emergency Room complaints.

Vendors wishing to object to this decision should contact Lara Woodman at Lara.Woodman@gov.bc.ca or by telephone at 250-356-7277 on or before 2:00 PM local time on April 7, 2010 presenting specific reasons for their objections. Vendor ability to demonstrate the same or greater representative capacity as well as capacity to organize and respond to key transformation deliverables within the timeframe will be the criteria with regard to the consideration of vendor objections.

The questions raised from the Premiers office are:

- Do we have information from any studies (other than the $7 return for every $1 invested) that tell us more about the costs to provincial system of children suffering after being shaken? (understanding that there will be a range, but looking for some general number that we can use)

The Child Protection Service Unit at BC Children's Hospital reported at the 2008 North American Conference on Shaken Baby Syndrome that during 2003-2007 there were 24 confirmed cases out of a suspect 68 referrals. Two children died and the duration of hospitalization of survivors ranged from 3 – 54 days (average 11 days). 19 children were followed up for 4 months and 15 of these displayed neurological abnormalities ranging from developmental delay (12), seizures (6), visual problems (6), paralysis (6) and behavioural problems (2). There is no known cost analysis for these cases, however, looking at the kinds of long term injuries sustained, it is a substantial burden to the health care system.

Additionally, Dr. Ronald Barr is collaborating with Dr. Alamgir from the Occupational Health and Safety Agency for Health Care in BC to create a cost analysis of abusive head trauma from data derived from the Canadian Institutes of Hospital Information. This may contain a breakdown of BC costs, but will not be available for some time.

The only comparative data we have is from a study sponsored by the Missouri Children's Trust Fund that followed 214 children with shaken baby syndrome (Bopp, Fraser, Fitch, 1997). The initial medical costs totaled $6.9 million or $32,508 USD per patient (Bopp, et al., 1997). Another study from the University of Colorado (Libby, et al., 2003) analyzed Colorado hospital discharge data between 1993 – 2000 and found that between inflicted versus non-inflicted head trauma in there were significant differences in severity, overall mortality, length of stay (52% longer or 2 days) and total costs (89% higher or $4,232 USD more).

- Do we have any data about how many children suffered from shaken baby syndrome in previous years, and how many incidents we expect this to drop by due to this initiative?

The only Canadian SBS Study (King, et al., 2003) indicated a total of 41 cases from BC Children's hospital between the years 1988-1998. Vancouver's Child Protection Unit reported 24 confirmed cases for 2003-2007 (9 in 2007) at the Seventh North American Conference on SBS in 2008. Eight of these children had previous MCFD involvement and 22 children were not previously visible in the community. The Canadian Pediatric Society Surveillance of Head Injury Secondary to Suspected Child Maltreatment reported that nationally there were 34 confirmed cases of SBS in 2006 and 46 confirmed cases in 2007.

One of the primary goals for the implementation of *The Period of PURPLE Crying* is to reduce the incidence of shaken baby syndrome and/or infant abuse by 50%.

References:

Bopp, K., Frasier, L., & Fitch, D. (1997). The economic costs of shaken baby syndrome survivors in Missouri. Jefferson City: Missouri Children's Trust Fund. 1-2.

Canadian Pediatric Surveillance Program: 2007 results. Downloaded on April 29, 2009 at http://www.cps.ca/English/surveillance/cpsp/Studies/2007Results.pdf.

Hlady, Jean. (2008). Abusive Head Trauma – BC Children's Hospital Experience, presented by Dr. Jean Hlady, Seventh North American Conference on Shaken Baby Syndrome. October 5-7, 2008, Vancouver, BC.

Libby, AM, Sills, MR, Thurston, NK and Orton, HD. (2003). Costs of childhood physical abuse: Comparing inflicted and unintentional traumatic brain injuries. *Pediatrics,* 112(2):58-65.

King, W. J., MacKay, M., Sirnick, A., & Canadian Shaken Baby Study Group (2003). Shaken baby syndrome in Canada: clinical characteristics and outcomes of hospital cases. CMAJ, 168, 155-159.

PREVENTING SHAKEN BABY SYNDROME AND INFANT ABUSE:
THE *PERIOD OF PURPLE CRYING*® PROGRAM

The period to which this Services Schedule applies commences on **April 01, 2010,** and ends on **March 31, 2011,** unless ended earlier in accordance with this agreement.

1. **Birthing Hospitals and Health Centres in British Columbia:**
   a) **Provide the *PURPLE* materials that will be used for distribution.**
   b) **Provide ongoing consultation, training and distribution of materials to all birthing hospitals and health centres.**
   c) **Provide the second annual reports (implementation data) and incentives via virtual meetings with all birthing hospitals and health centres by end of third quarter (December 31, 2010).**
   d) **Provide annual reports to Perinatal and Public Health Directors and monthly newsletter updates to all birthing hospitals and health units.**
   e) **Ensure parents of all new babies are getting the program and the presentation from a nurse according to the protocol.**

In the past fiscal year there were 49 hospitals with birthing status (from 53) and 112 public health units offering newborn follow-up (from 126). *PURPLE* materials were provided as per individual schedules and ongoing training for new personnel were provided via site educators, online modules and compact discs. Birth records, evaluation forms and updates were gathered monthly. From October, 2010 to March, 2011 all 49 birthing hospitals and 112 public health units received second year implementation updates via webinar meetings. This was an opportunity to reinforce the program protocol, provide updates on process evaluation, address frequently asked questions and encourage continued support of the program. Implementation successes and challenges were also discussed with the nurses. Incentives were disseminated.

In July, 2010, the *BC Crying Times* newsletter was sent to hospitals and health units to reinforce the protocol of maternity nurses asking parents to open the *PURPLE* DVD/booklet package during the crying education. This encouraged parents to play an interactive role during the teaching. A schedule of the public education campaign was also shared. In December, 2010, the second issue of *BC Crying Times* was disseminated to share photographs and a summary of the knitted caps event held on November 22, 2010.

An international *PURPLE* progress report was provided to partners at Perinatal Services BC, Child Health BC, Child Protection Services and BC Women's Hospital in November, 2010. Annual progress reports to Perinatal Leads and Public Health Directors will be provided via webinar meetings in April and May, 2011.

2. **MCFD Personnel, Foster Parents, Social Workers and Contracted Family Support Workers:**
   a) **Provide training modules specifically developed for ministry personnel, foster parents, social workers and contracted family support workers which are accessible at no charge 24/7.**
   b) **Provide training and implementation reports to Coordinators/Managers as requested.**
   c) **Supply resource packages to newly trained personnel.**

d) Conduct training sessions on-line or in person as needed.

The 18 B.C. foster parent associations provided *PURPLE* training to foster parents via in-services and compact discs. Online training which was specifically designed for foster parents and was available 24/7 free of charge was also offered. With respect to the online modules, in the past fiscal year, 94 foster parents completed training for a total of 659 trained thus far. Managers/Coordinators from each office kept records of who completed training via in-services and compact discs. Offices with video capacity played the *PURPLE* DVD in their waiting areas.

In December, 2010 and February, 2011, 76 resource packages were sent to the Foster Parents Support Services Office in Victoria, B.C. to assist with the provincial training and certification of professionals wishing to administrate Safe Babies programs. To date, 840 MCFD support personnel across the province completed training via online modules. Webinar sessions continue to be offered on an ongoing basis as requested.

3. Community Groups:

a) Provide ongoing consultation and training for health support workers (emergency room physicians and nurses, family physicians, midwives, paramedics, etc.) and community agencies (CCRR, ECD, immigration services, crisis lines, etc.).

b) Supply resource packages to newly trained personnel.

Health Care Support: Physicians received *PURPLE* training at the Pediatric Academic Societies' Annual Meeting in May, 2010. Physicians continue to be offered information and resources through the program website - www.dontshake.ca. A champion from BC Children's Hospital incorporated *PURPLE* into ongoing paediatric continuing medical education workshops for emergency personnel. B.C. paramedics commenced training via online modules. Midwives, neonatal intensive care nurses, social workers and doulas complete training on an ongoing basis.

Community Agencies: Twenty-nine child care resource & referral personnel throughout the province completed training with a total of 80 trained to date. Licensed caregivers, childcare licensing officers, head start coordinators and infant development personnel completed training at an early childhood conference in May, 2010. Twenty-three early childhood educators completed training at their annual conference in September, 2010. A total of nine immigration services offices that provide MCFD child care subsidy outreach (BCSAP Stream 1) implemented *PURPLE*. Various family support services such as the BC Council for Families and the North Shore Disability Resource Centre Association reinforce the program messages. Help lines personnel from BC Crisis Centres and Health Line Services of BC continue to complete training online. Students registered in nursing, midwifery and community support programs at 13 post-secondary institutions (University of British Columbia, North Island College, British Columbia Institute of Technology, Vancouver Career College, etc.) complete training in class and online as part of their required assignments.

4. Aboriginal Services:

a) Provide training opportunities for Dose Two including Community Health Nurses, Federal Nurses and Band Nurses as well as community agencies (Community Health Representatives, Community Health Workers, Infant Development, Pregnancy Outreach, etc.).

b) **Provide training opportunities for Aboriginal delegated agencies, Aboriginal foster parents and family support workers.**
c) **Supply resource packages to newly trained personnel and materials to be distributed to on-reserve families.**

Community health nurses providing services to 57 First Nations communities were trained on *PURPLE*. Since January 2009, a total of 92 First Nations communities were receiving program resources. Home visitors occasionally providing newborn follow up were also trained. Since November, 2009, home visitors supporting 99 First Nations communities completed training.

Seven out of eight Aboriginal pregnancy outreach programs have implemented *PURPLE*. Various community support personnel from daycares, infant development, early childhood development and head start completed training and are implementing the program.

Our program is currently trying to be included in an upcoming delegated agencies meeting which occurs quarterly.

5. **Develop and implement a public education campaign that will target the general public and support systems to parents with a focus on males aged 18 – 30. Contract with communications firm was established in Year Two. Staff time will still be required to assist with campaign:**
   a) **Implement a public relations launch event including both out of home and radio media with added value opportunities by end of first quarter.**
   b) **Implement a second public relations event with added value opportunities by end of second quarter.**
   c) **Utilize social media and leverage Web site.**
   d) **Compile reports on media outreach coverage and retain public relations counsel.**

Projection Media – June, 2010: Buildings in the downtown area were “crying” the normal crying message. A projector beamed purple tears and as each tear fell, part of the crying message appeared. The projection media was displayed for 11 nights on Fridays, Saturdays and concert nights. The projection rotated over four areas between 9:00pm and 3:00am.

In conjunction with the projection media, a Press Release on the connection between the economic recession and the increase in SBS rates in the U.S. was disseminated. The release was picked up by the Globe & Mail, CTV, and Global in which Dr. Ronald Barr was interviewed.

Street-Level Media and Radio Support – July and August, 2010: The street-level media was held over 4 nights during the “Celebration of Light” fireworks. Six “Brand Ambassadors” interacted with the crowds at Kitsilano Beach and English Bay by reinforcing the *PURPLE* messages and handing out purple onions with a *PURPLE* message attached to it. Populations most intrigued by the interaction included males aged 19-24 and women aged 30 and older. The 30 second normal crying radio spot was simultaneously aired 110 times during a four week period on 104.3 The Shore.

Bus Rack Advertisements – September, 2010: An advertisement of the normal crying message was displayed on 50 buses in the Lower Mainland. The advertisement spaces were donated by Translink and are currently still in circulation.

PURPLE Knitted Caps – August to November, 2010: The knitted caps campaign culminated with a big event on November 22, 2010 at the Chan Centre for Family Health Education at Child & Family Research Institute. Volunteers were asked to help sort, label and package over 4,000 caps that were collected from B.C., across Canada and the U.S, during a three month period. More than 100 volunteers attended including knitters, bloggers, two elementary classes and Honourable Mary Polak.

- Knitter Outreach: Knitters were reached via: 1) social networks - Facebook, twitter, 30+ knitter and mom blogs, 2) calls to stakeholders - health authority public affairs officers, health and community personnel and 3) "Calling all Knitters" posters in community centres, coffee shops and wool stores. An estimated 100,000 people were reached via social networking alone.
- Distribution: All 49 birthing hospitals in B.C. received a one month supply of caps to be distributed with program materials. Ten neonatal intensive care units received caps as well.
- Media Coverage: Provincial coverage was provided via television, radio and print on CBC, CFAX, Chek TV, Marketing Daily, The Province and The Globe & Mail. Local coverage was provided via various newspapers. Marilyn Barr had an interview with CBC News and Radio on September 28, 2010.

PURPLE Tears – Spring, 2011: *PURPLE Tear* decals with the normal crying messages will be posted on walls, floors and windows of hospitals, health units and public establishments such as grocery stores, community centres and shopping malls in the Spring, 2011.

6. Continue internal process evaluation to determine the ongoing effectiveness of program and progress toward stated goals: Track number of parents served, number and types of training sessions for nurses and community groups, number and types of meetings attended and numbers of *PURPLE* materials used.

We received evaluation forms every month from each public health unit on an ongoing basis. Reporting of the analyses occurred once a month at team meetings. As of January, 2011, a total of 75,683 forms were received. Of these forms, 81% of the mothers said they received the *PURPLE* materials from a maternity nurse or a midwife. An additional 7% of mothers received materials from a public health nurse via a home visit or mail.

7. Continue active surveillance of head trauma admissions, including chart reviews, to determine number of cases of SBS/abusive head trauma to compare against pre-implementation baseline.

Analysis of this data has been ongoing. Charting the cases to look at the trends by year, age group, date of birth and date of injury has begun. Cases referred to Child Protection Services (CPS) are also charted. Further economic analyses using the B.C. unemployment rates are conducted. The cases referred to CPS from the active

surveillance are matched to those reviewed with the CPS team. Active surveillance data is reviewed from 2006 to current.

8. **Acquire second set of Canadian Institute for Health Information data, and do baseline analysis of incidence rate of: (a) abusive head trauma (confirmation of first analysis in 2009); (b) abusive fractures with and without head trauma (new); (c) physical abuse generally in 0-2, 0-1, 1-2 year olds in BC, Canada and non-implemented provinces. The CIHI data will be the most important outcome index because of the ability to compare BC rates with Canada and other provinces.**

The first preliminary analysis of this data was completed. Additional data with all fractures and smothering codes were requested from CIHI. Additional analysis is being conducted, upon receipt of this new dataset.

9. **Continue Child Protection Service Chart Review to confirm cases using Dr. Kenneth Feldman's criteria for determination of SBS/AHT, physical abuse and complaints of shaking to establish annual incidences.**

The team has completed the review of cases from 2007-2010. Ongoing chart review meetings are scheduled for every three months. Analysis of this data has been ongoing. Similar to the active surveillance, charting the cases to look at the trends by year, age group, date of birth and date of injury has begun. Further economic analyses using the B.C. unemployment rates were conducted. Additional analysis is being conducted to investigate the effect of risk factors such as behaviour of child and family, on each of the cases. The risk factors are then charted to show differences in the period before and after the implementation of *PURPLE*.

10. **Complete baseline review of BC Coroners Office cases of SBS/AHT and physical abuse deaths (2002 - 2007) and begin post-implementation review of cases (2008, 2009).**

The review of the BC Coroners Office charts for baseline has been ongoing. The evaluation team has almost completed the reviews. The data from reviewed charts were entered into a database and preliminary analysis has begun.

11. **Continue measures of "distribution" of program by Public Health Nurses (PHN) reporting forms to track ability to reach >85% of new births in all areas (maternity centres) in the province.**

The public health nurses (PHNs) continue to send in the forms on a monthly basis. A complete dataset of one year of baseline data since full implementation is acquired. On average, about 2600 forms per month are received from the PHNs. The information from the surveys gets entered into a database and analyses from these forms are presented monthly at team meetings. Information gleaned from these analyses is by health authority, hospital and health unit and include numbers and percentages of whether the *PURPLE* materials were received and from whom. Monthly trends by health authority, hospitals and health units are also explored to identify any fall back in the delivery of the program. Actual percentages of *PURPLE* delivery dose 1 and 2 are calculated based on a benchmark called "slippage". The "slippage" incorporates the identified challenges of receiving follow up information on midwife births, Aboriginal (on-

reserve) births, self-paid births and language barriers. Different "slippage" rates are calculated for the province and for each health authority. The information obtained from these forms allow for improvements in the delivery process of materials in order to be more effective.

12. Stratified random sampling nurse interview measures of "fidelity" in the delivery of the protocol by Health Authority. Begun 2009-2010; continues through to final year of program.

The nurse interviews are ongoing in all health authorities where a sample of maternity nurses in four health authorities are called by an implementation team member and paper surveys are completed in one health authority (Fraser). The anonymous data from these surveys are entered electronically and analysed. Results from these analyses are presented monthly at team meetings. Information from these surveys are crucial in informing the team on different aspects of the process of the program and whether or not these processes are being completed such as the delivery of the *PURPLE* messages and the most recent improvement in protocol regarding mothers unwrapping the materials. Other information obtained from these surveys is regarding where the materials were delivered and if there was anyone else present in the room. In addition, information from these surveys is also used to calculate a weighted score called "Purpleness" index that assists in identifying how much of the program has been incorporated by each hospital and the respective health authority.

13. Stratified random sampling maternal 2-month interview at two months post-birth in each Health Authority to assess: (a) fidelity of delivery in hospital; (b) rate of use (reading booklet, viewing DVD); (c) retention of messages; (d) distribution rate; and (e) method of receipt of program.

Similar to the nurse interviews, the parent interviews are ongoing with public health nurses calling a sample of parents in four health authorities and an evaluation team member calling a sample of parents in the Interior. The anonymous data is entered electronically and analysed. The results from these analyses are presented monthly at team meetings. Information from these surveys are crucial in informing the team on different aspects of the process of the program and whether or not these processes are being completed such as the *PURPLE* messages, whether the mother was asked to unwrap the materials and whether the parents have had a chance to read the booklet and/or view the DVD. Other important information is also obtained from these surveys and includes whether the mother has shared the program information with any other caregivers. In addition, information from these surveys is also used to calculate a weighted score called "Purpleness" index that assists in identifying how much of the program has been incorporated by each hospital and the respective health authority.

14. Estimating false negative rates of SBS/AHT. CIHI data will be used to estimate probable false negative rates of SBS/AHT by use of W codes to determine how many cases were inappropriately attributed to short-fall causes (after Dr. David Chadwick et al, 2007).

Two abstracts using CIHI data were accepted to be presented at the 2010 Pediatric Academic Societies' Annual Meeting in Vancouver, B.C., on May 1−4, 2010. These abstracts are entitled: 1) Incidence Estimates of Abusive Head Trauma (AHT)

Determined by ICD−10 Codes in Canada and 2) "Inside of Dura" Injuries Due to Short Falls: Misclassifications of Abusive Head Trauma/Shaken Baby Syndrome (AHT/SBS)?

15. Estimate time courses and temporal correlation of SBS/AHT, abusive fractures, and physical abuse with economic recession using CIHI data, active surveillance of SBS/AHT rates, CPS confirmed cases, and BC Coroner's cases and Canada economic data.

As mentioned above in each of the sections, preliminary analyses has already commenced to look at the effect of the economic recession on the SBS/AHT rates using the B.C. unemployment rate as a proxy.

16. Prepare Ipsos-Reid poll of three years of parents of newborns for knowledge of crying, shaking and *Period of PURPLE Crying*. (Actual carrying out of survey will be fiscal year 2011-2012).

To be conducted by the end of the fiscal year 2011-2012.

17. Establish baseline annual incidence rate of Medical Emergency Room (MER) complaints of crying/colic in infants 0-5 months of age between 2002-2007. This is a secondary outcome measure to determine whether *PURPLE* implementation increases or decreases (expected) MER usage for crying/colic complaints.

Analysis has been completed for baseline data and is in progress for data from 2008 to January, 2011. Preliminary results were presented at the International Shaken Baby Syndrome Conference in Atlanta, GA in September, 2010.

Other Important Activities

In January, 2011, Dr. Ronald Barr and Marilyn Barr were asked to review and revise the crying and shaken baby syndrome sections of "Growing Babies...Growing Parents". This document is a perinatal resource used by health professionals in B.C. and throughout Canada.

In March, 2011, Prevent Shaken Baby Syndrome BC was highlighted in the Provincial Health Services Authority's (PHSA) 2010-2011Gap Analysis & Improvement Plan: Prevention of Violence, Abuse & Neglect Core Public Health Program. PHSA's strategic plan "identifies creating quality outcomes and better value for patients, promoting healthier populations and contributing to a sustainable health care system". Among all the initiatives currently offered in the nine PHSA agencies, the *Period of PURPLE Crying* was one of two programs prestigiously recognized as having the greatest opportunity to be built upon through continued implementation and evaluation.

Prevent SBS British Columbia
Hospital and Health Unit Implementation Schedule
Summary for Years 1 and 2

Implementation Summary Year One Aug/07 - Jul/08	Coordinator A	Implementation Date	Coordinator B	Implementation Date	# Birth's	# Hosp's	# HU's
Phase 1	Fraser South	Feb 1 - 15/08	St. Pauls, Rich, N. Shore	Feb 1 - Mar 1/08	10,210	8	24
Phase 2	Fraser North	Apr 15 -Jun 1/08	BC Women's	Apr 1/08	13,430	4	11
Phase 3	Fraser East	Jul 1 - 15/08	Vancouver Island	Jul 15/08	7,201	11	22
				Year 1 Total	30,841	23	57
Implementation Summary Year Two Aug/08 - Jul/09							
Phase 1	Okanagan	Dec 15/08	North East	Dec 15/08	3,407	7	20
Phase 2	Thompson Cariboo	Apr 15/09	North Interior	Apr 15/09	2,284	8	16
Phase 3	East Kootenay & Kootenay Boundary	Aug 1/09	North West	Aug 1/09	937	8	15
				Year 2 Total	6,628	23	51

Project Coordinator A - Implementation Schedule											
Health Authority	**Serv Del Area**	**Hospital**	**approx # births**	**Births per HA**	**# of health units**	**Apprx # nurses**	**Nurse train time**	**Time from GO date**	**Antip GO Date**	**Antip Impl Date**	**# births per phase**
FHA	FS	Langley Memorial	1,639			99	2.5	3.5	11/01/07	02/15/08	
FHA	FS	Peace Arch	671			40	1.5	2.5	12/01/07	02/15/08	
FHA	FS	Surrey Memorial	3,600		8	216	3.0	4.0	10/01/07	02/01/08	5,910
FHA	FN	Burnaby	1,700			102	2.5	3.5	02/01/08	05/15/08	
FHA	FN	Ridge Meadow	730			44	1.5	2.5	02/01/08	04/15/08	
FHA	FN	Royal Columbian	4,000		5	240	3.0	4.0	02/01/08	06/01/08	6,430
FHA	FE	Chilliwack General	907			50	1.5	2.5	04/15/08	07/01/08	
FHA	FE	Fraser Canyon	2			1	1.5	2.5	04/15/08	07/01/08	
FHA	FE	MSA General	1,721		5	103	2.5	3.5	04/01/08	07/15/08	2,630
Fraser Health Authority Total Births				14,970	10				**Year 1**		**14,970**
Number of public/community health units trained for Fraser = 18											
IHA	O	Penticton Regional	550			33	1.5	3.5	09/01/08	12/15/08	
IHA	O	Vernon Jubilee	800			48	1.5	3.5	09/01/08	12/15/08	
IHA	O	Kelowna General	1,500		12	90	1.5	3.5	09/01/08	12/15/08	2,850
IHA	TCS	Royal Inland	1,250		12	75	1.5	3.5	01/01/09	04/15/09	1,250
IHA	EK	East Kootenay Regional	390		8	23	1.5	3.5	04/15/09	08/01/09	
IHA	KB	Kootenay Boundary Regional	250		7	15	1.5	3.5	04/15/09	08/01/09	640
Interior Health Authority Total Births				4,740	27				**Year 2**		**4,740**
Number of public/community health units trained for Interior = 40											
Total # births Project Coordinator A				19,710	37						

Project Coordinator B - Implementation Schedule											
Health Authority	**Serv Del Area**	**Hospital**	**approx # births**	**Births per HA**	**# of health units**	**Apprx # nurses**	**Nurse train time**	**Time from GO date**	**Antip GO Date**	**Antip Impl Date**	**# births per phase**
PHSA	VC	BC Women's Health Centre	7,000		6	420	4.0	6.0	10/01/07	04/01/08	7,000
Provincial Health Services Authority Total Births				7,000							
Provid	VC	St. Paul's	1,400			84	2.5	4.0	11/01/07	03/01/08	
Providence Health Total Births				1,400							
VCHA	VC	Richmond General	1,150		1	69	1.5	3.0	11/01/07	02/01/08	
VCHA	NS	Lions Gate	1,500		3	90	1.5	3.0	12/01/07	03/01/08	
VCHA	NS	Squamish General	150			9	1.5	3.0	12/01/07	03/01/08	
VCHA	NS	Powell River General	100		6	6	1.5	3.0	12/01/07	03/01/08	4,300
Vancouver Coastal Health Authority Total Births				2,900	16						
Number of public/community health units trained for PHSA, Providence, and Van Coastal = 17											
VIHA	VIC	Tofino General	10			2	1.5	3.5	03/01/08	07/15/08	
VIHA	VIC	WestCoast General	236			14	1.5	3.5	03/01/08	07/15/08	
VIHA	VIC	Cowichan District	468			28	1.5	3.5	03/01/08	07/15/08	
VIHA	VIC	Nanaimo Regional General	1,200		7	72	1.5	3.5	03/01/08	07/15/08	
VIHA	VIN	Port McNeill	15			2	1.5	3.5	03/01/08	07/15/08	
VIHA	VIN	Campbell River General	365			22	1.5	3.5	03/01/08	07/15/08	
VIHA	VIN	St. Joseph's General	500		3	30	1.5	3.5	03/01/08	07/15/08	
VIHA	VIS	Victoria General	1,777		7	106	2.5	3.5	03/01/08	07/15/08	4,571
Vancouver Island Health Authority Total Births				4,571	17				**Year 1**		**15,871**
Number of public/community health units trained for Van Island = 17											

Project Coordinator B - Implementation Schedule											
Health Authority	Serv Del Area	Hospital	approx # births	Births per HA	# of health units	Apprx # nurses	Nurse train time	Time from GO date	Antip GO Date	Antip Impl Date	# births per phase
NHA	NE	Chetwynd General	26			2	1.5	3.5	09/01/08	12/15/08	
NHA	NE	Fort Nelson	102			6	1.5	3.5	09/01/08	12/15/08	
NHA	NE	Dawson Creek and District	208			12	1.5	3.5	09/01/08	12/15/08	
NHA	NE	Fort St. John	557		8	33	1.5	3.5	09/01/08	12/15/08	557
NHA	NI	McBride & District	5			2	1.5	3.5	01/01/09	04/15/09	
NHA	NI	MacKenzie and District	10			2	1.5	3.5	01/01/09	04/15/09	
NHA	NI	Stuart Lake Hospital	33			2	1.5	3.5	01/01/09	04/15/09	
NHA	NI	Lakes District	51			3	1.5	3.5	01/01/09	04/15/09	
NHA	NI	St. John	158			9	1.5	3.5	01/01/09	04/15/09	
NHA	NI	GR Baker Memorial	186			11	1.5	3.5	01/01/09	04/15/09	
NHA	NI	Prince George Regional	1,034		4	62	1.5	3.5	01/01/09	04/15/09	1,034
NHA	NW	Queen Charlotte Islands General	11			2	1.5	3.5	04/15/09	08/01/09	
NHA	NW	Wrinch Memorial	52			3	1.5	3.5	04/15/09	08/01/09	
NHA	NW	Kitimat	75			5	1.5	3.5	04/15/09	08/01/09	
NHA	NW	Prince Rupert Regional	200			12	1.5	3.5	04/15/09	08/01/09	
NHA	NW	Bulkley Valley District	242			15	1.5	3.5	04/15/09	08/01/09	
NHA	NW	Mills Memorial	297		8	18	1.5	3.5	04/15/09	08/01/09	297
Northern Health Authority Total Births				3,247	20				**Year 2**		**3,247**
Number of public/community health units trained for Northern = 20											
Total # births Project Coordinator B				19,118	53						

Program Evaluation Form Protocol:

Program evaluation forms are filled out by Public Health Nurses for every new birth referral to their office. Nurses ask, either on their first phone call or first home visit, whether or not the mother has received the *Period of PURPLE Crying* DVD and booklet. They record where the mother received it through a Dose I method [maternity or midwife] and also how Public Health delivered the materials if she did not receive it at the hospital [Dose II].

Prevent SBS BC staff Educators receive information on monthly birthing numbers from hospitals. This information is used to calculate the number of expected forms to be delivered to us for each hospital per month. The following table reflects Dose I delivery of the *PURPLE* program quarterly for the first year of implementation.

An example of how to understand this information is: We received forms from 73% of Burnaby Hospital births in Apr-Jun 2008, and from those received forms we know that 99% of the mothers remember receiving the *PURPLE* materials from a Dose I delivery method.

Hospital Name [approx. # of births/month]	**[Apr-Jun 2008)**		**[Jul-Sep 2008)**		**[Oct-Dec 2008)**		**[Jan-Mar 2009)**	
	% of Expected forms Received for Hospital	Maternity and Midwife Delivery rate from forms	% of Expected forms Received for Hospital	Maternity and Midwife Delivery rate from forms	% of Expected forms Received for Hospital	Maternity and Midwife Delivery rate from forms	% of Expected forms Received for Hospital	Maternity and Midwife Delivery rate from forms
Abbotsford Regional [300]							49%	96%
Burnaby General [150]	73%	99%	77%	97%	82%	97%	81%	96%
Chilliwack General [80]			86%	90%	74%	83%	87%	94%
Langley Memorial [150]	75%	92%	81%	91%	76%	91%	84%	91%
Peace Arch [60]	82%	97%	82%	96%	69%	95%	66%	95%
Ridge Meadows [75]	66%	98%	67%	98%	64%	99%	79%	99%
Royal Columbian [230]	86%	90%	80%	96%	81%	94%	77%	96%
Surrey Memorial [335]	85%	80%	75%	92%	63%	95%	64%	96%
Fraser Average	**80%**	**89%**	**78%**	**94%**	**72%**	**94%**	**70%**	**96%**
BC Women's [570]			76%	84%	66%	86%	67%	89%
Lions Gate [120]					60%	86%	78%	86%
Powell River [12]			87%	78%	95%	100%	90%	98%
Richmond General [120]	89%	76%	91%	86%	89%	78%	100%	85%
Squamish General [25]			82%	88%	37%	85%	92%	84%
St. Mary's [20]					70%	92%	79%	97%
St. Paul's [155]			71%	63%	71%	68%	61%	74%
Vancouver Coastal Average	**89%**	**76%**	**78%**	**81%**	**69%**	**82%**	**74%**	**86%**
Cowichan General [30]					38%	85%	44%	64%
Campbell River [40]					100%	97%	67%	98%
Nanaimo Regional [105]	56%	93%	52%	93%	58%	95%	70%	93%
Port McNeil [1]							0%	0%
St. Joseph's [50]	45%	95%	44%	97%	38%	92%	61%	95%
Victoria General [260]					68%	89%	80%	88%
West Coast [50]							69%	89%
Vancouver Island Average	**54%**	**93%**	**50%**	**94%**	**58%**	**92%**	**71%**	**89%**

Hospital Name [approx. # of births/month) % of Expected forms Received for hospital denominator is Birth Number reported.	**[Apr-Jun 2008)**		**[Jul-Sep 2008)**		**[Oct-Dec 2008)**		**[Jan-Mar 2009)**	
	% of Expected forms Received for Hospital	Maternity and Midwife Delivery rate from forms	% of Expected forms Received for Hospital	Maternity and Midwife Delivery rate from forms	% of Expected forms Received for Hospital	Maternity and Midwife Delivery rate from forms	% of Expected forms Received for Hospital	Maternity and Midwife Delivery rate from forms
100 Mile [5]							100%	100%
Cranbrook [30]							78%	95%
Creston Valley [8]					66%	100%	100%	90%
East Kootenay [35]					65%	93%	69%	99%
Elk Valley [10]					40%	100%	100%	96%
Golden [5]					57%	75%	60%	67%
Invermere [3]							100%	86%
Kelowna [115]							100%	94%
Kootenay Boundary [20]							73%	81%
Kootenay Lake [25]					52%	100%	69%	96%
Lillooet [4]					33%	100%	50%	100%
Penticton [40]					97%	91%	88%	96%
Queen Victoria [8]							77%	100%
Royal Inland [110]							87%	86%
Shuswap Lake [20]							88%	96%
Vernon Jubilee [64]					96%	93%	79%	97%
Interior Average					**73%**	**93%**	**87%**	**93%**
Bulkley Valley [22]							43%	71%
Chetwynd [0]							N/A	N/A
Dawson Creek [32]							73%	97%
Fort Nelson [12]							100%	79%
Fort St. John [52]							97%	90%
GR Baker [20]							97%	74%
Kitimat [5]							91%	50%
Lakes District [5]							13%	50%
Mills Memorial [30]							67%	82%
Prince George [85]					56%	72%	77%	82%
Prince Rupert [20]							100%	93%
Queen Charlottes [1]							100%	100%
St. John [12]					100%	100%	100%	91%
Stuart Lake [4]							67%	100%
Wrinch [5]							100%	100%
Northern Average					**62%**	**76%**	**96%**	**85%**
Provincial Average	**78%**	**88%**	**76%**	**89%**	**69%**	**89%**	**78%**	**91%**

Prevent SBS British Columbia
Implementation Responsibilities for
Ministry of Children and Family Development Contract

Year 1 (Sept 2007 – August 2008)

Program Responsibilities

1. Develop training guide for program delivery protocol and online training version which will accessible to all nursing participants by end of 1st Quarter.

Evaluation: Training guide and online version will be on file for review.

2. Initiate and develop key community stakeholder partnerships. Either expand the present Hospital Steering Committee or designate a Subcommittee to provide an advisory role on implementation and partnership building. Initial communications will be within the first two quarters of Year 1.

Evaluation: Minutes of meetings will be on file for review.

3. Maternity Services: Establish agreements with 23 (approximately 50% of the total) birthing hospitals for program implementation. Train a minimum of 80% of maternity nurses; at 8 hospitals by the 2nd Quarter, at 4 hospitals by end of 3rd Quarter, and at 11 hospitals by end of 4th Quarter.

Evaluation: Records of hospital trainings and nursing attendance will be on file for review.

4. Health Units: Establish agreements with 57 health units (approximately 50% of the total) for program implementation. Train a minimum of 80% of community health nurses, at 24 health units by the 2nd Quarter, at 11 health units by the 3rd Quarter, and at 22 health units by the 4th Quarter.

Evaluation: Records of health unit trainings and nursing attendance will be on file for review.

5. Develop protocol for implementation steps for hospitals and health units to be used as standard by end of 1st Quarter.

Evaluation: Protocol for implementation will be on file for review.

6. Health Support and Community agencies: Provide training for health care support workers as partnerships are created (i.e. emergency room physicians and nurses, family physicians, pediatricians, and midwives) and community agencies (parent and crisis lines, day care centres, etc.). Implement additional training opportunities for Ministry personnel and foster care workers as requested.

Evaluation: Records of meetings and groups trained will be on file for review.

7. Devise public education campaign plan that will target specific social populations and provide specific timelines for implementation by end of 4th Quarter. Develop relationships with media through the Department of Public Relations and

Communications at BC Children's Hospital and MCFD Communications officers. Make adjustments as needed for Canadian audiences in advertisement provided by the National Center on Shaken Baby Syndrome, USA by end of 4th Quarter. Develop multicultural advertisement components for use in multicultural media outlets by end of 4th Quarter.

Evaluation: Public education campaign plan will be on file for review.

8. Establish internal process evaluation to determine the ongoing effectiveness of program and progress towards stated goals. This will, at a minimum, keep track of the numbers of parents served, the number and types of training sessions for nurses and community groups, numbers and types of meetings attended, and the numbers of PURPLE materials used.

Evaluation: Process evaluation will be updated quarterly and on file for review.

Program Evaluation for Incidence Reduction

1. Conduct Ipsos-Reid poll on a minimum of 600 members of the public within the 1st Quarter. Questions will survey the public for baseline community knowledge on shaken baby syndrome and the Period of PURPLE Crying materials.

Evaluation: Report on Ipsos-Reid poll will be on file for review.

2. Collect patient chart information and review for ongoing prospective active surveillance of head trauma admissions during all quarters.

Evaluation: Quarterly reports on data collection will be on file for review.

3. Request initial data from Canadian Institute for Health Information for retrospective discharge data base codes back to 2001 for coding by end of 2nd Quarter.

Evaluation: Report on findings will be on file for review.

4. Obtain initial data set for first 2 years of Canadian Pediatric Surveillance Program (CPSP) data for baseline by end of 3rd Quarter.

Evaluation: Report on CPSP data will be on file for review.

5. Develop data transfer protocol with five Child Protection Service units in the province for surveillance of all cases of known abuse in children under 2 years of age by end of 2nd Quarter.

Evaluation: Data transfer protocol will be on file for review.

6. Obtain written agreement with BC Coroner's office for active surveillance of deaths due to abusive head trauma by end of 3rd Quarter.

Evaluation: Agreement will be on file for review.

7. Develop data collection protocol to evaluate program penetration percentages to parents by end of the 2nd Quarter.

Evaluation: Protocol for data collection will be on file for review.

A prevention program of B.C. Children's Hospital

4480 Oak Street
ACB, Room K1-209
Vancouver, BC, V6H 3V4

Invoice # 503	Invoice Date: March 31, 2008
Bill to: Ministry of Children and Family Development Early Years Team PO Box 9778 Stn Prov Govt Victoria, BC V8W 1L8	Ship to: , Same

Re: Contract # XLR 167974		**Price**
Fees for service for the month of January 2008		$13,045.90
Fees for service for the month of February 2008		$13,045.90
Fees for service for the month of March 2008		$13,045.90
	Total	$39,137.70

Please make payment to: Children's and Women's Health Centre of British Columbia.
And quote account CRG 74426 (MCFD-Shaken Baby Syndrome)
Attention: Annie Lam CFRI - Finance

Invoice due and payable upon receipt.

Jocelyn Conway, Provincial Coordinator

A prevention program of B.C. Children's Hospital

4480 Oak Street
ACB, Room K1-209
Vancouver, BC, V6H 3V4

BC CHILDREN'S HOSPITAL
An agency of the Provincial Health Services Authority

Invoice # 504	Invoice Date: August 29, 2008
Bill to: Ministry of Children and Family Development Early Years Team PO Box 9778 Stn Prov Govt Victoria, BC V8W 1L8	Ship to: , Same

Re: Contract # XLR 167974	**Price**
Fees for service for the month of April 2008	$14,058.10
Fees for service for the month of May 2008	$14,058.10
Fees for service for the month of June 2008	$14,058.10
Fees for service for the month of July 2008	$14,058.10
Fees for service for the month of August 2008	$14,058.10
Total	$70,290.50

Please make payment to: Children's and Women's Health Centre of British Columbia.
And quote account CRG 74426 (MCFD-Shaken Baby Syndrome)
Attention: Annie Lam CFRI - Finance

Invoice due and payable upon receipt.

Mike Gottenbos, Finance Manager

A prevention program of B.C. Children's Hospital

4480 Oak Street
ACB, Room K1-209
Vancouver, BC, V6H 3V4

Invoice # 505	Invoice Date: Sep 30, 2008
Bill to: Ministry of Children and Family Development Early Years Team PO Box 9778 Stn Prov Govt Victoria, BC V8W 1L8	Ship to: , Same

Re: Contract # XLR 167974		**Price**
Fees for service for the month of September 2008		$14,058.10
	Total	$14,058.10

Please make payment to: Children's and Women's Health Centre of British Columbia.
And quote account CRG 74426 (MCFD-Shaken Baby Syndrome)
Attention: Annie Lam CFRI - Finance

Invoice due and payable upon receipt.

Mike Gottenbos, Finance Manager

PREVENTING SHAKEN BABY SYNDROME AND INFANT ABUSE:
THE *PERIOD OF PURPLE CRYING*® PROGRAM

The period to which this Services Schedule applies commences on **October 01, 2009,** and ends on **March 31, 2010,** unless ended earlier in accordance with this agreement.

1. **Maternity Services: Agreements have been established for all birthing hospitals in B.C. Between October 01, 2009 and March 31, 2010 the data will continue to be collected on each hospital; reports generated. Visits to hospitals will provide opportunities to discuss challenges and fidelity of the program. Calls and email contact will take place at least monthly. Birth records will continue to be gathered monthly. Two trainers share the responsibility.**

In the past six months, 29 birthing hospitals received one year implementation updates via in-person and webinar meetings. A total of 51 out of 53 (96%) birthing hospitals in B.C. received updates. This was an opportunity to congratulate the nurses on a job well done and to encourage continued support of the program. Information on progress and process evaluation was provided. Implementation successes and challenges were also discussed with the nurses. During the one year update meetings, follow up was conducted with Clinical Nurse Educators, Patient Care Coordinators and Managers to discuss: 1) fidelity of *PURPLE,* 2) institutionalization of training and maintaining >80% trained staff, and 3) nurse feedback. Incentives serving as program reminders (i.e. mugs, tumblers and clocks printed with the *PURPLE Crying* logo) were disseminated.

A semi-annual report was sent to the five B.C. Perinatal Leads in December, 2009. These reports described the information received from Public Health Nurse (PHN) evaluation forms up to June, 2009. The relative lag in reporting time was due in part to a four month lead time in getting the forms filled, returned and processed.

In January 2010, a “Did you know…” newsletter was sent to each birthing hospital indicating an improvement of protocol. Returned evaluation forms and feedback from nurses reported that parents did not get the opportunity to view the *PURPLE* DVD and/or booklet within the first week of receiving the materials. To encourage parents to review the materials during downtime at the hospital, maternity nurses were requested to have parents open the DVD/booklet package during the crying education. This allowed parents to play a more interactive role during the teaching. Information packets with the improved scripts were also mailed out.

Birth records and updates were collected monthly.

2. **Public Health Units: Public Health Nurses will continue to gather data on the program via the PHN evaluation form. B.C. program staff will continue to enter data. In this period it is expected about 20,000 forms will be entered. Trainers will continue visits to the health units to evaluate the program and monitor compliance with the agreed upon protocol. Ongoing contact will take place at least monthly. Two trainers are primarily involved in this process.**

In the past six months, 44 public health units received one year implementation updates via in-person and webinar meetings. A total of 117 out of 126 (93%) public health units in B.C. received updates. Information on the percentage of returned PHN evaluation forms and known delivery rate of *PURPLE* from public health as reported by these forms was provided. Implementation successes and challenges were also discussed with the nurses. Incentives serving as program reminders were distributed.

A semi-annual report was sent to the five B.C. Public Health Directors in December, 2009. These reports described the information received from PHN evaluation forms up to June, 2009.

Birth records, return of evaluation forms and updates were gathered monthly.

3. **Provide Ongoing Support and Inventory: Each parent of a new baby will be provided the *PURPLE* program package. Inventory is monitored carefully and reported by trainers. Materials are mailed to hospitals on a regular basis. In January 2010, 6 months of materials will be produced for distribution.**

As all birthing hospitals and health units in the province were fully implemented in January, 2009 responsibilities in the last six months shifted into the second phase of implementation: monitoring the delivery of the program. Program Educators tracked hospital and health unit birth numbers, inventory orders and evaluation form returns. Ongoing questions and requests for training and resources were addressed.

PURPLE DVDs/booklets were translated into its tenth language: Somali.

4. **Community Groups: Trainers and management will continue to provide the training on the program for health care support workers (i.e. family physicians, paediatricians, emergency personnel, NICU personnel, social workers, midwives and doulas) and community agencies (parent and crisis lines, pregnancy outreach, infant development, early childhood, family services, child care, etc.). Additionally, immigration services, adoption services and the military advocacy services, as well as colleges and universities who train nurses, will continue to be trained on this program, and how to support the messages with parents.**

Health Care Support: Physicians were offered *PURPLE* information and resources through: 1) the BC Medical Journal - Pulsimeter section, January/February 2010 issue, 2) the Medical Office Assistants Association of BC quarterly newsletter, January/February 2010 issue, and on 3) the program website - www.dontshake.ca. Training for emergency room nurses was provided at the Emergency Nurses Association of BC education days in October, 2009. A champion from BC Children's Hospital incorporated *PURPLE* into ongoing paediatric continuing medical education workshops for emergency personnel. Each department completing training received resource packages. The Neonatal Intensive Care Unit at BC Women's Hospital, who support 1,400 NICU infants each year, implemented the specialized *PURPLE* protocol in March, 2010. Eight additional licensed and practicing midwives completed training and 80% of all midwives in the province currently offer the program to clients. Social workers and doulas continue to complete training via online modules on an ongoing basis.

Community Agencies: Two out of six private adoption agencies in the province completed training and commenced implementation of *PURPLE* in October, 2009. Military advocacy personnel completed training in January, 2010. Train the trainer sessions were provided to 51 Child Care Resource & Referral personnel in the Vancouver Coastal, Vancouver Island, Fraser and North Regions. Personnel who completed training provide *PURPLE* education via workshops, classes and consultations to the child care providers and parents they support. Immigration Services Offices who provide MCFD Child Care Subsidy Outreach (BCSAP Stream 1) were contacted individually and offered training in February, 2010. English Language Services for Adults, Affiliation of Multicultural Societies and Service Agencies of BC and their affiliates were also contacted and offered training. The Early Childhood Development Planning Table in Vancouver Coastal completed training in March, 2010. CHIMOS crisis lines and their affiliates who support transition houses completed training in March, 2010. Four additional pregnancy outreach and infant development offices completed training online and a total of 95% of their offices currently offer the program. Various Family Services throughout the province implemented the program. *PURPLE* has been incorporated into the curriculum of 6 additional post-secondary institutions for Registered Nurses, Licensed Practical Nurses, Midwives, Early Childhood Educators and Community Health Support Personnel. A podcast of the program summary was developed in January, 2010 to supplement student training.

5. **MCFD Personnel, Foster Parents and Contracted Family Support Workers: By January 30, 2010, all the foster parents in B.C. will have the program and the educational information describing it. Additionally, they will be given free access to online, more extensive training. Staff will continue to provide and monitor the training program for MCFD personnel focusing on support workers and other personnel, especially in the Interior. This training will be offered by webinars and online modules in the next six months. Additionally, the same specialized training will continue to be offered to foster parents and monitored and reported in excel reports as needed.**

B.C. program staff developed a training package which was mailed out to 1043 foster parents in October, 2009. The 18 foster parent associations throughout the province provided *PURPLE* training to foster parents via in-services and Compact Discs. Online training which was specifically designed for foster parents and was available 24/7 free of charge was also offered. In the last six months, with respect to the online modules, 164 foster parents completed training for a total of 565 trained thus far.

An education program specific to MCFD personnel was developed collaboratively with Jackie Behrens and other leadership. From October 2009 to March 2010, in-services and web conferences were offered weekly. A total of 16 in-services and 11 web conferences were provided. To date, 754 MCFD personnel across the province attended the sessions by these two methods. Sessions continue to be offered on an ongoing basis as requested.

6. **Aboriginal Services: The program education will continue to provide training to community health nurses (on-reserve nurses) who provide newborn follow-up in all 198 First Nations communities. In addition, home visitors, community health representatives, community resource workers, Aboriginal Infant Development Programs and First Nations and Inuit Health Branch of the Canada Prenatal Nutrition Program will continue to be trained and**

receive resources. Aboriginal Child and Family Services, along with any Aboriginal foster families they work with, will be contacted and offered the program. The educator will also research how best to provide the program to Inuit and Métis populations.

Community health nurses providing services to 49 First Nations communities were trained on *PURPLE*. Since January 2009, a total of 84 First Nations communities were receiving program resources. Home visitors occasionally providing newborn follow up were also trained. Since November, 2009, home visitors supporting 99 First Nations communities completed training.

Aboriginal Child Care Resource & Referral Personnel received training and resources in November, 2009 at the BC Child Care Society Conference. Three out of eight Aboriginal Pregnancy Outreach Programs have implemented *PURPLE*.

Initial contact was made with the Aboriginal Policy and Service Support contact at MCFD in September, 2009. The Provincial Coordinator of our program sent a program overview in November, 2009 that could be shared with ministerial levels. Our program is currently trying to be included in an upcoming delegated agencies meeting which occurs quarterly.

7. Public Education Campaign: Develop a public education campaign plan that will target specific social populations and provide specific timelines for implementation by the end of Fourth Quarter.

Extensive work has been completed to develop, rigorously test and finalize much of the creative material for the *PURPLE* media campaign to include: print advertisement, outdoor advertisement, :30 and :60 radio spots, media outreach tools and a robust website (www.purplecrying.info). A “Normal” concept, which positions infant crying as a normal developmental stage rather than an indication of caregiver incompetence or an unhealthy child, was selected and refined based on participant feedback.

With the creative material completed, a B.C. public relations agency was needed to provide services to make this campaign a success. Certainly our program could do a lot but experts were needed to conduct the campaign correctly. Requests for proposals were sent to 18 B.C.-based public relations agencies in December, 2009. We received eight proposals from various firms. We conducted interviews with the final three applicants. In January, 2010, our program chose to collaborate with LimelitePR, a firm which specialized in connecting brands with mothers.

After several strategy sessions it was determined that LimelitePR did not have the capacity to fully support the comprehensive *PURPLE* public education campaign. In February, 2010, after communicating with several public relations firms, it was determined that Smak Media & Promotions Inc. was a suitable fit. Smak would spearhead the campaign in 2010-2011 by launching events, a :30 radio public service announcement or advertisement and possibly a television ad. The potential for added-value from the Canadian Broadcasting Corporation (CBC) was discussed in March, 2010. Limelite PR will likely be used for social marketing like mommy blogs and other social media methods. Prevent SBS BC applied for the British Columbia Association of Broadcasters Humanitarian Award where millions of dollars in television and radio

airtime are donated to one or two charitable organizations each year. Unfortunately, Prevent SBS BC was not the recipient of the award.

8. **Internal tracking evaluation to determine the ongoing delivery of program and progress toward stated goals. A sophisticated evaluation process is in place and will be continued. PHNs complete evaluation forms on all families they serve with this program, data are entered and the team evaluates the successes or challenges. Contact is made with the PHN offices and maternity hospitals based on these data. The team will continue to evaluate the program, along with all training services offered to the province, and report on the outcome.**

We received PHN forms every month from each public health unit on an ongoing basis. Reporting of the analyses occurred once a month at team meetings. The last report summarized data until November, 2009. As of November, 2009, there were a total of 39,670 forms received. Of these forms, 82% of the mothers said that they received the *PURPLE* materials from maternity nurses and midwives. There were 8% who received the materials from public health nurses either via home visits or mail.

9. **Ongoing collecting of patient chart information and reviewing for ongoing prospective active surveillance of head trauma admissions during all quarters.**

Analysis of this data has been ongoing. Charting the cases to look at the trends by year and date of injury has begun. Cases referred to Child Protection Services (CPS) were also charted. Further economic analyses using the B.C. unemployment rates by sex were conducted. The cases referred to CPS from the active surveillance were matched to those reviewed with the CPS team.

10. **Analyses of Canadian Institute for Health Information (CIHI) data sets for incidence estimates of a) shaken baby syndrome/abusive head trauma and b) all forms of physical abuse, and for c) sources of underestimates due to inaccurate coding both in B.C. and in Canada generally.**

The first preliminary analysis of this data was completed. Additional data with all fractures and smothering codes were requested from CIHI.

11. **Continue Prospective Chart Review of physical abuse cases with the Child Protection Service (CPS) for the years 2007-2010 in all five CPS services in the province.**

Chart review of the CPS data has been ongoing. The cases for 2007 and 2008 were completed. For 2007, there were a total of 6 definite cases of SBS for children under 2 years with the majority of 4 cases in the 0-6 month age group. For 2008, there were a total of 3 definite cases of SBS for children under 2 years with the majority of 2 cases in the 0-6 month age group.

12. **Review of BC Coroner's Office charts from 2002 through to present. This review has begun and continues through 2011.**

The review of the BC Coroner's Office charts has been ongoing. The evaluation team has almost completed the reviews. The data from reviewed charts were entered into a database and preliminary analysis has begun.

13. Carry out two measures of "fidelity" of program delivery by Public Health Nurses (PHN) and of parents. The surveys, randomization and strategy have been established, and the surveys will commence in the first quarter of 2009-2010. Parent surveys include message transfer and fidelity of program delivery. (They will continue through 2011).

The parent and nurse surveys commenced and have been ongoing. Preliminary analyses of the surveys have commenced. Results were shared at team meetings and proved to be extremely useful in evaluating the process.

14. Initial publications written on incidences of SBS/AHT and physical abuse generally for B.C. and nation using passive, active, Coroner's and CPS baseline data sets.

Two abstracts using CIHI data were accepted to be presented at the 2010 Pediatric Academic Societies' Annual Meeting in Vancouver, BC, on May 1−4, 2010. These abstracts are entitled: 1) Incidence Estimates of Abusive Head Trauma (AHT) Determined by ICD−10 Codes in Canada and 2) "Inside of Dura" Injuries Due to Short Falls: Misclassifications of Abusive Head Trauma/Shaken Baby Syndrome (AHT/SBS)?

15. Develop materials and training for babies and families of babies who are in the Neonatal Intensive Care Unit.

B.C. program staff created a training presentation and implementation protocol specifically designed for Neonatal Intensive Care Units (NICU) in October, 2009. A minimum of 80% of NICU nurses needed to be trained prior to their unit implementing the program. NICU nurses were requested to 1) ask parents whether they received the *PURPLE* education and materials from maternity, 2) reinforce the program messages, 3) provide a letter informing parents that their infant may experience different crying patterns depending on their condition, and 4) distribute *PURPLE* DVDs/booklets if parents were missed at maternity. Each unit implementing the program received resource packages with Compact Disc versions of the training, parent letters (which were translated into eight languages: French, Portuguese, Punjabi, Spanish, Cantonese, Korean, Vietnamese and Japanese), and *PURPLE* DVDs/booklets equivalent to10% of the number of infants they support each year.

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March 31, 2009

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All birthing hospitals and public health units in the province are delivering the *Period of PURPLE Crying*® to new parents. The last hospital implemented the program on January 23, 2009. The following report highlights the training methods used by method and by Health Authority.

- Peace Arch Hospital was the first to implement on January 8, 2008
- Child Health BC workshop held with representatives from all six provincial health authorities, January 11 and 12, 2008.
- 1,950 (97.7%) of a targeted 1,997 maternity nurses trained
- 950 (99.1%) of a targeted 959 public health nurses trained
- 53 birthing hospitals and 123 health units implemented
- 70.7% of all nurses were trained with an attending trainer
- Mills Memorial Hospital in Terrace was the last to implement on January 23, 2009.

Training methods utilized by program

In-person training sessions (8 training trips around the province):

- 932 (47.8%) of all maternity nurses were trained during 167 in-services
- 372 (39.2%) of all public health nurses were trained during 20 in-services
- Method used to reach 44.9% of all nurses trained

Web-conferencing training sessions

- 395 (20.3%) of all maternity nurses trained during 62 sessions.
- 123 (13.0%) of all public health nurses trained during 22 sessions
- Method used to reach 17.9% of all nurses trained

Online training modules at *www.dontshake.ca*

- 575 (29.5%) of all maternity nurses trained online
- 256 (27.0%) of all public health nurses trained online
- Method used to reach 28.6% of all nurses trained

Video conference training sessions

- 30 (1.5%) of all maternity nurses were trained during 3 conferences
- Method used to reach 1.0% of all nurses trained

Educational Day workshop

- 199 (21.0%) of all public health nurses were trained during 1 plenary workshop
- Method used to reach 6.9% of all nurses trained

CD:Rom using narrated presentation

- 18 (0.9%) of all maternity nurses were trained on hospital units
- Method used to reach 0.6% of all nurses trained

Ministry of Children and Family Development

- Development and approval of presentation for Ministry staff completed September 30, 2008.
- Display table at Vancouver Coastal Education day, September 18, 2008.
- Managers and team leads of Interior region trained on October 8, 2008 in Kelowna.
- Train the trainer program developed and 9 trainers for Fraser Region trained on December 1, 2008. Included were 2 foster parents, 4 resource worker trainers, 1 First Nations foster parent trainer, 1 adoption parent trainer and 1 guardianship trainer.
- Display table at Fraser Region Education day, February 4, 2009.
- Fraser region; 8 areas are scheduled for in-service training sessions. Vancouver Island region will utilize web-conference training and sessions are being scheduled. Interior region in process of scheduling in-service and web-conferencing training sessions.

Foster Parents

- Development and approval of presentation for foster parents was completed for online training February, 2009. On-line module is currently available to all foster parents with downloadable certificate of completion. PURPLE materials will be given to trained foster parents with children 3 and under and all safe baby homes.
- Okanagan Foster Parents Association and Foster Parents Support Services Society (Van Island) implementing training awareness rollout to foster parents. Axis Family Services and Hollyburn Family Services meetings scheduled.

Contracted Community Support Workers

- **Community Living BC** has indicated they would like to have one person who will be trained to train CLBC staff. They will also utilize the online module (available late February, 2009) to for training staff who work with families with children.
- Some MCFD offices inviting contracted workers.

Aboriginal Groups

- Working with First Nations Health Council and BC Prenatal Health Program Aboriginal Nurse Consultant to train First Nations health centre nurses other groups working with Aboriginal peoples.
- Intertribal Health Authority: 15 nurses trained on March 5.

Community Groups

We are working with the following agencies to provide training to personnel:

- Family Physicians and Pediatricians (ongoing through conferences, newsletters, BC Medical Assoc Journal ad placements and Canadian Medical Assoc Journal article),
- Infant Development Programs (Van Island training for all programs and aboriginal programs scheduled May 6),
- Adoption agencies (all staff from 6 agencies scheduled to train May 21),
- Pregnancy Outreach Programs (40 of 50 programs complete),
- Doulas, Hospital ER departments and the BC Ambulance Service.

Public Education Campaign and Recognition

- Application for BC Association of Broadcasters Humanitarian Award submitted in December, 2008. This award is for community service announcement spots on all BC TV and Radio stations for one year. Award announcement is April 1 and is valued at between $2-3 million. Unfortunately this award was given to Sport BC this year.
  The following is a list of earned media for the program:
  - January 29, 2008: CBC Radio BC Almanac: Dr. Jane Hailey 7 minutes
  - March 27, 2008: CBC Radio Sounds Like Canada: Jen Moss 23 minutes
  - April 11 – 12, 2008: News 1130, 250 News, CTV News, Canwest News Service, Vancouver Sun, Canadian Press, Canoe and Metro Vancouver: Pick up on news conference with Minister Christensen.
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The *Period of PURPLE Crying*® Prevention Program
June 30, 2009

Implemented Hospitals and Health Units

As all hospitals and health units in the province are fully implemented, work is now turning to the second phase of implementation: monitoring the delivery of the program. For hospitals and health units this entails; receiving and recording birth numbers every month, tracking of inventory and filling orders, and responding to questions and additional training requests from staff. Additionally, we receive from health units Program Evaluation forms for all referred births. Reports are created that analyze the program's progress. This information is reported to the evaluation team at regular intervals and also used to report to the hospital and health unit personnel during 1st anniversary visits. A report on program delivery for hospitals is on file for review.

First Anniversary Hospital and Health Unit Visits

Several anniversary visits have been completed already. This event is an opportunity to congratulate the nurses on a job well done and to encourage continued support of the program. We also use this as an opportunity to deal with any detected problems in delivery protocol. We do this through a report on the program delivery rate for each unit and compare it to health authority averages. Incentives are provided that may serve as program reminders: mugs, tumblers, and a clock all printed with the *PURPLE Crying* logo.

Neonatal Intensive Care Units (NICU)

All hospitals with NICU have been contacted and 8 of 11 units have been trained to distribute the *PURPLE* program and advise parents of NICU infants on the differences their babies may experience with crying patterns based on their NICU diagnosis.

Ministry of Children and Family Development

On June 17, 2009 a meeting with the new MCFD Project Manager, Jackie Behrens of the Regional Support Council took place in Victoria. Training for MCFD Social Workers has been progressing; however, a new focus will be placed on getting all Resource Social Workers trained in order to make them aware of the program when placing infants and encourage completion of the on-line training for Foster Parents.

- Fraser Region: 11 in-service training sessions with 171 MCFD staff.
- Vancouver Island Region: 13 web-conference training sessions with 141 MCFD staff.
- Vancouver Coastal Region: 5 in-service training sessions with 87 MCFD staff.
- Northern Region: Web-conference training sessions are scheduled for July.
- Interior Region: No web-conference sessions planned yet.

Foster Parents

One method for Foster Parent training has included an on-line module or in-person training in the regional Foster Parent support society offices. Homes identified with children < 3 years of age have received the *PURPLE* DVD and booklet after their training.

The following Foster Parents have been trained.

- Vancouver Island Region: 92 Foster Parents, 46 identified as homes with children < 3
- Northern Region: 17 Foster Parents, 9 identified as homes with children < 3
- Okanagan Region: 164 Foster Parents, 32 identified as homes with children < 3
- Interior Region: 52 Foster Parents, 18 identified as homes with children < 3
- Vancouver Coastal Region: 16 Foster Parents, 7 identified as homes with children < 3

Work has started on an additional method reach all foster homes that presently or potentially care for children less than 3 years of age for training and distribution of *PURPLE* materials. In early September, 2009, the Regional Support Council will arrange for a mailing to go to every one of these identified foster homes. This package will contain a letter from the Assistant Deputy Minister, Mark Sieben, an information sheet explaining the basic points of the program with additional information on how to receive the free training, and a copy of the *PURPLE* materials packet which Foster Parents will be encourage to watch as soon as possible. As explained above, in conjunction with this mailing, MCFD Resource Social Workers will be asked to contact their foster parents and encourage them to take the online training module so they can submit the *Certificate of Completion* for their office file.

Contracted Community Support Workers

- Community Living BC staff training is in process. The *PURPLE* material packets (1 per office) have been forwarded to all Community Living offices through Julie Iuvacigh, Manager, CLBC Learning Centre along with instructions for the free online training sessions. Training also occurred at the CLBC Learning Center and a total of 24 staff members have been trained through both methods.
- Other training for the "MCFD contracted community support workers" is on hold until new Foster Parent initiative has rolled out which is described above.

Aboriginal Groups

- Work continues with the First Nations Health Council and BC Perinatal Health Program Aboriginal Nurse Consultant to train First Nations health centre nurses and other groups working with Aboriginal peoples.
- Invited to speak at the Maternal Child Health Committee Meeting June 3. Committee members then instructed their nurses to take the on-line training.
- Ongoing on-line training of community health nurses with approximately 50 complete.

Community Groups

We are working with the following agencies to provide training to personnel:

- ER personnel (ongoing training at various hospitals and ENGBC Workshop October 25),
- Adoption Agencies (all staff from 6 agencies scheduled to train October 02),
- Colleges and Universities (ongoing training of student nurses via online and scheduled to include *PURPLE* in 31 additional post-secondary institutions by September 2009),
- Doulas (ongoing training via online),
- Infant Development Programs (ongoing training via in-services and online; approximately ~90% of offices province-wide are trained and implementing *PURPLE*),

- Pregnancy Outreach Programs (ongoing training via in-services and online; approximately ~80% of offices province-wide are trained and implementing *PURPLE*),
- Immigration Services (currently in talks to check how *PURPLE* training can be provided to Settlement and Immigration Services personnel)
- BC Ambulance Services, Family Services, BC Centre for Ability, Child Care Providers, Prenatal Instructors, Red Cross and Down Syndrome Research Foundation, (some personnel have received training and are implementing *PURPLE*)

Family Physicians

BC College of Family Physicians will include an article in their upcoming e-newsletter that will provide links directly to our "Physician" website page and will also be featuring our program on the main page of their updated website. Also in process is work on providing an advertisement and submitting a Letter to the Editor in the BC Medical Journal. The submission of an article for publication is also being considered. Continuing opportunities to speak at College of Family Physicians events are monitored and pursued.

Canadian Military Families

A meeting in Victoria to determine initiatives using the *PURPLE* program for military families took place in August. In BC most these families get the program in the hospital after the birth of their baby but additional support will be offered in the military advocacy program.

Public Education Campaign and Recognition

Print and Radio broadcast advertisements that will be modified for use in BC have been completed.

Work on the *Period of PURPLE Crying* parent website is ongoing. Parents will be directed to this website through all advertisements across North America.

- Earned media for the program this period: **Vancouver Sun, Apr 23 09:** Apple apologizes for Baby Shaker application. Mention of PURPLE and Shaken Baby Syndrome Prevention Program.

Program Evaluation for Incidence Reduction

BC Coroner's Study

BC Coroner's active surveillance of deaths due to abusive head trauma data abstraction has been organized and file review begins July, 2009. Five professionals, including four physicians are conducting this chart review.

Canadian Institute for Health Information

Data evaluation protocol is in place, and analysis has begun.

Active Surveillance of Head Trauma Admissions at BC Children's Hospital

Continuing collection of patient chart information and reviewing for ongoing prospective active surveillance of head trauma admissions.

Review of cases from Child Protection Services units

The review of all 2008 cases at the Vancouver unit has been completed. Arrangements are being made to work with the Surrey CPS team for chart review.

Initiation of Nurse Fidelity Interviews

Interview measure has been accepted by UBC Ethics. Approval has been received from Providence Health, Interior Health, Northern Health and Vancouver Island health to conduct interviews. Other health regions are in process. The survey has been revised and once approved calls to nurse can begin.

Initiation of Maternal Interviews (2 month post-birth)

Interview measure has been accepted by UBC Ethics. Approval has been received from Providence Health, Interior Health, Northern Health and Vancouver Island health to conduct interviews. Other health regions are in process. The survey has been revised and once approved calls to nurse can begin.

Prevent Shaken Baby Syndrome British Columbia

Prevent Shaken Baby Syndrome (SBS) British Columbia is the only staffed program dedicated to shaken baby syndrome prevention in Canada. *The Period of PURPLE Crying* is the shaken baby syndrome prevention program chosen to be implemented in B.C. as it incorporates 3 decades of research on early infant crying, including inconsolable crying, which is the number one reason a baby is shaken.

The Period of PURPLE Crying has undergone a three-year randomized control trial with over 4,300 participants: 1,800 in B.C. It is available in two reinforcing components: 11 page booklet and 10 minute DVD which are given together. It's focus is on teaching about the normality of early infant crying patterns (2 weeks to 5 months), and the dangers of shaking an infant out of frustration from that crying. The DVD and Booklet will be given to all parents before they are discharged from maternity wards and the message will be reinforced by public health nurses. It is presently available in English, Punjabi, Cantonese, Spanish, Korean, Vietnamese and Japanese. By the end of 2008 will add Portuguese and French.

Training for the implementation of the *PURPLE* program incorporates the use of a three dose strategy:
1) maternity nurses are trained to deliver the materials to all new parents; 2) community and public health nurses are trained to talk with parents about the program during their first home visit and; 3) a public education campaign will educate the general public. Other groups in the community are also being trained so they can reinforce the message.

Training and implementation began on Oct 1, 2007. By June, 2008, hospitals and health units will be giving out the materials in Fraser, Vancouver Coastal and Vancouver Island Health Authorities. The Interior and Northern Health Authorities will be trained later in the summer, 2008.

Other services provided by *Prevent SBS BC* include a website (*www.dontshake.ca*), online training modules, a pertinent journal article database and a Canadian SBS Victim database. On January 11-12, 2008 Child Health BC in partnership with the BC Perinatal Health Program hosted a provincial interdisciplinary working conference.

Why the *Period of PURPLE Crying* is unique:

- It approaches prevention through educating parents and the community about normal infant development, specifically, crying in normal infants, rather than being limited to warnings of the negative consequences of shaking.
    - **P** for **Peak of Crying**—Crying peaks during the second month, decreasing after that;
    - **U** for **Unexpected**—Crying comes and goes unexpectedly, for no apparent reason;
    - **R** for **Resists Soothing**—Crying continues despite all soothing efforts by caregivers;
    - **P** for **Pain-like Face**—Infants look like they are in pain, even when they are not;
    - **L** for **Long Lasting**—Crying can go on for 30-40 minutes, and longer;
    - **E** for **Evening Crying**—Crying occurs more in the late afternoon and evening.
- It uses highly attractive, positive messages for caregivers rather than negative warnings about bad consequences.
- It aims to bring about a cultural change in our understanding of infant crying both for caregivers and the general public.
- It is designed to increase program "penetration rates" to new parents and be widely acceptable to health care professionals and groups disseminating the intervention.
- Each family of a new baby gets their own set of materials so they can review it as needed and relevant. They can also share it with others who care for their baby.

***Period of PURPLE Crying* Action Steps:**

- Caregivers should respond to their baby with "Comfort, carry, walk and talk" behaviors. This encourages caregivers first to increase contact with their infant to reduce some of the fussing, to attend to their infant's needs, and to not neglect them.
- It is "OK to walk away" if and when the crying becomes too frustrating. If it is, caregivers should put the baby in a safe place and then walk away.
- It is "Never OK to shake or hurt" your baby to stop its crying under any circumstances.

Prevent Shaken Baby Syndrome BC
Period of PURPLE Crying Program
Contract (STOB 80) Review for 2010/2011 Funding

Program Description:

- Led by Prevent Shaken Baby Syndrome (SBS) BC, the *Period of* PURPLE *Crying®* program comprises elements of education, surveillance and intervention related to the prevention of shaken baby syndrome in infants.
- The *Period of* PURPLE *Crying®* program provides educational information about the properties of early crying in typically developing infants and the appropriate steps that caregivers can take when this type of crying becomes frustrating.
- The ultimate goals of the program are to create a cultural change in parents' understanding of and response to infant crying and a 50 per cent decrease in the number of cases of traumatic brain injury due to shaken baby syndrome (SBS).
- The program is supported by a partnership including the Ministry of Children and Family Development (MCFD), BC Children's Hospital Foundation, the Centre for Community Child Health Research of the Child and Family Research Institute, Child Health BC, Fraser Health's Acquired Brain Injury Program and several BC foundations.
- The Ministry of Healthy Living and Sport provides in-kind support to the program, as maternity services and public health nurses are vital to the delivery of the program.
- The program falls under Pillar #1: Prevention, Action #4 of *Strong, Safe, Supported.*
- BC is the first Canadian jurisdiction to implement province-wide the *Period of* PURPLE *Crying®* program.

Significance of Shaken Baby Syndrome:

- The most common trigger for shaking a baby is inconsolable crying.
- Shaken Baby Syndrome is a leading but preventable cause of physical and mental disability among infants and young children.
- About one-third of hospitalized cases result in death and of those who survive approximately 80 per cent will have permanent disabilities.
- Long-term consequences of shaking include learning disabilities, physical disabilities, visual disabilities/blindness, hearing impairment, speech disabilities, cerebral palsy, seizures, behaviour disorders, cognitive impairment or death.
- The *Period of* PURPLE *Crying®* program aims to significantly reduce the incidence of Shaken Baby Syndrome in BC.

Implications for Loss of Funding in 2010/11:

General Implications:

- The program will be entering its third and final phase of implementation in 2010/11.
- The Minister has already made a public commitment of $1.400M to the Shaken Baby Syndrome Prevention program.

- The SBS Research Project received high profile due to the nature of its work and the involvement of major partners, including the Province, BC Children's Hospital, the Centre for Community Child Health Research, and public health staff and clinicians across BC. Criticism from the public and health community may arise if funding is not provided.

Training-related Implications:

Training for Health Care Staff:

- Health care support staff including emergency room physicians and nurses, family physicians, pediatricians and midwives, have received training in administering the program to parents and caregivers of all newborns in BC.
- As of January 2009, the program was fully implemented in all birthing hospitals and Health Units across British Columbia:
  - 97.7% of maternity nurses trained;
  - 99.1% of public health nurses trained; and
  - 53 birthing hospitals and 123 health units implemented the program.
- Training for these groups is vital to the success of the program. Should funding not be provided, the program will be unable to determine whether health care staff continue to provide the information and PURPLE materials to all families of newborns.

Training for MCFD Personnel:

- From October 2008 to February 2009, specific training material for MCFD personnel (social workers) and contracted family support workers was developed and training is underway.
- As of September 8, 2009, a total of 571 MCFD personnel were trained to deliver the *Period of* PURPLE *Crying®* program to families.
- Continued funding is required to ensure comprehensive training for front-line MCFD Personnel continues.

Training for Foster Parents:

- The focus for MCFD personnel training has recently been shifted specifically to Resource Social Workers in order to support the newest initiative for training Foster Parents. It is expected that some training for general social work staff will continue in January, 2010.
- Development and approval of a presentation for Foster Parents was completed for online training February 2009.
- In August 2009, additional training methods were identified so that training for Foster Parents will have three components:
  1. On-line training or in-person training for Foster Parents available through regional Foster Parent Support Society offices;
  2. Training for MCFD Resource Social Workers to ensure that they encourage the use of the on-line Foster Parent training modules when placing infants in foster homes; and
  3. In September 2009, all foster homes that identified a preference to care for children under the age of 3 will be mailed a package containing an information sheet which

explains the basic points of the program, the *Period of* PURPLE *Crying®* program DVD/ Information Pamphlet and instructions on how to access the on-line training.

- All five Foster Parent Support Agencies in the province have agreed to incorporate the program in their mandatory foster parent training.
- This is another phase of the prevention program and another measure to protect children in care. Foster Parents are critical caregivers who need access to the same preventative information as birth parents receive before leaving hospital. Continued training for Foster Parents will augment the training BC Foster Parents already receive.

Aboriginal Communities – Potential Impacts:

- Prevent SBS BC is also providing the program to Aboriginal families. The program is working with First Nations Health Council and a BC Perinatal Health Program Aboriginal Nurse Consultant to train First Nations health centre nurses and other groups working with the Aboriginal population.
- There are 198 First Nation Communities in BC and the nurses who serve 35 of these communities have completed training so far. If funding does not continue for this program, high-risk families living in Aboriginal communities will not have opportunities to learn about normal infant crying and the implications of Shaken Baby Syndrome.

Program Evaluation Implications:

- The surveillance/evaluation aspect of the program includes collaboration with emergency services and hospitals in reviewing patient charts; child protection services in reviewing all abuse cases involving children under age two; public health nurses on home visits; and, if warranted, with the BC Coroner's Office in conveying details of deaths of children under age two due to abusive head trauma.
- A comprehensive program evaluation is paramount to determining the effectiveness of the program in reducing SBS in BC.
- Continued funding is necessary to allow the program to evaluate its effectiveness and to provide a detailed report to MCFD about the outcome of the initiative and the reduction of SBS in BC.

Future Planning Implications:

- As per the original funding proposal, Year 4 objectives of the program will include:
    - Review process evaluation and begin process to ensure the program will be institutionalized in Maternity Services and Public Health Home Visits.
    - Establish methods to sustain the program and assist in gaining funds to support the program on an ongoing basis.
    - Present the results of the program and its effectiveness to agencies that have the authority to ensure it is sustained.
    - Continue to provide training, materials, services and support to the participating organizations to ensure consistency and continuity takes place and the program is widely accepted.

Summary
Preventing Shaken Baby Syndrome and Infant Abuse:
The *Period of PURPLE Crying* Program
June 2007

Overall Goal: to provide a province-wide implementation of the *Period of PURPLE Crying* program for the prevention of Shaken Baby Syndrome [SBS] (abusive traumatic brain injury) in infants.
Target: Implement a universal prevention program for all 40,000 births/year in BC over 4 years.
Outcomes: (1) Bring about a cultural change in knowledge of crying and shaking in parents of newborns and society generally to permanently reduce shaking and SBS;
(2) Reduce incidence of SBS by 50% in 4 years.
Program Description: Each parent of a newborn receives a "triple dose" of education about normal infant crying and dangers of shaking an infant: (1) in hospital maternity wards; (2) by home visitor public health nurses; and (3) through a public education campaign. Other health centers, physicians (family practice, pediatricians and ER physicians and nurses), early child specialists, First Nations, minority and at risk populations will be targeted.
Evaluation: 6 components to measure reaching goals:
(1) active surveillance of traumatic head injuries in infants at BC Children's Hospital;
(2) active surveillance of SBS cases and abusive injuries from 5 provincial child protection services;
(3) active review of BC Coroner's cases for deaths due to SBS/abuse;
(4) passive surveillance with CIHI (Can. Inst. Health Info) and Ministry of Health discharge data, compared with rest of Canada;
(5) passive surveillance with Canadian Pediatric Society Surveillance data system.
(6) process evaluation of program "penetration," effects, and accessibility in the community.
Background and Significance:
Physical abuse is a leading cause of death and morbidity in infants under age 2. SBS is the leading cause of death and morbidity in infants under age 1 and peaks at 3 months. Incidence ranges from 22-30/100,000 births. Twenty-five per cent die; 80% of survivors have life-long permanent disability. Estimated medical costs $32,000 initially; $1 million lifetime, not counting legal costs and incarceration of perpetrator. Typical crying in normal infants is the stimulus in over 90% of cases. Shaking is common. 1.9% of parents in British Columbia believe it is a good way to soothe their infant.
SBS is preventable. Maternity ward education of parents may reduce SBS incidence by 25-47% (current best practice). ***Period of PURPLE Crying*** program should improve on best practice by (1) linking understanding of normal development (crying) to dangers of shaking; (2) higher acceptability to parents (educational rather than threat); (3) higher acceptability to nurses; (4) available in 7 languages; (5) "triple dose" primary universal community-based education.
Phase I (2004-2007): Randomized controlled trial of *Period of PURPLE Crying* materials to change knowledge, attitudes and behavior when delivered by public health home visitor nurses before 2 weeks of age. Data completion is complete and the results are being analyzed. In general, there is evidence of statistically significant improvements in some important knowledge areas related to crying and shaking, and in some important behavioral areas related to responding to infants in appropriate ways and sharing of the information with other caregivers. Detailed results of the studies are being written up for submission to appropriate peer-reviewed journals within the next several months.
Summary: The PURPLE Program is a comprehensive, empirically-based prevention program to reduce a ***preventable*** health burden in British Columbia. It incorporates best practices, but goes beyond it by (1) using an empirically tested program (*The Period of PURPLE Crying*) previously tested in BC; (2) using the home visitor nurse program, unique in N. America for optimal program delivery; and (3) bringing about a cultural change in understanding crying and shaking baby syndrome to sustain improvement. Successful implementation would make British Columbia the first province- or state-wide jurisdiction in North America to do so.

Schedule E
PRIVACY PROTECTION SCHEDULE

This Schedule forms part of the agreement between Her Majesty the Queen in right of the Province of British Columbia represented by the Ministry for Children and Family Development (the "Province") and Children & Women's Health Centre of British Columbia (the "Contractor") respecting Contract #XLR167974 (the "Agreement").

Definitions

1. In this Schedule,
   (a) "**access**" means disclosure by the provision of access;
   (b) "**Act**" means the *Freedom of Information and Protection of Privacy Act* (British Columbia), as amended from time to time;
   (c) "**contact information**" means information to enable an individual at a place of business to be contacted and includes the name, position name or title, business telephone number, business address, business email or business fax number of the individual;
   (d) "**personal information**" means recorded information about an identifiable individual, other than contact information, collected or created by the Contractor as a result of the Agreement or any previous agreement between the Province and the Contractor dealing with the same subject matter as the Agreement but excluding any such information that, if this Schedule did not apply to it, would not be under the "control of a public body" within the meaning of the Act.

Purpose

2. The purpose of this Schedule is to:
   (a) enable the Province to comply with its statutory obligations under the Act with respect to personal information; and
   (b) ensure that, as a service provider, the Contractor is aware of and complies with its statutory obligations under the Act with respect to personal information.

Collection of personal information

3. Unless the Agreement otherwise specifies or the Province otherwise directs in writing, the Contractor may only collect or create personal information that is necessary for the performance of the Contractor's obligations, or the exercise of the Contractor's rights, under the Agreement.

4. Unless the Agreement otherwise specifies or the Province otherwise directs in writing, the Contractor must collect personal information directly from the individual the information is about.

5. Unless the Agreement otherwise specifies or the Province otherwise directs in writing, the Contractor must tell an individual from whom the Contractor collects personal information:
   (a) the purpose for collecting it;
   (b) the legal authority for collecting it; and
   (c) the title, business address and business telephone number of the person designated by the Province to answer questions about the Contractor's collection of personal information.

Accuracy of personal information

6. The Contractor must make every reasonable effort to ensure the accuracy and completeness of any personal information to be used by the Contractor or the Province to make a decision that directly affects the individual the information is about.

Requests for access to personal information

7. If the Contractor receives a request for access to personal information from a person other than the Province, the Contractor must promptly advise the person to make the request to the Province unless the Agreement expressly requires the Contractor to provide such access and, if the Province has advised the Contractor of the name or title and contact information of an official of the Province to whom such requests are to be made, the Contractor must also promptly provide that official's name or title and contact information to the person making the request.

Correction of personal information

8. Within 5 business days of receiving a written direction from the Province to correct or annotate any personal information, the Contractor must annotate or correct the information in accordance with the direction.

9. When issuing a written direction under section 8, the Province must advise the Contractor of the date the correction request to which the direction relates was received by the Province in order that the Contractor may comply with section 10.

10. Within 5 business days of correcting or annotating any personal information under section 8, the Contractor must provide the corrected or annotated information to any party to whom, within one year prior to the date the correction request was made to the Province, the Contractor disclosed the information being corrected or annotated.

11. If the Contractor receives a request for correction of personal information from a person other than the Province, the Contractor must promptly advise the person to make the request to the Province and, if the Province has advised the Contractor of the name or title and contact information of an official of the Province to whom such requests are to be made, the Contractor must also promptly provide that official's name or title and contact information to the person making the request.

Protection of personal information

12. The Contractor must protect personal information by making reasonable security arrangements against such risks as unauthorized access, collection, use, disclosure or disposal, including any expressly set out in the Agreement.

Storage and access to personal information

13. Unless the Province otherwise directs in writing, the Contractor must not store personal information outside Canada or permit access to personal information from outside Canada.

Retention of personal information

14. Unless the Agreement otherwise specifies, the Contractor must retain personal information until directed by the Province in writing to dispose of it or deliver it as specified in the direction.

Use of personal information

15. Unless the Province otherwise directs in writing, the Contractor may only use personal information if that use is for the performance of the Contractor's obligations, or the exercise of the Contractor's rights, under the Agreement.

Disclosure of personal information

16. Unless the Province otherwise directs in writing, the Contractor may only disclose personal information inside Canada to any person other than the Province if the disclosure is for the performance of the Contractor's obligations, or the exercise of the Contractor's rights, under the Agreement.

17. Unless the Agreement otherwise specifies or the Province otherwise directs in writing, the Contractor must not disclose personal information outside Canada.

Notice of foreign demands for disclosure

18. In addition to any obligation the Contractor may have to provide the notification contemplated by section 30.2 of the Act, if in relation to personal information in its custody or under its control the Contractor:
   (a) receives a foreign demand for disclosure;
   (b) receives a request to disclose, produce or provide access that the Contractor knows or has reason to suspect is for the purpose of responding to a foreign demand for disclosure; or
   (c) has reason to suspect that an unauthorized disclosure of personal information has occurred in response to a foreign demand for disclosure

   the Contractor must immediately notify the Province and, in so doing, provide the information described in section 30.2(3) of the Act. In this section, the phrases "foreign demand for disclosure" and "unauthorized disclosure of personal information" will bear the same meanings as in section 30.2 of the Act.

Notice of unauthorized disclosure

19. In addition to any obligation the Contractor may have to provide the notification contemplated by section 30.5 of the Act, if the Contractor knows that there has been an unauthorized disclosure of personal information in its custody or under its control, the Contractor must immediately notify the Province. In this section, the phrase "unauthorized disclosure of personal information" will bear the same meaning as in section 30.5 of the Act.

Inspection of personal information

20. In addition to any other rights of inspection the Province may have under the Agreement or under statute, the Province may, at any reasonable time and on reasonable notice to the Contractor, enter on the Contractor's premises to inspect any personal information in the possession of the Contractor or any of the Contractor's information management policies or practices relevant to its management of personal information or its compliance with this Schedule and the Contractor must permit, and provide reasonable assistance to, any such inspection.

Compliance with the Act and directions

21. The Contractor must in relation to personal information comply with:
   (a) the requirements of the Act applicable to the Contractor as a service provider, including any applicable order of the commissioner under the Act; and
   (b) any direction given by the Province under this Schedule.

22. The Contractor acknowledges that it is familiar with the requirements of the Act governing personal information that are applicable to it as a service provider.

Notice of non-compliance

23. If for any reason the Contractor does not comply, or anticipates that it will be unable to comply, with a provision in this Schedule in any respect, the Contractor must promptly notify the Province of the particulars of the non-compliance or anticipated non-compliance and what steps it proposes to take to address, or prevent recurrence of, the non-compliance or anticipated non-compliance.

Termination of Agreement

24. In addition to any other rights of termination which the Province may have under the Agreement or otherwise at law, the Province may, subject to any provisions in the Agreement establishing mandatory cure periods for defaults by the Contractor, terminate the Agreement by giving written notice of such termination to the Contractor, upon any failure of the Contractor to comply with this Schedule in a material respect.

Interpretation

25. In this Schedule, references to sections by number are to sections of this Schedule unless otherwise specified in this Schedule.

26. Any reference to the "Contractor" in this Schedule includes any subcontractor or agent retained by the Contractor to perform obligations under the Agreement and the Contractor must ensure that any such subcontractors and agents comply with this Schedule.

27. The obligations of the Contractor in this Schedule will survive the termination of the Agreement.

28. If a provision of the Agreement (including any direction given by the Province under this Schedule) conflicts with a requirement of the Act or an applicable order of the commissioner under the Act, the conflicting provision of the Agreement (or direction) will be inoperative to the extent of the conflict.

29. The Contractor must comply with the provisions of this Schedule despite any conflicting provision of this Agreement or, subject to section 30, the law of any jurisdiction outside Canada.

30. Nothing in this Schedule requires the Contractor to contravene the law of any jurisdiction outside Canada unless such contravention is required to comply with the Act.

From: Quinn, Michael J MCF:EX
Sent: Thursday, April 15, 2010 8:16 AM
To: Woodman, Lara MCF:EX
Cc: Stevanovic, Aleksandra MCF:EX
Subject: RE: updated Shaken Baby Syndrome Prevention contract modification

Hi Lara.

My apology for the delay. Looks good. Your documents have my approval. Thanks.

Michael Quinn
Procurement Project Manager | Procurement Governance & Policy | Ministry of Children and Family Development
Please consider the environment before printing this email

From: Woodman, Lara MCF:EX
Sent: Wednesday, April 14, 2010 4:27 PM
To: Quinn, Michael J MCF:EX
Cc: Stevanovic, Aleksandra MCF:EX
Subject: FW: updated Shaken Baby Syndrome Prevention contract modification

Good afternoon Mike,

I am just wondering if you have yet had a chance to review the Shaken Baby Syndrome Prevention contract modification documents I sent last week with the updated HST information? I am cognizant of the time given we need these signed off by the contractor and our shop before the end of April. My apologies as I am sure you are very busy! I have reattached the documents below. Thanks very much and please let me know if you have any concerns.

Lara Woodman
Policy Analyst
Early Years Policy Team
Ph: 2
Cell:
Fax:
Email: Lara.Woodman@gov.bc.ca

From: Woodman, Lara MCF:EX
Sent: Thursday, April 8, 2010 2:35 PM
To: Quinn, Michael J MCF:EX; Stevanovic, Aleksandra MCF:EX
Subject: updated Shaken Baby Syndrome Prevention contract modification

Hi Mike and Aleks,

Here are the updated contract documents for the Shaken Baby Syndrome Prevention Program modification (contract #XLR167974) for your review and approval. I have included the information on HST payments. Thanks very much.
<< File: CF2511B_Shaken Baby Syndrome Mod_2010 to 2011.pdf >> << File: DR_SBS Modification_Agreement_#3_2010_2011.doc >> << File: Schedule B_Mod 2_April2010 to Mar2011doc.doc >>
<< File: DR Schedule A_SBS Period of PURPLE Crying_Apr2010 to Mar2011.doc >>

Lara Woodman
Policy Analyst
Early Years Policy Team
Ph: 2
Cell:
Fax:
Email: Lara.Woodman@gov.bc.ca

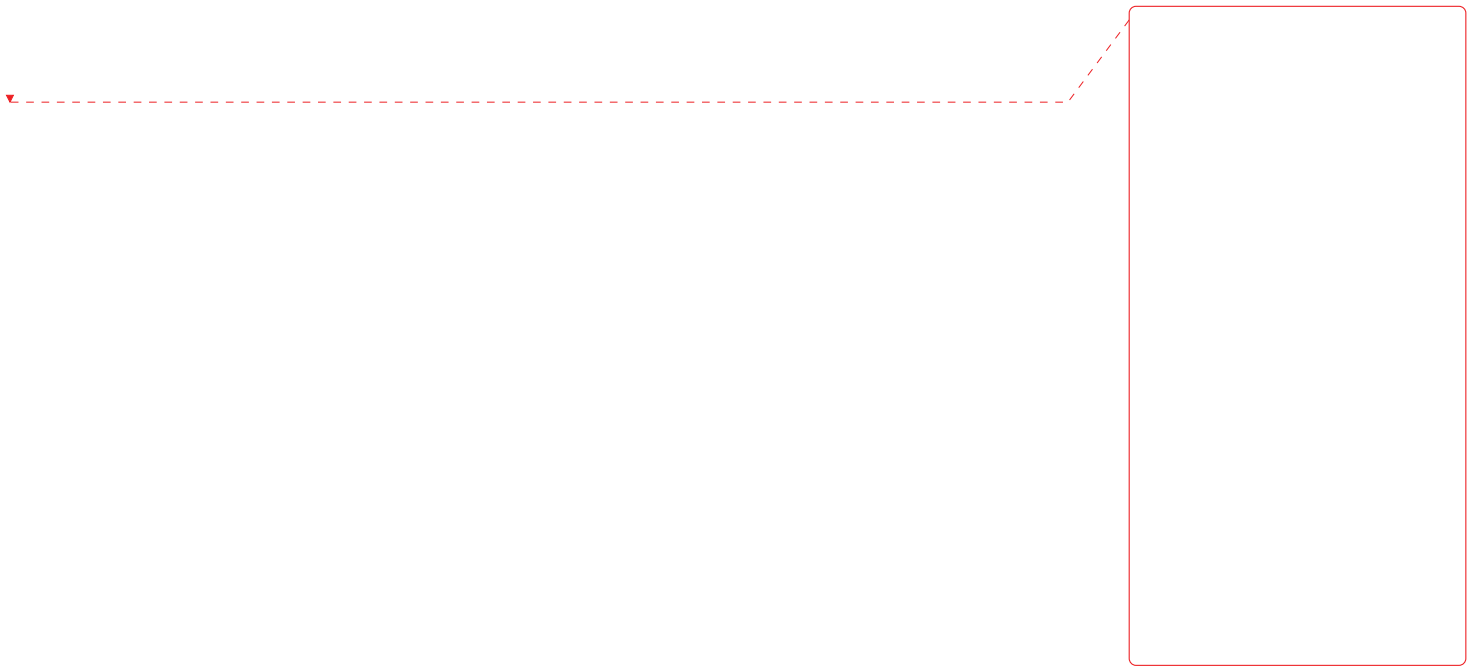
STRONG, SAFE AND SUPPORTED:
B.C.'S COMMITMENT TO CHILDREN, YOUTH AND FAMILIES.

PROGRESS REPORT - JUNE 30, 2008

MINISTRY OF CHILDREN AND FAMILY DEVELOPMENT
OPERATIONAL PLAN 2007 - 2012

Pillar 1: Prevention: Government will place a primary focus on preventing vulnerability in children and youth by providing strong supports for individuals, families and communities.

Outcome: An increase in the health and well-being of children and youth and a decrease in preventable vulnerabilities.



Develop and implement parent/ caregiver capacity development programs.	
•	*The Purple Crying Initiative, a joint initiative with the Ministry of Health, was launched in the Spring of 2008. The initiative was created to decrease incidents of shaken baby syndrome. The Prevent Shaken Baby Syndrome program is now moving ahead in two phases: 1] Training of maternity and hospital nurses and midwives on the Purple Crying materials; and 2] Implementation of the program - providing the Purple Crying materials and information to parents. Midwives are being trained both in person and online for home births and hospital births. The initiative has been implemented in 41 hospitals and provincial health units across the province,*
•	*and is anticipated to expand to all birthing-hospitals by the end of the year.* *In July, the Parenting Vision Working Group identified key components of a provincial framework for parenting education and support and has prepared a draft framework to be discussed at the next meeting of the working group - Sept 12, 2008.*

Deleted: *are currently receiving*

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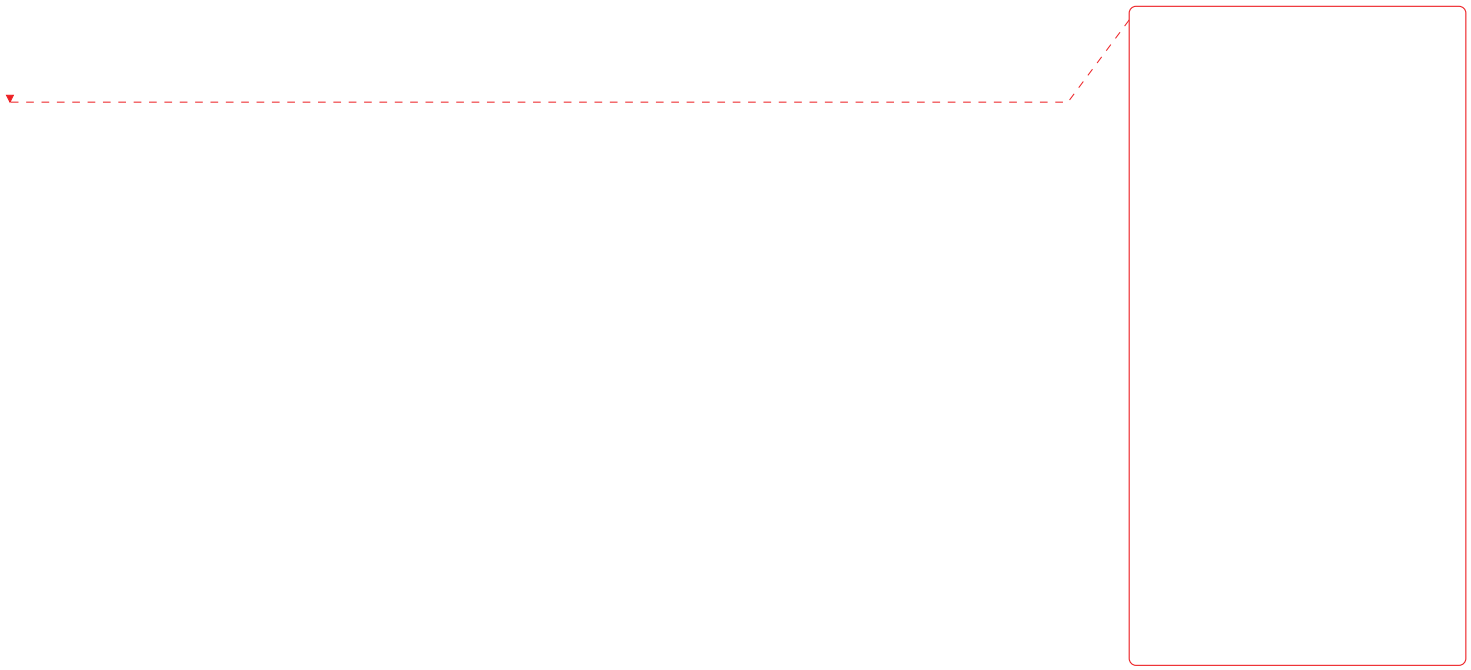

Pillar 1 - Action 5

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Ministry of Children and Family Development
Preventing Shaken Baby Syndrome and Infant Abuse:
The *Period of PURPLE Crying* Program

Proposal: A province-wide implementation of the *Period of PURPLE Crying* program for the prevention of Shaken Baby Syndrome [SBS] (abusive traumatic brain injury) in infants.
Target: Implement a universal prevention program for all 40,000 births/year in BC over 4 years.
Outcomes: (1) Bring about a cultural change in knowledge of crying and shaking in parents of newborns and society generally to permanently reduce shaking and SBS;
(2) reduce incidence of SBS by 50% in 4 years.
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Evaluation: 5-components to measure reaching goals:
(1) active surveillance of traumatic head injuries in infants at BC Children's Hospital;
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Background & Significance:
Physical abuse is a leading cause of death and morbidity infants under age 2. SBS is the leading cause of death and morbidity in infants under age 1 and peaks at 3 months. Incidence ranges from 22-30/100,000 births. Twenty-five per cent die; 80% of survivors have life-long permanent disability. Estimated medical costs $32,000 initially; 1 million lifetime, not counting legal costs and incarceration of perpetrator.
Typical crying in normal infants is the stimulus in over 90% of cases. Shaking is common. 1.9% of parents in British Columbia believe it is a good way to soothe their infant.
SBS is preventable. Maternity ward education of parents may reduce SBS incidence by 25-47% (current best practice). ***Period of PURPLE Crying*** program should improve on best practice by (1) linking understanding of normal development (crying) to dangers of shaking; (2) higher acceptability to parents (educational rather than threat); (3) higher acceptability to nurses; (4) available in 8 languages; (5) "triple dose" primary universal community-based education.
MCFD Support: **Phase I** (2004-2007): With other partners, MCFD supported randomized controlled trial of *Period of PURPLE Crying* materials to change knowledge, attitudes and behavior when delivered by public health home visitor nurses before 2 weeks of age. Cost: $386,644 (52% of project costs: see page 2). Results: (1) improved crying knowledge by 4.5-22%; (2) increased walk away when frustrated behavior by 69%; (3) *increased* sharing of knowledge and prevention by 9-13% overall, ranging from 5-38% depending on caregiver.
Phase II Implementation (2007-2011) Proposed: With at least 7 other financial partners (see budget), MCFD component requested: **07/08** $231,800; **08/09** $473,900; **09/10** $473,000; **10/11** $469,000.

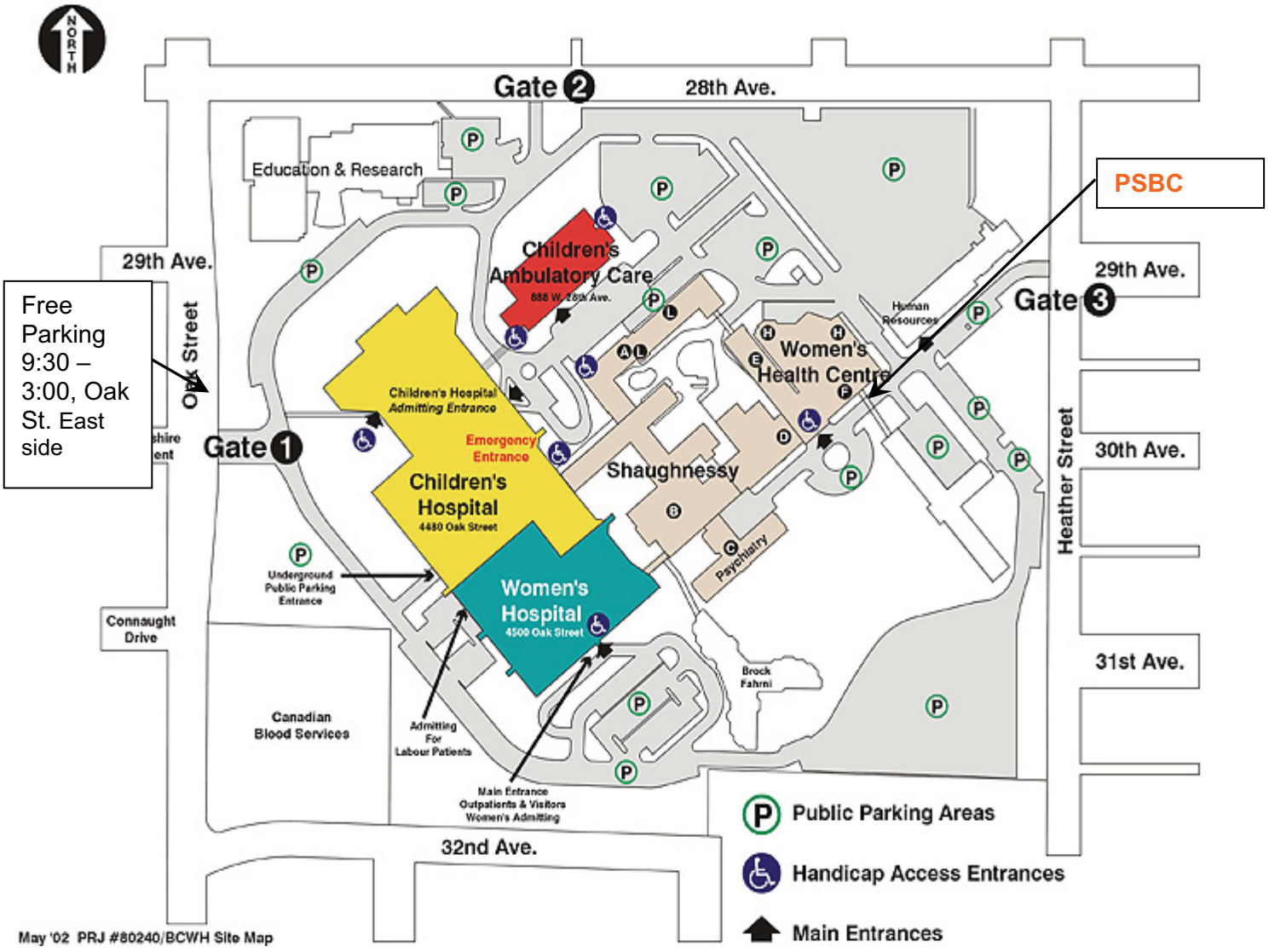
Summary: This proposal describes a comprehensive, empirically-based prevention program to reduce a ***preventable*** health burden in British Columbia. It incorporates best practices, but goes beyond it by (1) using an empirically tested program (*The Period of PURPLE Crying*) previously tested in BC; (2) using the home visitor nurse program, unique in N. America for optimal program delivery; and (3) bringing about a cultural change in understanding crying and shaking baby syndrome to sustain improvement. Successful implementation would make British Columbia the first province- or state-wide jurisdiction in North America to do so.

Women's Health Centre

Perinatal Services BC

(Located in the Women's Health Centre Building
Fifth Floor)

F 5 – 4500 Oak Street



Directions to Women's Health Centre and PSBC offices: Pay parking available on site; it's easiest to find the meeting site using the Heather Street Entrance (Gate 3).

From: Stevanovic, Aleksandra MCF:EX
Sent: Thursday, December 18, 2008 12:05 PM
To: Locke, Jennifer MCF:EX
Cc: Woodman, Lara MCF:EX
Subject: RE: Purple Crying Initiative

Hi Jennifer -

Here is what the contract says:

Deliverable (#5) - MCFD Personnel, Foster Parents and Contracted Family Support Workers:

A) Develop specific training material for Ministry personnel focusing additionally on new research that may help with child protection services. Develop specific training materials for foster parent education about the program. Incorporate these trainings into Ministry curriculum whenever possible - due date: September 30, 2009.

B) Provide training opportunities for Ministry personnel, foster parents and contracted family support workers. The goal is to have all foster parents and family support workers trained in Year 2 and to have provided adequate opportunities for all Ministry personnel and foster parents to receive training - due date: September 30, 2009.

Let me know if you have any concerns, thanks Jennifer

Regards,

Aleksandra Stevanovic
A/Director
Early Childhood Development Policy
Ministry of Children and Family Development
836 Yates Street, 3rd Floor
Victoria, BC V8W 9S5
Tel: (250) 387-1440 Fax: (250) 356-2528
Aleksandra.Stevanovic@gov.bc.ca

From: Locke, Jennifer MCF:EX
Sent: Thursday, December 18, 2008 9:09 AM
To: Stevanovic, Aleksandra MCF:EX
Subject: FW: Purple Crying Initiative

Hi Aleks,

As you know, I have been working with Jocelyn Conway on the Period of PURPLE Crying and we are now at the point of developing regional implementation plans for training staff. As you can see from the notes below - Jocelyn and I are wondering what the targets are for orientation, i.e. what is the minimum number of staff to be trained. Can you check the contract to see if it speaks to such detail? Thanks.

From: Cowell, Jane MCF:EX
Sent: Tuesday, December 16, 2008 5:31 PM
To: Locke, Jennifer MCF:EX
Subject: FW: Purple Crying Initiative

FYI and jenn could you pls chat with Aleks about the deliverables in the contract. Tks.

Jane Cowell
Director,
Regional Council Support Team
MCFD
2nd floor, 765 Broughton St.
Victoria, BC, V8W 9S2

Ph: 250 387- 2192 Fax: 250 387-7756

Note New E-mail: **Jane.Cowell@gov.bc.ca**

From: Sieben, Mark MCF:EX
Sent: Monday, December 15, 2008 5:36 PM
To: Cowell, Jane MCF:EX
Cc: Boon, Les N MCF:EX
Subject: RE: Purple Crying Initiative

Hi Jane -- have you spoken with aleks? I recall discussions but I can't recall what we actually put in the contract. It was probably minimal and I expect the purple crying peop0le will be ready to stretch. We had discussed a couple of 'doses' (as those medical folks like to call things)

- Bcfffpa, foster parent training, and providing materials to foster parents
- Providing materials to adoptive parents (adopting infants)
- Kinship care providers providing care to young ones
- Staff.

So part of what we asked for was access to materials that we'd be able to incorporate to our practice like the brochure and the dvd, materials to maybe going into fp training, and then some training to staff . I don't think we had it nailed down completely. But that was the overall intention - direct support to caregivers/ orientation to staff to materials and info.

Mark Sieben
Chief Operating Officer
Ministry of Children and Family Development
PO Box 9721 Stn Prov Govt
Victoria, BC V8W 9S1
Phone (250)387-3006 Fax: (250)356-6534
Mark.Sieben@gov.bc.ca

From: Cowell, Jane MCF:EX
Sent: Monday, December 15, 2008 5:01 PM
To: Sieben, Mark MCF:EX
Cc: Boon, Les N MCF:EX
Subject: Purple Crying Initiative

Hi Mark, we have been working with folks from Children's Hospital on the implementation of the Purple Crying initiative. The folks from Children's are very

keen to provide an orientation to our staff and caregivers. Info on the orientation sessions is out to the regions and regions are scheduling some sessions. They have asked what our target is for the number of orientation sessions provided and I certainly don't have one in mind. They seem to think that in the initial discussions with you that you expected them to demonstrate that they provided orientation for most of our staff. I was not in on the initial discussions and wondered what your expectation was on the issue of orientation. Welcome your comments.

Jane Cowell
Director,
Regional Council Support Team
MCFD
2nd floor, 765 Broughton St.
Victoria, BC, V8W 9S2

Ph: 250 387- 2192 Fax: 250 387-7756

Note New E-mail: **Jane.Cowell@gov.bc.ca**

Stevanovic, Aleksandra MCF:EX

From: Ahmed, Sarf MCF:EX
Sent: Tuesday, February 19, 2008 5:40 PM
To: O'Byrne, Loreen MCF:EX
Cc: Stevanovic, Aleksandra MCF:EX; Sieben, Mark MCF:EX; Jones, Kathy G MCF:EX
Subject: RE: Shaken baby funding

Hi Loreen
Yes the minister can make the announcement.

We have budgeted the following:
$196k in 07/08 and $427k per year in 08/09. We have also included in our fiscal plan $427k for 09/10 and 10/11 for a total of approx $1.477m over 4 years. There is no funding for it from 11/12 onwards.

Ofcourse as is the case with any other funding, the planned amounts for 09/10 and 10/11 are dependant on the voted budgets for those years.
Thanks for asking.

Sarf Ahmed
Assistant Deputy Minister Corporate Services & Executive Financial Officer Ministry of Children and Family Development
Tel: 250-953-4432 Cell: 250-216-4834
Fax: 250-356-9799

-----Original Message-----
From: O'Byrne, Loreen MCF:EX
Sent: Tuesday, February 19, 2008 12:33 PM
To: Ahmed, Sarf MCF:EX
Cc: Stevanovic, Aleksandra MCF:EX
Subject: FW: Shaken baby funding

Hi Sarf - no need to read this whole string of notes - just the one from Mark suggesting we touch base with you. The question is whether, given our intention to support Shaken Baby Syndrome funding in an ongoing way, but lack of an actual contract to that effect - can the minister still make an announcement about an MCFD commitment of $1.4m over the next 4 years. Your advice please.

Regards,
Loreen O'Byrne
Early Years Director and
Special Advisor to the Minister of State for Child Care Ministry of Children and Family Development
836 Yates St., Victoria, BC (PO BOX 9778) V8W 9S5
email: Loreen.OByrne@gov.bc.ca
phone: (250) 387-2002
fax: (250) 356-2528

-----Original Message-----

The *Period of PURPLE Crying*® BC Prevention Initiative

Program Overview

Prevent Shaken Baby Syndrome BC, a program of BC Children's Hospital is implementing the *Period of PURPLE Crying*®. This is a province-wide change of practice which approaches shaken baby syndrome (SBS) prevention by helping parents and caregivers understand the features of normal infant crying that are frustrating. Crying is the most common stimulus to shaking, and physical abuse, specifically SBS, is the leading cause of serious head injury in children aged two and under.

The *Period of PURPLE Crying* education and materials (10 minute DVD and 11 page booklet) are based on over 25 years of child development research. *PURPLE* is delivered via maternity services, midwifery clinics as well as public health and is reinforced via community programs and educational media. Parents receive crying education and a copy of the *PURPLE* materials which are available in English, French, Punjabi, Spanish, Portuguese, Somali, Cantonese, Korean, Vietnamese and Japanese. Funding has been made possible through the Ministry of Children and Family Development to ensure that all families of newborns in BC receive the program.

Training

Prevent Shaken Baby Syndrome BC would like to offer voluntary training to Immigration and Settlement Service Agency staff so that personnel may share the *Period of PURPLE Crying* information with new families.

To make training as accessible as possible to Immigration and Settlement Service Agency staff, sessions can be offered in a variety of ways:

1. In-person (i.e. conferences, workshops);
2. Go-to-Meeting/Live Meeting (i.e. staff meetings);
3. Online; and
4. Compact Disc.

Personnel will learn about current research as to why: 1) Infant shaking is very dangerous; 2) Infant crying and "colic" is normal; and 3) Infant crying is the most common stimulus to shaking and abuse. The training will also cover *PURPLE* in detail and the province-wide implementation process of the program.

The purpose of this training is to ensure that not only do all families of newborns have the opportunity to learn about the valuable and potentially life-saving information on crying and shaking, but that they also receive consistent information wherever they seek advice.

Implementation/Next Steps

Prevent Shaken Baby Syndrome BC staff will be contacting your agency shortly to discuss this important training opportunity. If you are interested in participating in this training, you may indicate which method of delivery will work best for your staff.

All personnel completing this training will receive a resource packet and a username/password (to access additional resources online). Ongoing support will also be available.

4480 Oak Street,
ACB, Room K1-209
Vancouver, BC, V6H 3V4

Prevent SBS British Columbia
***Period of PURPLE Crying* Materials Translation Budget**

Project Budget

1. Translation of *Period of PURPLE Crying* program materials:	$ 8,799.00
2. Coordination costs of the Provincial Language Services: in kind contribution	$ 3,000.00
3. Translation of SBS information for website: Grant from BC Francophone Affairs	$ 5,000.00
Total Proposal Budget	$ 15,799.00
Total request to Health Agency of Canada: BC Yukon Region	**$ 8,799.00**

Budget Justifications

Pamphlet Translation:

The budget for the pamphlet translation is based on the charge from the Provincial Language Services located at B.C. Children's Hospital. Their focus on the cultural sensitivity of translating the materials into a meaningful reproduction of our educational themes provided a very impressive product. The *Period of PURPLE Crying* educational pamphlet was previously analyzed and updated using several Canadian community focus groups for updates from the US version. After spending this much attention to the original Canadian version of the pamphlet we felt that the translations deserved equally as much attention to thematic outcomes.

Film Translation:

The Provincial Language Services previous charge is also used for the translation of the script for the film as they will be able to garner considerable contextual and thematic overflow from the previous translation of the pamphlet. While they may be limited to a certain extent by the allotted time for each sentence we feel they will be best able to produce a comprehensive script.

The Department of Learning and Development at B.C. Children's Hospital was highly efficient when recording the Chinese voiceover talents. We feel that their costs at $60.00/hr are within, if not below, market value.

The decision to use the original production company, Digital Bytes to insert the voiceover materials onto the original film is based on the good experience we had with the original English production company. They have had extensive experience with the film and were key to its original development. Additionally, they delivered a top quality product for a reasonable price.

Translation of Period of PURPLE Crying brochure Provincial Language Services Estimate for translation and quality assurance processes		
Project Phases/Resources	**Tasks**	**Cost**
Provincial Language Service coordination of two Focus Groups.	• Search for, recruit, and finalize focus group participants. • Prepare and provide discussion material to participants. • Coordinate and support the translators, facilitators, and PURPLE team with final decision making process for translation	$3,000.00 In kind contribution
Prevent SBS BC Project Coordination	• Coordinate and support the translation process	$1,000.00
Focus Group One Participants Five qualified interpreters analyze the English documents in preparation for the translation. Honorarium and Venue rental	• Attend session • Provide feedback • Two hour sessions	$750.00
Translation and Proofreading	Translation and proofreading of the English document into chosen language considering focus group results.	$375.00
Focus Group Two Participants Evaluation of the initial translation Five unilingual parents evaluate the translation of message Honorarium and Venue rental	• Attend session • Provide feedback • Two hour sessions • Evaluate both the translated pamphlet and film script	$750.00
Team Meeting: translator costs	Discussion between team, facilitator, & translator to work out particular problems and make decisions about the translation.	$130.00
Back Translation	Back translation into English by a translator external to the previous process and sent to PURPLE team directly for evaluation.	$279.00
	Cost French Brochure Translation	**$3,284.00**

Translation of Period of PURPLE Crying film Provincial Language Services Estimate for translation		
Project Phases/Resources	**Tasks**	**Cost**
Initial translation	Translation and proofreading of voice over script and written materials in the film into new language.	$926.00
Back translation	Back translation into English by a translator external to the previous process and sent to PURPLE team directly for evaluation.	$689.00
Recruitment and securing of one male and one female actor/talent to record the voiceover of the transcript	$275.00/hr per person Minimum: 2 hours	$1,100.00
Recording of the voiceover transcripts at the Department of Learning and Development, BC Children's Hospital	Coordination with the Department for the recording and production of the voiceover transcript. $60.00/hr 4 hours plus tape costs.	$300.00
Voiceover scripts delivered to Digital Bytes in Utah for insertion into copies of English version DVD.	Written materials will be changed by Digital Bytes as per the translation forwarded by PLS	Cdn $2,500.00
	Cost French Film Translation	**$5,515.00**
	Total Translation Costs for Brochure and Film	**$8,799.00**

Prevent SBS British Columbia
***Period of PURPLE Crying* Materials Translation Project Description**

Project Description: To translate an empirically tested Shaken Baby Syndrome (SBS) prevention program into French. The Prevent SBS British Columbia has been created to address the incidence of SBS through education and awareness. The program, located at BC Children's Hospital (BCCH), has just completed the empirical testing the efficacy of new educational materials, which include a film and a booklet. It is aimed at changing parent's attitudes, knowledge, and behavior towards infant crying, the most common reason a baby is shaken. The program is called the *Period of PURPLE Crying* and will ultimately be distributed throughout BC and possibly Canada, during Phase II of this process. The film and booklet are currently in English, Traditional Chinese and Cantonese, Punjabi, Spanish and soon will be in Vietnamese, Korean, and Japanese. In order to universally serve the non-English speaking parents of the province and Canada, in order of importance, we would like to; a) provide a French translation of the PURPLE film and booklet, and b) translate information about shaken baby syndrome for inclusion on our new website.

Our hypothesis is that this program can reduce shaking and abuse of infants through knowledge, attitude and behavioral changes. The rationale for this program derives from four sources: (1) the need to prevent injuries and death due to shaking; (2) the recognition that crying is the most common trigger for shaking and abuse; (3) new knowledge about why the characteristics of early crying frustrate parents leading them to shake or hit their infant in an attempt to make their baby stop crying; and (4) that if parents understand the normality of crying it will reduce their stress/frustration level and keep them from going "over the edge" and shaking their infant. Because the program is designed to be a primary prevention program used with all parents it must be available in many languages.

Too often, translation of educational materials is done in the most simplistic manner, thus the most economical way. However, this has the potential to create a haphazard understanding of the materials if important themes inherent in the English original are not comprehensible when translated. In order for the Prevent SBS B.C. to show incidence reduction within the province and to reach the largest portion of its population in a way that is meaningful, translation must be both culturally sensitive and relevant. This requires the use of qualified professional translation services and focus group testing. This project is designed with this goal in mind.

Funding Focus: Health: This translation will support the BC Ministry of Health Services and Health Services Authorities in their efforts to maintain and/or improve health services to the Francophone community in British Columbia.

Evidence of Best Practice Literature Review: The team representing this proposal is at the forefront of prevention for shaken baby syndrome and is working towards providing evidence for best practice with the completion of this project.

Background: SBS is a form of child abuse that occurs when an infant or young child is violently shaken. Shaking causes immediate damage to the victim's brain.[1-3] The motion of the brain moving inside the skull causes the cerebral blood vessels to tear with subsequent cerebral hemorrhages. The eyes can be damaged by the same mechanism leading to the kinds of retinal hemorrhages that are diagnostic for this type of abuse. The specific back and forth motion of the head from the shaking produces shearing forces from the rapid rotatory acceleration and deceleration motions that contribute to the brain injury. Depending on the severity of the shaking, these processes can result in massive brain damage or death.

Measures of the extent of the problem are almost certainly underestimates. Conservatively, there are somewhere between 25 and 40 cases of inflicted head trauma per 100,000 births.[4-6]. About 25% die.[7,8] Deaths (homicides) are only the "tip of the iceberg." The survivors do very poorly: only 7% are rated as "normal," 12% are in a coma or vegetative state in hospital, 60% have a moderate or greater degree of disability, 55% have lasting neurological deficits, 65% have visual impairments and 85% require ongoing multidisciplinary care for the rest of their lives.[7] The negative effects following hospital discharge tend to be underestimated because of a 12-18 month interval before neurological and developmental difficulties become apparent.[9] SBS cases often are not reported. When taken to medical institutions, they are sometimes misdiagnosed.[1,10,11] In some cases, these victims were shaken repeatedly.[12]

The cost of caring for these infants is significant. Direct medical costs for the initial hospitalization alone have been estimated at a minimum of $23,000 to $35,600 per survivor.[7,15,16] This is considerably higher than the costs of pediatric neurologic trauma.[17] Relative to unintentional head trauma, inflicted injury increases hospitalization duration by two days and costs by $4,232.[16] This does not take account of direct and indirect costs to the family of lost earnings, nor the rehabilitation and special education costs of the survivors for the rest of their lives.

Crying as a trigger: We now recognize that crying, especially inconsolable crying, is the most common trigger for shaking and physical abuse.[18] Research has shown that *all normal* babies have inconsolable crying in the first few months.[19,20] Some

have much more than others, with infants in approximately the top 20% considered to experience colic.[21,22] These infants have weeks to months of inconsolable crying bouts that occur in the first four months, usually peaking during the second month.[23] There is little a parent can do to reduce it.

Critical to the preventability of shaking episodes is the underlying dynamic connecting crying with shaking. Parents who would never consider hitting their baby become frustrated with the continual crying to the point that they "just shake him (or her)." If the shaking is mild, there may be no external signs of harm. However, the shaking may stun and quiet the baby temporarily. This makes the parent think the shaking stopped the crying and that no harm was done.

The importance of crying as a trigger for SBS was reported by Ronald Barr, MDCM FRCPC, Director, Centre for Community Child Health Research, Children's and Women's Health Centre of B.C.[18] The age when babies begin to increase their crying (two weeks) is the same age at which infants begin to be hospitalized for SBS. Further, the increase and then decrease in crying amounts are reflected in increases and decreases of hospitalizations for SBS.[18] The peak age of SBS hospitalizations is slightly later than the peak age of crying, probably because many cases are the result of repeated shakings.[12,24]

New knowledge about normal infant crying can help prevent parents from becoming frustrated and angry. Infant crying has always been frustrating, but three decades of research by Dr. Barr and other scientists have led to a new understanding of the features of crying that make it particularly frustrating in the first few months.[27,28] Previously, it was believed that these crying features were found only in infants who were sick, abnormal or received poor parenting. The important new understanding is that these features are present in *all normal* infants, even if they receive optimal parenting. Infants labeled as having colic are only the most severe on a spectrum of crying.[20,29-31] As a result, despite being extremely frustrating to caregivers, they occur even in the presence of optimal parenting responses.[30] Unfortunately, this is contrary to parent intuitions and beliefs about crying. Further, medical texts and parent advice articles incorrectly advise that, *if* caregivers respond appropriately (i.e., *if* they are good parents), infants can be soothed and crying reduced. This is true only for less severe fussing, not for inconsolable crying in the first few months.[20,34] The discrepancy between what parents are told and what they experience may increase their feelings of inadequacy, add to their frustration with crying, and lead to neglect, shaking and abuse.

The ***Period of PURPLE Crying*** is the name for the educational information and action steps that caregivers need to know about the properties of early crying in normally developing infants that are uniformly frustrating to caregivers. The PURPLE acronym refers to these characteristics. The educational information and action steps are brief, memorable, and easy to transmit. The information and action steps help parents and caregivers deal with this frustration and anger, so they will not resort to shaking and abuse.

The educational component helps caregivers understand the normality of the frustrating properties of crying—even in babies with colic—and that, in almost every case, they will come to an end at about four months. The behavioral component has three action steps which guides caregivers on how to respond to crying in order to reduce crying as much as possible and to prevent shaking and abuse. These action steps are:

1. Caregivers should respond with "Comfort, carry, walk and talk" behaviors. This coaches caregivers to increase contact with their infant to reduce some of the fussing, to attend to their infant's needs, and not to neglect them.
2. It is "OK to walk away" (and put the baby in a safe place) if and when the crying becomes too frustrating.
3. It is "Never OK to shake or hurt" your baby to stop its crying under any circumstances.

In Phase II, implementation of the program, the materials will be delivered to every new parent and caregiver in the province. In order to reduce the incidence of shaken baby syndrome provincially, it is imperative that all parents have the information available to them in their first language so they understand it.

Translation of *Period of PURPLE Crying* educational materials: This application is intended to facilitate the translation of both the *Period of PURPLE Crying* pamphlet (see Appendix A) and the accompanying ten-minute DVD (see Appendix B). This is a multi-part process involving both the services of the Provincial Language Service (PLS) and the Learning and Development Department, both located at British Columbia Children's Hospital, and the original film production company based in Utah, USA.

What follows is a brief breakdown of the steps necessary to provide a comprehensive translation of the *Period of PURPLE Crying* booklet as recommended by the PLS.

1. Coordination of bilingual focus group testing (5 Certified interpreters, 1 session) of the English original document.
2. Analyzing the feedback obtained in the focus group sessions regarding thematic differences that may come to light when translating concepts.
3. Translation and proof-reading of the new document into subject language.
4. Coordination of parent unilingual focus group in subject language.
5. Incorporation of additional findings from a parent focus group.
6. Final translation and proof-reading of the document.
7. Back translation by a separate non-biased translator of the new language document into English.
8. Revisions of the final translation based on the findings of the back translation, if any.

Translation of the 10-minute film will require a combination of departments and talents. The original film was produced in the English version by Digital Bytes in Salt Lake City, Utah. It would be cost prohibitive to reproduce the film in multiple languages; therefore a decision has been made to provide voiceover coverage of the materials. This leads to a complex process as some languages may take up to 15% to 20% longer to complete the same sentence. What follows is a breakdown of the steps that are involved. The PLS has suggested that the same translation that was used in the brochure be utilized as much as possible for the film translation even though they are part of a spoken script instead of a written brochure.

1. PLS translator to utilize as much of the findings from the previous focus groups.
2. Translation and proof-reading of film script into new language.
3. Coordination of parent unilingual focus group in subject language.
4. Final translation and proof-reading of the film script.
5. Back translation by a separate non-biased translator of the new language into English.
6. Revisions of the final translation based on the findings of the back translation, if any.
7. Recruitment and securing of one male and one female actor/talent to record the voiceover of the transcript. (It has been recommended that since our video contains at least 2 female and 2 male voices that we procure at the very least one female and one male talent.)
8. Coordination with the Department of Learning and Development at BCCH for the recording and production of the voiceover transcript.
9. Digital Bytes will use the completed voiceover tapes to insert translation into the English film. (This will be a fairly complex job considering that the timing of each voiceover is essential to a cohesive final product.)
10. Written materials will be changed by Digital Bytes as per the translation forwarded by PLS.

The completed product of both the Pamphlet and DVD will ultimately be printed and produced in the large quantities necessary for distribution within the province during Phase II of the prevention program anticipated to start within the year.

Website materials translation: Funding granted from the BC Francophone Affairs Office
The translation for the materials to be added to our website will also be completed through the Provincial Language Services. The information to be translated is important however, does not have the onus of contributing to a cultural change in the intended audience. Therefore, in order to provide the greatest amount of information possible for the website the translation process for this will be less rigorous:

1. Translation and proof-reading of the new document into subject language.
2. Review of translated documents by Bilingual Health Care reviewer.

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31. Barr RG. Crying in context. *Early Development and Parenting* 1995; 4 (4):157-159
34. St.James-Roberts I, Conroy S, Wilsher K. Bases for maternal perceptions of infant crying and colic behaviour. *Archives of Disease in Childhood* 1996; 75:375-384

The *Period of PURPLE Crying*® Program

Public Education Campaign

- The public education campaign is intended to reinforce the *Period of PURPLE Crying* message among parents of infants and to introduce the program to friends, family members (e.g. grandparents) and others involved in the care of infants (temporary caregivers).
- The goal is to bring about a *cultural change* in the way society understands the meaning of increased crying in early infancy, and the dangers of shaking as a response to the frustration with that crying.
- The campaign will be implemented during the 2010-2011 fiscal year.
- The target market will include males aged 18-30 and secondary influencers within the general public.
- Geographic distribution will be BC-wide with a media operations focus in Vancouver.
- Creative material has been developed and tested to include: print advertisement, outdoor advertisement, :30 and :60 radio spots, media outreach tools and a robust website (www.purplecrying.info).
- The campaign will include events in the Lower Mainland, a :30 radio public service announcement or advertisement and possibly a television ad.
- Smak Media & Promotions Inc. has been selected to provide technical services in advertising and public relations.
- LimelitePR has been selected to collaborate on social media (e.g. blogs, facebook, twitter, website leverage).
- There is potential for added-value from the Canadian Broadcasting Corporation (CBC).

Foster Parent Training

What has been completed:

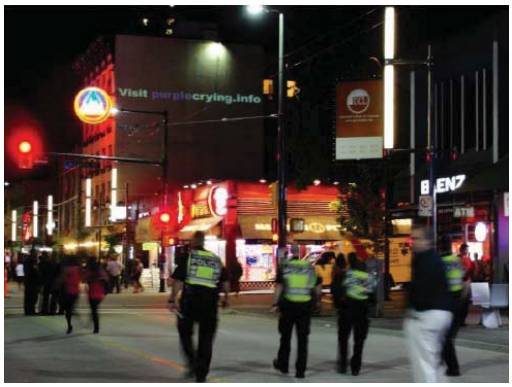
- Prevent Shaken Baby Syndrome BC personnel developed a training package which was mailed out to 1043 foster parents in October, 2009.
- 18 foster parent associations throughout the province were trained to provide *PURPLE* education to foster parents via in-services and Compact Discs.
- Online training which was specifically designed for foster parents was offered.
- To date, a total of 565 foster parents have been trained.

What will be completed:

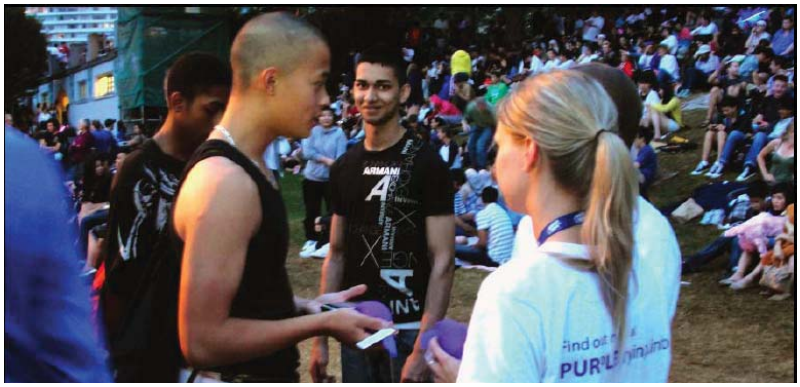
- Ongoing training will be provided 24/7, free of charge via online and Compact Disc.
- Training sessions will be conducted via webinars and in-services as needed.
- Training and implementation reports will be sent to Coordinators/Managers as requested.
- Resource packages will be supplied to newly trained personnel.

BC *Period of PURPLE Crying*® Public Education Campaign

Projection Media – June 2010



Street-Level Media – July 2010



Bus Rack Ads – September 2010

***PURPLE* Knitted Caps** – November 2010

Tear Decals – Spring 2011

Period of PURPLE Crying Training Update

October 1, 2009 to May 31, 2010

B.C. program staff developed a training package which was mailed out to 1043 foster parents in October, 2009. The 18 foster parent associations throughout the province provided PURPLE training to foster parents via in-services and Compact Discs. Online training which was specifically designed for foster parents and was available 24/7 free of charge was also offered. From October 2009 to May 2010, with respect to the online modules, 191 foster parents completed training for a total of 592 trained thus far.

An education program specific to MCFD personnel was developed collaboratively with Jackie Behrens and other leadership. From October 2009 to May 2010, in-services and web conferences were offered weekly. A total of 16 in-services and 11 web conferences were provided. To date, 754 MCFD personnel across the province attended the sessions by these two methods.

Sessions continue to be offered on an ongoing basis as requested.

Community Agencies: Two out of six private adoption agencies in the province completed training and commenced implementation of PURPLE in October, 2009. Military advocacy personnel completed training in January, 2010. Train the trainer sessions were provided to 76 Child Care Resource & Referral personnel throughout the province. Personnel who completed training provide PURPLE education via workshops, classes and consultations to the child care providers and parents they support. Immigration Services Offices who provide MCFD Child Care Subsidy Outreach (BCSAP Stream 1) were contacted individually and offered training in February, 2010. English Language Services for Adults, Affiliation of Multicultural Societies and Service Agencies of BC and their affiliates were also contacted and offered training. The Early Childhood Development Planning Table in Vancouver Coastal completed training in March, 2010. CHIMOS crisis lines and their affiliates who support transition houses completed training in March, 2010. Thirty early childhood educators serving both urban and rural areas throughout the province completed training in May, 2010. Four additional pregnancy outreach and infant development offices completed training online and a total of 95% of their offices currently offer the program. Various Family Services throughout the province implemented the program. PURPLE has been incorporated into the curriculum of six additional post-secondary institutions for Registered Nurses, Licensed Practical Nurses, Midwives, Early Childhood Educators and Community Health Support Personnel. A podcast of the program summary was developed in January, 2010 to supplement student training.

Please be advised that the totals we have on file for the number of foster parents trained only includes those who have completed the training via online modules. The complete list of foster parents who have been trained via online, compact disc and in-person is being tracked individually by each of the 18 foster parent associations.

Period of PURPLE Crying Training Update

April 1, 2010 to October 31, 2010

Foster parents: The 18 foster parent associations in B.C. continue to provide *PURPLE* training to foster parents via in-services and compact discs. Online training is also available 24/7. Our program keeps track of foster parents trained using online services and provides updated reports to the associations as requested.

With respect to the online modules, 66 additional foster parents completed training for a total of 631 trained thus far. Each association keeps track of foster parents trained via in-services and compact discs.

MCFD Personnel: A total of 755 MCFD staff completed training via in-services, compact discs and online modules. Sessions continue to be offered on an ongoing basis as requested.

CCRR: 25 additional CCRR staff completed training for a total of 76 CCRR staff trained across the province.

Child Care Subsidy Outreach (BCSAP Stream 1): 8 out of 23 BCSAP Stream 1 offices completed training.

How does it work? How is it delivered?
The project represents a unique collaboration of birthing hospitals, public heath nurses, and the B.C. Children's Hospital. The B.C. Shaken Baby Prevention Program will be the lead agency and the evaluation will be conducted by the Center for Community Child Health Research of the Child and Family Research Institute (CFRI).

The goals are to create a cultural change in parents' understanding and response to infant crying and a 50 per cent decrease in the number of cases of traumatic brain injury (shaken baby syndrome).

It exploits the unique opportunity that British Columbia provides because of its public health nurse home visitor program, not available anywhere else in North America. It provides a "triple dose" of education about crying and the dangers of shaking an infant.

Parents will receive the information in three ways: (1) in hospital maternity wards after the birth of their baby, (2) by home visitor public health nurses, and (3) through a public education campaign.

In addition, other key health centers, physicians (including family practice, pediatricians and emergency room doctors), early child health specialists, and First Nations, minority and at-risk populations will be specifically targeted and informed about the program.

Where will the funds go? Who is managing the money?
The B.C. Shaken Baby Prevention Program. They are the lead agency and will oversee the delivery of the program.

Is this maintaining the status quo, or is it expanding the program?
2008 will see the launch of the program, following a three-year study period. Program coordinators expect to be able to reach 50 per cent of B.C.'s birthing hospitals and Public Health Units by the end of 2008.

Why the focus on one particular manifestation of child abuse?
Physical abuse is the leading cause of serious head injury and death in children aged 2 and younger. Approximately 20-25 per cent of hospitalized babies who are shaken die. Of those who survive, as many as 80 per cent have significant, life long brain injuries. The costs associated with the initial hospitalization and long term care for victims of shaken baby syndrome are substantial. But the cost in lives lost is incalculable.

How can MCFD ensure that the knowledge and support is actually reaching those that need it? Who is assessing the program's success?
One of this program's defining characteristics is rigourous, ongoing evaluation of its effectiveness. This will take several forms. Rates of head trauma cases among children under two will be closely monitored and close contact with B.C. Child Protection Services will be maintained.

Overall evaluation of the program's penetration will be conducted by the Center for Community Child Health Research of the Child and Family Research Institute (CFRI).

Hospitals and health units will also be able to observe and support new parents at a more individual level through home visiting.

After the program is implemented, coordinators will conduct a telephone survey of a sample of parents of newborns to ascertain their exposure to the *PURPLE* intervention (hospital, home visitor, and media campaign), their recollection and understanding of the messages, their ways of caring for a crying infant, and if they have shared their knowledge about infant crying with other caregivers.

Additionally, the program materials have been translated into Cantonese, Punjabi, Spanish, Korean, Vietnamese, French and Japanese.

Does this program bring child protection services and health care professionals into one, better-integrated loop?
Yes. Public health nurses and birthing hospital staff are crucial to the delivery of the program, as they form the most direct link to new parents. This program connects these health professionals to B.C. Child Protection Services and the Canadian Pediatric Surveillance System.

Regional Child Protection Services teams across B.C. have been meeting regularly with Shaken Baby Prevention Program coordinators for the last 4 years. Coordinators will maintain active surveillance via the child protection teams. Data from chart reviews for all abusive injuries in children younger than 2 years of age will be monitored.

Cases reported in the Canadian Pediatric Surveillance Program (CPSP) will also be reviewed. The CPSP collects cases from B.C. and across Canada through a monthly mail out to all pediatricians in Canada. Program coordinators will use this system to obtain B.C.-specific and national rates from the CPSP.

Why is a B.C.-led program using a DVD produced in the US?
The centre at B.C. Children's is affiliated with the national centre in Colorado. The research is North American-based, not just B.C.-based. Thankfully there aren't enough cases in B.C. alone to make it practical for such research.

Are there plans to produce any B.C.-based footage?
Not currently. In 2004-2007 major product development and testing of the *Period of PURPLE Crying* Prevention Program materials took place. The materials were refined through 28 parent and professionals' focus groups lead by independent focus leaders. Participants in the parent focus groups included mothers and fathers of infants between 4 weeks and 8 months of age from a wide variety of backgrounds (racial, economic and family makeup).

The focus groups included 16 for mothers, 2 for fathers, 1 First Nations, 2 Chinese, 2 Punjabi, 3 Spanish and 2 Korean. At the First Nations parent focus group there were 13 parents, both mothers and fathers and an elder. They indicated at that group that they felt the materials were very culturally sensitive and relevant to them. The Elder said at the meeting, “this program should be given to every family, everywhere.”

From: Locke, Jennifer MCF:EX
Sent: Thursday, July 3, 2008 12:19 PM
To: Stevanovic, Aleksandra MCF:EX
Cc: Ames, Andrea M MCF:EX
Subject: RE: Progress Report - Operational Plan clarification

Hi Andrea, Hi Aleks,

I was just reviewing our MCFD Training Implementation Plan for The Period of PURPLE Crying when I received this note.

I am working with Jocelyn Conway from SBS BC to start rolling out the training to Social Workers, Outreach Service Providers and Foster Parents. We are hoping to complete the roll out by Spring 2009. There will be three methods of training available to these groups, In-Service Trainings, Video Conferencing or GoTo Meetings (computer-based meeting) and Online training modules.

I don't know what the reference to the Foster Parent training in the Prince George/Quenel area is in relation to the Period of PURPLE Crying program is.

Please call or email with any questions…

Jennifer Locke B.S.W.
Project Manager
Regional Council Support Team - MCFD
101-10221 153rd Street
Surrey, BC V3R 0L7

☎ Phone: (604) 586-4328
Fax: (604) 586-4153
Email: Jennifer.Locke@gov.bc.ca

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From: Stevanovic, Aleksandra MCF:EX
Sent: Thursday, July 3, 2008 12:10 PM
To: Locke, Jennifer MCF:EX
Cc: Ames, Andrea M MCF:EX
Subject: FW: Progress Report - Operational Plan clarification

Hi Jennifer,

I provided an update on the SBS program to Andrea - see below. If you feel that you would like to add a piece related to MCFD training, or some other info, pls. do so and send to Andrea. Or, that piece could be our next update. Thanks

Regards,

Aleksandra Stevanovic
Manager
Early Years
Ministry of Children and Family Development
836 Yates Street, 3rd Floor
Victoria, BC V8W 9S5

Tel: (250) 387-1440 Fax: (250) 356-2528
Aleksandra.Stevanovic@gov.bc.ca

From: Stevanovic, Aleksandra MCF:EX
Sent: Thursday, July 3, 2008 11:13 AM
To: Hedlund, Marilyn MCF:EX
Cc: Ames, Andrea M MCF:EX; Mathews, Penny MCF:EX
Subject: RE: Progress Report - Operational Plan clarification

Hi -

The progress report on the Shaken Baby Syndrome prevention program is embedded below.

Thanks

Regards,

Aleksandra Stevanovic
Manager
Early Years
Ministry of Children and Family Development
836 Yates Street, 3rd Floor
Victoria, BC V8W 9S5
Tel: (250) 387-1440 Fax: (250) 356-2528
Aleksandra.Stevanovic@gov.bc.ca

From: Hedlund, Marilyn MCF:EX
Sent: Thursday, July 3, 2008 8:30 AM
To: Stevanovic, Aleksandra MCF:EX
Cc: Ames, Andrea M MCF:EX; Mathews, Penny MCF:EX
Subject: FW: Progress Report - Operational Plan clarification

Aleks, please see request for update on purple crying and safe babies - thanks.

From: Mathews, Penny MCF:EX
Sent: Thursday, July 3, 2008 8:17 AM
To: Ames, Andrea M MCF:EX
Cc: Hedlund, Marilyn MCF:EX; Mjolsness, Randi L MCF:EX
Subject: FW: Progress Report - Operational Plan clarification

Morning Andrea - as per Mark's note attached , I have copied Marilyn Hedlund & Randi Mjolsness on this note so they are aware of your request and can respond directly to you.

Penny Mathews
Executive Assistant
Ministry of Children & Family Development
Integrated Policy & Legislation Team
PO Box 9721, STN PROV GOVT (4th Fl, 765 Broughton St)
Victoria, BC V8W 9S2

Phone: 250 387-3006 Fax: 250 356-6534

E-mail Address: **Penny.Mathews@gov.bc.ca**

From: Sieben, Mark MCF:EX
Sent: Thursday, July 3, 2008 8:12 AM
To: Mathews, Penny MCF:EX
Subject: RE: Progress Report - Operational Plan clarification

The first two are really more on Marilyn's side. I've stayed in the loop on the purple crying initiative but we don't manage it day to day. Alex S. is the contact in the early years area. Safe babies is likely through the same. Contact on cysn item is Randi.

Mark Sieben
Chief Operating Officer
Ministry of Children and Family Development
PO Box 9707 Prov Govt
Victoria, BC V8W 9S1
Phone (250)387-3006 Fax: (250)387-7421
Mark.Sieben@gov.bc.ca

From: Mathews, Penny MCF:EX
Sent: Thursday, July 3, 2008 8:08 AM
To: Sieben, Mark MCF:EX
Subject: FW: Progress Report - Operational Plan clarification
Importance: High

For your review & direction.

From: Ames, Andrea M MCF:EX
Sent: Wednesday, July 2, 2008 3:35 PM
To: Mathews, Penny MCF:EX
Cc: Sasvari, Frances MCF:EX
Subject: Progress Report - Operational Plan clarification
Importance: High

Hi Penny - would you be so kind as to follow-up with Mark or direct the following to the appropriate person for clarification on this Progress reported in the Operational Plan?
We need responses no later than noon on Monday but sooner would be preferrable.

Thank you so much Penny

Action 1.5- Progress: ***[Overall Status =P]***

- The Purple Crying Initiative, a joint initiative with the Ministry of Health, was launched in the Spring of 2008. The initiative was developed to heighten awareness of shaken baby syndrome. *[This re-states the Milestone -For progress we need to state what has happened since the implementation]*

- *The Prevent Shaken Baby Syndrome program is moving ahead in two phases:*

1) Training of maternity and hospital nurses and midwives on the Purple Crying materials; and

2) Implementation of the program - providing the Purple Crying materials and information to parents.

- Provincial Health Services Authority - BC Women's and Children's Hospital - has been trained and has started the implementation of the program;

- Most of the hospitals and health units in the Vancouver Coastal Health Authority, Fraser Health Authority and Vancouver Island Health Authority have been trained and have started implementing the program.

- Northern Health Authority and the Interior Health Authority are in the process of organizing groups and scheduling training.

- Midwives are currently receiving training both in-person, as well as online, for home births and hospital births.

- In The Prince George/Quesnel area, Safe Babies training and other training initiatives with Foster Parents is provided. *[Are these new - how long have these been taking place? - Is there anything in terms of progress related to this deliverable that we can add?]*

Action 3.1 - Progress:

- The review of cross-ministry school-aged protocols for CYSN is underway, directed by a cross-ministry steering committee, and a plan for consultation is under development. *[what is the timeline? When did the review begin?]*

Andrea Ames BSc. MPA PCMP _
Project Manager, Transformation
Ministry of Children & Family Development
Phone: (250) 387-7803
Fax: (250) 920-6320

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Ministry of Children and Family Development

Resource Needs Assessment Checklist

This form provides Expense Authorities with options to consider so you can make informed decisions on how to best meet your human resource requirements before contracting out. Information systems development and maintenance are excluded.

⇒ This arrow represents resources who can be contacted for guidance and advice.

Resource Requirement (☑ applicable box)	⇒ **Support: Contact the applicable program area to determine availability of existing Ministry capacity or cross government resource**

- ❑ Human Resources including training
- ❑ Project Management
- ❑ Information Technology Operations
- ❑ Communications
- ❑ Research
- ❑ Other _____ Please Specify

STAFFING OPTIONS

OPTION #	RESOURCE TYPE	PROCESS	SUPPORT
1	Existing Ministry capacity or Cross Government Resource	▸ Work with program area contact and Provincial Office Strategic Human Resources ▸ Resources may be shared across departments and regions in which case arrangements will be made to share costs	▸ Provincial Office Strategic Human Resources ▸ BC Public Service Agency Human Resource Consultant
2	Create new regular position	▸ Follow BC Public Service Agency hiring process or Ministry SHR (for excluded)	
3	Auxiliary or Co-op Hire		
4	Secondment Agreement	▸ Follow BC Public Service Agency and Strategic Human Resources secondment policy ▸ Complete Request for Secondment Approval form (CF2510)	

CONTRACTING OPTION

Option #5 - Contracting Out	⇒ **Support: Provincial Office Procurement Governance and Policy Team**

- ▸ Complete Request for Contract Approval form CF2511(RCA) and attach appropriate procurement and contract documentation. Refer to April 20, 2007 implementation memo #163558.

Hiring/Budget Allocation Approval
(☑ check applicable box and sign)

⇒ **Support: Provincial Office Financial Officer**

❑ Is this a reinvestment of funds to build internal capacity

- ☐ Option 1 ☐ Option 2 ☐ Option 3 ☐ Option 4
- Estimated cost of the proposed resource(s) $ _____
- ☑ Approval to release requested amount of proposed resource from STOB 60/61 (Option 5)
- 2007/08 budget allocation for STOBs 60/61 $ 245,440 _____
- 2007/08 contract commitment $ 195, 824 _____
- Remaining balance to STOBs 60/61 $ 49,616 _____

Recommended by:

Expense Authority signature: _____ **Date:** _____

Approved by Assistant Deputy Minister (ADM):

ADM: _____ **Date:** _____

NOTE:

- **Approval can be done by e-mail and should be noted on this form with a copy of the approved e-mail attached.**
- **Funding release threshold currently under review.**

Distribution:
Original – Contract File
Copy 1 – Financial Planning and Reporting
Copy 2 – Strategic Human Resources
Copy 3 – Procurement Governance and Policy Team

Deleted: _____

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September to December 2009

Prevent Shaken Baby Syndrome BC

A program of BC Children's Hospital

Prevent Shaken Baby Syndrome (SBS) BC, a program of BC Children's Hospital is responsible for the implementation of this prevention initiative and is funded primarily by the Ministry of Children and Family Development.

The ***Period of PURPLE Crying***® is an evidence-based shaken baby syndrome prevention program currently being implemented in the province. The program materials (a 10-minute DVD and 11-page booklet) are provided to all new parents by hospital maternity nurses. All foster parents who care for, or could potentially care for, children 3 years of age and under will receive these materials in early September, 2009.

Current foster parents regardless of children's age are asked to complete training that is provided through an on-line method and is advertised through the Regional foster parent support organizations. This training comprises a 25-minute narrated presentation on the background of the program and a viewing of the DVD. A ***Certificate of Completion*** is downloadable and the foster parent is asked to give a copy to their Resource Social Worker for inclusion in their file.

Social Worker Training for this program (which is substantially different than the foster parent training) is presently being provided to all Ministry staff by Prevent SBS BC through two methods: on-line web-conference or in-person. In order to increase foster parent awareness of this program and its training component Resources Teams have been identified as a priority to receive this training in the fall of 2009.

Foster parent comments

"This program is extremely valuable for everyone caring or not for infants. It explains crying to non-caregivers and that is important as well. I wish there were more training programs for foster parents of this nature so that we can participate from home while our children are sleeping or otherwise engaged in their routines! Good work!"

"I found it to be very informative. The one thing it stressed to me was, although I am able to not get frustrated, to make sure the person I leave the child with is able to stay in control and not get frustrated."

Team Leaders, to confirm a date for your training session for your Teams please connect with Jocelyn Conway, Provincial Coordinator of Prevent SBS BC by phone at 604-875-2000 loc. 5344 or by email at jconway@cw.bc.ca.

New foster parents will receive training on this new program during the 53 hour course requirement beginning in September, 2009. In order to encourage quick uptake of this program and provide this new prevention information, please refer your foster parent to their support organization to be trained on this program and receive their certificate and materials ***before placing a new infant in a home***. Resource Teams will be provided a copy of the *PURPLE* materials as a reference guide material.

If you have any questions or need further information regarding this training initiative please connect with Jackie Behrens, Program Manager, and Regional Council Support Team by phone at 250-356-2896 or by email at Jackqueline.Behrens@gov.bc.ca

September to December 2009

Prevent Shaken Baby Syndrome BC

A program of BC Children's Hospital

Prevent Shaken Baby Syndrome (SBS) BC, a program of BC Children's Hospital is responsible for the implementation of this prevention initiative and is funded primarily by the Ministry of Children and Family Development. The ***Period of PURPLE Crying***® is an evidence-based shaken baby syndrome prevention program currently being implemented in the province. All foster parents who care for, or could potentially care for, children 3 years of age and under have already received these materials.

Social Worker Training for this program (which is substantially different than the foster parent training) is presently being provided to all Ministry staff by Prevent SBS BC through two methods: **on-line web-conference** or **individual on-line module**. In order to increase foster parent awareness of this program and its training component Resources Teams have been identified as a priority to receive this training in the fall of 2009.

Team Leaders, to confirm a date for your **on-line web-conference** training session for your Teams please connect with Jocelyn Conway, Provincial Coordinator of Prevent SBS BC by phone at 604-875-2000 loc. 5344 or by email at jconway@cw.bc.ca.

Period of PURPLE Crying Training Sessions					
Dec 1 (Tue) 10:30 am	Dec 1 (Tue) 1:30 pm		Dec 2 (Wed) 1:30 pm		
Dec 8 (Tue) 10:30 am	Dec 8 (Tue) 1:30 pm	Dec 9 (Wed) 10:30 am	Dec 9 (Wed) 1:30 pm	Dec 10 (Thu) 10:30 am	Dec 9 (Thu) 1:30 pm
Dec 15 (Tue) 10:30 am	Dec 15 (Tue) 1:30 pm	Dec 16 (Wed) 10:30 am	Dec 16 (Wed) 1:30 pm	Dec 17 (Thu) 10:30 am	Dec 17 (Thu) 1:30 pm
Dec 22 (Tue) 10:30 am	Dec 22 (Tue) 1:30 pm	Dec 23 (Wed) 10:30 am	Dec 23 (Wed) 1:30 pm	Dec 24 (Thu) 10:30 am	Dec 24 (Thu) 1:30 pm

The **individual on-line module** training is available at any time. These are the instructions for accessing the training.

Step-by-Step Access to On-Line MCFD *PURPLE* Training

1. To access training you must start at this website: http://www.dontshake.ca/lms_index.php or goto www.dontshake.ca and chose the On-Line Training Centre button on the Menu Bar.

Resources: Team Leader and Social Worker Training Events

September to December 2009

Prevent Shaken Baby Syndrome BC

A program of BC Children's Hospital

2. On the bottom right hand side enter your username and password **based on your region** as listed: The username and password are the same.
   Fraser – mcfdf
   Interior – mcfdi
   Northern – mcfdn
   Vancouver Coastal – mcfdvc
   Vancouver Island – mcfdvi
3. Fill out the short registration form with your name, email address and phone number to register.
4. Open the MCFD training course and follow the links and instructions for listening to the presentation.
5. Choose the link to the view the *PURPLE Crying* DVD.
6. Complete the short training evaluation and forward any questions or comments

If you have any questions or need further information regarding this training initiative please connect with Jackie Behrens, Program Manager, and Regional Council Support Team by phone at 250-356-2896 or by email at Jackqueline.Behrens@gov.bc.ca

Period of PURPLE Crying®

MCFD Team Leader and Social Worker Training

Provided by

Prevent Shaken Baby Syndrome BC, a program of BC Children's Hospital

Prevent Shaken Baby Syndrome (SBS) BC, a program of BC Children's Hospital is responsible for the implementation in British Columbia of the evidence-based shaken baby syndrome prevention program, ***Period of PURPLE Crying®***. All foster parents who care for, or could potentially care for, children 3 years of age and under received information on how to access ***Period of PURPLE Crying®*** training on the intranet and also a DVD providing information on the initiative via mail during the Fall of 2009.

Social Worker Training for this program (which is substantially different than the foster parent training) continues to be provided to all Ministry social workers by Prevent SBS BC. In order to increase foster parent awareness of this program and its training component Resource Teams have been identified as a priority to receive this training commencing in the late Fall of 2009.

There are 2 ways MCFD social workers can obtain the training:

1. **On-line web-conference –** a 45 minute ***group*** web based session hosted by Prevent SBS BC staff.
   Team leaders can confirm a suitable date for their team to attend an on-line web-conference by contacting Jocelyn Conway, Provincial Coordinator of Prevent SBS BC at 604-875-2000 loc 5344 or by e-mail at jconway@cw.bc.ca. (if these dates don't work let us know what does)

   The following table lists some suggested times.

Period of PURPLE Crying Training Sessions					
Dec 8 (Tue) 10:30 am	Dec 8 (Tue) 1:30 pm	Dec 9 (Wed) 10:30 am	Dec 9 (Wed) 1:30 pm	Dec 10 (Thu) 10:30 am	Dec 9 (Thu) 1:30 pm
Dec 15 (Tue) 10:30 am	Dec 15 (Tue) 1:30 pm	Dec 16 (Wed) 10:30 am	Dec 16 (Wed) 1:30 pm	Dec 17 (Thu) 10:30 am	Dec 17 (Thu) 1:30 pm
Dec 22 (Tue) 10:30 am	Dec 22 (Tue) 1:30 pm	Dec 23 (Wed) 10:30 am	Dec 23 (Wed) 1:30 pm	Dec 24 (Thu) 10:30 am	Dec 24 (Thu) 1:30 pm
Jan 5 (Tue) 10:30 am	Jan 5 (Tue) 1:30 pm	Jan 6 (Wed) 10:30 am	Jan 6 (Wed) 1:30 pm	Jan 7 (Thu) 10:30 am	Jan 7 (Thu) 1:30 pm
Jan 12 (Tue) 10:30 am	Jan 12 (Tue) 1:30 pm	Jan 13 (Wed) 10:30 am	Jan 13 (Wed) 1:30 pm	Jan 14 (Thu) 10:30 am	Jan 14 (Thu) 1:30 pm
Jan 19 (Tue) 10:30 am	Jan 19 (Tue) 1:30 pm	Jan 20 (Wed) 10:30 am	Jan 20 (Wed) 1:30 pm	Jan 21 (Thu) 10:30 am	Jan 21 (Thu) 1:30 pm
Jan 26 (Tue) 10:30 am	Jan 26 (Tue) 1:30 pm	Jan 27 (Wed) 10:30 am	Jan 27 (Wed) 1:30 pm	Jan 28 (Thu) 10:30 am	Jan 28 (Thu) 1:30 pm

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CFD-2011-00442
Phase 3

2. **Individual on-line module -** a 45 minute session available at any time by following these step by step instructions:

    1. To access training go to this website: http://www.dontshake.ca/lms_index.php

    2. On the bottom right hand side enter your username and password **based on your region** as listed: (The username and password are the same.)

Region	Username	Password
Fraser	mcfdf	mcfdf
Interior	mcfdi	mcfdi
North	mcfdn	mcfdn
Vancouver Coastal	mcfdvc	mcfdvc
Vancouver Island	mcfdvi	mcfdvi

    3. Fill out the short registration form with your name, email address and phone number to register.

    4. Open the MCFD training course and follow the links and instructions.

    5. Choose the link to the view the *PURPLE Crying* DVD.

    6. Complete the short training evaluation and forward any questions or comments.

If you have any questions or need further information regarding this training initiative please connect with Jackie Behrens, Project Manager, Regional Council Support Team by phone at 250-356-2896 or by email at Jackqueline.Behrens@gov.bc.ca

Resources: Team Leader and Social Worker Training Events

September to December 2009

Prevent Shaken Baby Syndrome BC

A program of BC Children's Hospital

Prevent Shaken Baby Syndrome (SBS) BC, a program of BC Children's Hospital is responsible for the implementation of this prevention initiative and is funded primarily by the Ministry of Children and Family Development.

The ***Period of PURPLE Crying***® is an evidence-based shaken baby syndrome prevention program currently being implemented in the province. The program materials (a 10-minute DVD and 11-page booklet) are provided to all new parents by hospital maternity nurses. All foster parents who care for, or could potentially care for, children 3 years of age and under will receive these materials in early September, 2009.

Current foster parents regardless of children's age are asked to complete training that is provided through an on-line method and is advertised through the corresponding foster parent support organizations for the regions. This training comprises a 25-minute narrated presentation on the background of the program and a viewing of the DVD. A ***Certificate of Completion*** is downloadable and the foster parent is asked to give a copy to their Resource Social Worker for inclusion in their file.

Social Worker Training for this program (which is substantially different than the foster parent training) is presently being provided to all Ministry staff by Prevent SBS BC through two methods: on-line web-conference or in-person. In order to increase foster parent awareness of this program and its training component Resources Teams have been identified as a priority to receive this training in the fall of 2009.

Foster parent comments

"This program is extremely valuable for everyone caring or not for infants. It explains crying to non-caregivers and that is important as well. I wish there were more training programs for foster parents of this nature so that we can participate from home while our children are sleeping or otherwise engaged in their routines! Good work!"

"I found it to be very informative. The one thing it stressed to me was, although I am able to not get frustrated, to make sure the person I leave the child with is able to stay in control and not get frustrated."

Team Leaders, to confirm a date for your training session for your Teams please connect with Jocelyn Conway, Provincial Coordinator of Prevent SBS BC by phone at 604-875-2000 loc. 5344 or by email at jconway@cw.bc.ca.

New foster parents will receive training on this new program during the 53 hour course requirement beginning in September, 2009. In order to encourage quick uptake of this program and provide this new prevention information, please refer your foster parent to their support organization to be trained on this program and receive their certificate and materials ***before placing a new infant in a home***. Resource Teams will be provided a copy of the *PURPLE* materials as a reference guide material.

If you have any questions or need further information regarding this training initiative please connect with Jackie Behrens, Program Manager, and Regional Council Support Team by phone at 250-356-2896 or by email at Jackqueline.Behrens@gov.bc.ca

September to December 2009

Prevent Shaken Baby Syndrome BC

By British Columbia Children's Hospital

Prevent Shaken Baby Syndrome BC, a program of BC Children's Hospital is responsible for the implementation of this prevention initiative and is funded primarily by the Ministry of Children and Family Development.

The *Period of PURPLE Crying*® is an evidence-based shaken baby syndrome (SBS) prevention program currently being implemented in the province. It is unique among SBS prevention efforts in several important ways: (1) it approaches prevention through educating parents and the community about *normal infant development*, specifically, crying in normal infants, rather than being limited to warnings of the negative consequences of shaking; (2) it uses highly attractive, *positive* messages for caregivers; (3) it aims to bring about a *cultural change* in our understanding of infant crying in caregivers and the community generally; and (4) it is designed to *increase "penetration rates"* to caregivers and be widely acceptable to health care professionals and groups disseminating the intervention.

Prevent Shaken Baby Syndrome BC, an education and prevention program of BC Children's Hospital is delivered to ALL newborn parents through maternity nurses in all hospitals. To ensure all Foster Parents, who care for infants receive this same information, a training program has been developed that includes a 10-minute DVD and 11-page booklet.

Foster parent training is presently being provided through an on-line method and this is advertised through the corresponding foster parent support organization for the regions. This training comprises a 25-minute narrated presentation on the background of the program and a viewing of the DVD. A ***Certificate of Completion*** is downloadable and the foster parent is asked to give a copy to their Resource Social Worker for inclusion in their file. When this training has been completed the foster parent receives a copy of the *PURPLE* DVD and 11 page booklet at no cost to them.

Social Worker Training is presently being provided through an on-line GOTO training method. To increase the awareness of this training program available to our Foster Parents, Resources Teams have been identified as a priority to receive this training in the fall of 2009. Attached is a script for Resource Social Workers to refer to if you want to introduce this training to a Foster Parent should the need arise before you get your training. Each Resource Team will be offered a copy of the *PURPLE* materials as a reference guide material once the 45 minute training session has been delivered by Children's Hospital Staff. ***Team Leaders,*** to confirm a date for your training session for your Teams please connect with Jocelyn Conway, Provincial Coordinator of Prevent SBS BC by phone at 604-875-2000 loc. 5344 or by email at jconway@cw.bc.ca

If you have any questions or need further information regarding this training initiative please connect with Jackie Behrens, Program Manager, and Regional Council Support Team by phone at 250-387-2829 or by email at Jackqueline.Behrens@gov.bc.ca

Period of PURPLE Crying® Program
Resource Social Worker
Script to Foster Parents
The *Period of PURPLE Crying®:*

A New Way to Understand Your Baby's Crying

A program of the
National Center on Shaken Baby Syndrome, USA
Offered by
Prevent Shaken Baby Syndrome BC, a program of BC Children's Hospital

3 Minute Script

1. Introduction

- **A.** I am going to talk about something very important called the *Period of PURPLE Crying*. It is a new way to understand your baby's crying.
- **B.** I strongly recommend you watch this DVD and read this booklet when you get home because the information will be valuable to you.

2. Normal infant crying

- **A.** Infant crying increases at about 2 weeks, peaks at 2-3 months, and declines by 5 months. Some babies cry as long as 5 hours a day while others cry less than 20 minutes a day. This is normal. This early crying time is what we now call the ***Period of PURPLE Crying***.
- **B.** Since there is no way to tell how much your baby will cry during the *Period of PURPLE Crying*, you are receiving this booklet and DVD to take home with you. These materials explain that the letters in the word *PURPLE* stand for all the things about normal crying that are frustrating for parents and caregivers.
- **C.** If you are concerned about your baby's crying, **it is important to have your doctor examine your baby** to be sure he/she is OK. However, if he/she is growing, not sick, or does not display other problematic symptoms, then he/she is very likely going though the *Period of PURPLE Crying,* and it will come to an end at about 4-5 months.

3. Remember that shaking is the most dangerous thing anyone can do to a baby.

- **A.** Even mild shaking can cause brain damage and hard shaking can be deadly. It is also important to remember that activities such as bouncing the baby on the knee or jogging with the baby in the stroller, will not cause the injuries mentioned.

4. Make sure you tell others about the *Period of PURPLE Crying*.

- **A.** Do not leave your baby with someone who gets frustrated easily.
- **B.** Show everyone the booklet and DVD before they care for your baby.
- **C.** Don't be embarrassed to tell them. It can save your baby's life.
- **D.** If you feel uncomfortable about this you can tell them that your social worker told you to have anyone caring for your baby read the booklet and watch the DVD before they take care of your baby.

September to December 2009

Prevent Shaken Baby Syndrome BC
A program of BC's Children's Hospital

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Current foster parents regardless of children's age are asked to complete training that is provided through an on-line method and is advertised through the corresponding foster parent support organizations for the regions. This training comprises a 25-minute narrated presentation on the background of the program and a viewing of the DVD. A ***Certificate of Completion*** is downloadable and the foster parent is asked to give a copy to their Resource Social Worker for inclusion in their file.

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Foster parent comments

"This program is extremely valuable for everyone caring or not for infants. It explains crying to non-caregivers and that is important as well. I wish there were more training programs for foster parents of this nature so that we can participate from home while our children are sleeping or otherwise engaged in their routines! Good work!"

"I found it to be very informative. The one thing it stressed to me was, although I am able to not get frustrated, to make sure the person I leave the child with is able to stay in control and not get frustrated."

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If you have any questions or need further information regarding this training initiative please connect with Jackie Behrens, Program Manager, and Regional Council Support Team by phone at 250-387-2829 or by email at Jackqueline.Behrens@gov.bc.ca

BRITISH COLUMBIA

November 14, 2007

Jocelyn Conway, Provincial Coordinator
Prevent SBS British Columbia
4480 Oak St Rm K1-209
Vancouver BC V6H 3V4

Dear Ms. Conway:

Enclosed please find one fully signed original contract, with revisions and MCFD approval of revisions.

I have sent one fully signed contract as above to our Financial Office in order to get this contract set up so we can make payments on your invoices when you send them to us.

The third contract is my contract file.

Sincerely,

Terre Poppe
Office Manager

Enclosure

Ministry of Children and Family Development

Early Years Team

Mailing Address:
PO Box 9778 Stn Prov Govt
Victoria, BC V8W 9S5

Telephone: 250 953-4809
Facsimile: 250 356-2528
Web: http://www.gov.bc.ca/mcf

Location Address:
3rd Floor - 836 Yates
Victoria, BC V8W 1L8

BRITISH COLUMBIA

December 11, 2008

Children's and Women's Health Centre of British Columbia
c/o Anita Chiu, Financial Director
Child and Family Research Institute
A2 - 145
950 West 28th Ave
Vancouver BC V5Z 4H4

Dear Ms. Chiu:

Enclosed please find cheque #10984394 in the amount of $154,654.00 to pay invoice #CFRI-09-F07-09 on Contract #XLR167974, MCFD – Shaken Baby Syndrome Prevention.

Sincerely,

Terre Poppe
Office Manager
Early Years

Enclosure

Ministry of Children and Family Development

Early Years Team

Mailing Address:
PO Box 9778 Stn Prov Govt
Victoria, British Columbia
V8W 9S5

Telephone: 250 953-4809
Facsimile: 250 356-2317
Web: http://www.gov.bc.ca/mcf

Location Address:
3rd Floor - 836 Yates
Victoria, British Columbia
V8W 1L8

Preventing Shaken Baby Syndrome and Infant Abuse:
The *Period of PURPLE Crying* Program

Evaluation of Effectiveness

The implementation is evaluated for its effectiveness in attaining the three primary goals of the intervention; namely,

1. Attaining a "penetration" rate of 90-95% of mothers of newborn infants;
2. Reducing the incidence of shaken baby syndrome and/or infant abuse by 50%;
3. Achieving a cultural change in the understanding of early infant crying and its relationship to shaken baby syndrome.

Following the recommendations of the Seattle conference on Measuring the Incidence of Inflicted Childhood Neurotrauma (Shaken Baby Syndrome) in October of 2006, SBS employed a "mixed method" approach to evaluating effectiveness to provide as accurate an assessment of effectiveness as is possible for a moderate cost. The components of the evaluation include:

1. An active surveillance system of all traumatic head injury in children less than 2 years of age admitted to BC Children's Hospital;
2. An active surveillance system of all cases of infant abuse in children of less than 2 years of age known to the 5 Child Protection Service units in BC;
3. A review of BC Coroner's cases from 2002 through 2010;
4. A passive surveillance system of all abusive injuries and subtypes of abusive injuries using administrative data sets of hospital discharges (separations) for BC and the rest of Canada through the Canadian Institute of Health Information (CIHI)
5. Cases reported in the Canadian Pediatric Surveillance System, that includes BC and the rest of Canada;
6. Process evaluation, including (a) general population awareness through an Ipsos-Reid poll of change in community knowledge concerning crying and shaking; (b) documentation of program penetration rates, probably through public health unit administrative data; and (c) 6-month recall by parents receiving *PURPLE* program.

1. Active surveillance of traumatic head injury in children less than 2 years of age.

a. **Evaluative Component Overview:**

The first evaluative component for SBS is an active surveillance of traumatic head injury in children less than 2 years of age. In collaboration with pediatric neurosurgeon Dr. Ash Singhal and the department of neurosurgery at BC Children's Hospital (BCCH), active surveillance of all cases of all ages of traumatic head injury commenced in August, 2006. This includes all cases that are admitted, as well as occasional cases in other hospitals that consult at a distance with the Department and with Dr. Singhal. Since BCCH is the only pediatric hospital in the province, all cases of significant head trauma are referred for evaluation and treatment. Occasional "parked" cases at other hospitals are

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sometimes not transferred, but come to the attention of the neurosurgery department.

Although all cases of abusive head trauma are tracked, for purposes of outcomes for *PURPLE* implementation, SBS uses all cases of children less than 2 years of age. Cases of abuse are determined for the majority through referral to the Child Protection Team at the hospital. However, following the protocol of Keenan (Keenan et al., 2003), all cases are reviewed for determination of abuse by an expert panel from an abstracted and personal ID stripped record. Cases are classified as Definite, Probable, Questionable and Non-inflicted Head Injury. Following Keenan, (Keenan et al., 2003) all cases of "inflicted" head injury are sub- classified as Shaken Baby Syndrome, Shaken Impact Syndrome and Battered Child with Inflicted Brain Injury, as well as Abusive Head Injury (with or without evidence of brain injury). Only "depersonalized" data is included in the Inflicted Childhood Neurotrauma data set for analysis.

Primary outcome measures include annual rates of Abusive Brain Injury and Head Injury/100,000 person-years, and ratio of Abusive: Non-abusive Head Injury.

b. **Evaluative Component Update:**

The Active Surveillance system for prospective ascertainment of head trauma admissions for children under 2 to BCCH is established and running. Active Surveillance has been capturing all head injury cases for all children less than 2 years old at BC Children's Hospital since August, 2006. In the past 2 years, 36 head injury cases were admitted to the hospital, roughly 1.5 patients per month. Of these 36 patients, 14 were referred to the Child Protection Services (CPS). In 2007/08, there were 26 head injury cases and 11 were referred to CPS. Two cases were reviewed by the expert panel to determine if there was child abuse involvement. The cases that were referred to CPS will be reviewed by an expert panel in collaboration with the CPS Team of professionals, (9.2).

2. **Active Surveillance of all cases of infant abuse in children under 2 years of age in 5 Child Protection Services in BC**.

a. **Evaluative Component Overview:**

BC has five regional CPS, the largest of which is at BCCH (Dr. Jean Hlady, Director). The others are in Prince George, Surrey, Kamloops, and Victoria. All of the teams network, and have 4 meetings together annually. We have reported to each of their meetings for the last 4 years, and they are all aware of the evaluation (Phase I) and implementation (Phase II) of the Period of PURPLE Crying prevention program. As with head injuries, the vast majority of abusive head injury cases are referred to and seen at BCCH. However, we will maintain active surveillance with all five teams. Depersonalized data from chart reviews for all abusive injuries in children less than 2 years of age will be included for analysis. Primary outcome measures will be annual rate of abusive

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injuries/100,000 person-years, and more specifically the annual rate of abusive head injuries/100,000 person-years.

b. Evaluative Component Update;

Data transfer protocol with the five CPS units in the province for surveillance of all cases of known abuse in children under two years of age has been extensively worked on for the first year. This proved to be a much more challenging task than anticipated because of incompatibility in data field structures. However, a standard process has now been established and pilot tested. This includes regular face to face meetings with the CPS staff at the BCCH to verify "caseness". After another 6 months we will begin to extend the process to the other 4 CPS units in the province, (9.5).

3. Reviews of BC Coroner's Cases 2002-2010.

a. **Evaluative Component Overview;**

Cases of abusive head trauma and shaken baby syndrome who die may or may not be included in hospital active or passive surveillance systems. In order to ascertain all deaths, all cases of children less than 2 years of age who die from abusive or "undetermined" causes are reviewed. If there is presence of head or brain trauma, evidence of abuse (definite, probable, questionable, non-abuse) is determined. Probable and questionable cases are reviewed by an expert panel. Only "depersonalized" data are included in the Inflicted Childhood Neurotrauma data set for analysis. The primary outcome measure is annual rate death due to Abusive Brain Injury and Head Injury/100,000 person-years.

b. **Evaluative Component Update;**

Application documents for the BC Coroner's data for active surveillance of deaths due to AHT has been submitted and approved in principle. Actual activation of the protocol has been delayed by the BC Coroner's Office because of other internal priorities for use of Coroner's records. We anticipate implementation of the protocol in November/December 2008, (9.6).

4. Passive surveillance of all abusive injuries and subtypes of abusive injuries using administrative data sets of hospital discharges (separations) for BC and the rest of Canada through the Canadian Institute of Health Information (CIHI).

a. Evaluative Component Overview;

Since 2001, British Columbia has adopted the ICD-10 coding system for hospital discharges. This provides a series of Injury codes and Assault codes. Depending on the codes used, one can define broader or narrower incidences of abusive trauma (generally) or abusive head injury with or without retinal hemorrhage, and so on.

Following the recommendations of the Seattle conference on Measuring the Incidence of Inflicted Childhood Neurotrauma (Shaken Baby Syndrome) in October of 2006 and, in particular, the paper by Wirtz, Trent et al showing that broad and narrow "definitions" of inflicted trauma have similar characteristics,

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SBS tracks broader and narrower definitions of abusive injury generally and abusive head injuries more specifically in children less than 2 years of age.

An important benefit of using discharge data is that it can be analyzed retrospectively. In this case, analyses can be compared back to 2001 when the ICD-10 codes were adopted. Prior to 2001, ICD-9 codes were used. While ICD-9 codes are still used predominantly in the US and are actually better at capturing abusive head injury, they are not available in BC.

The other advantage of the discharge data sets is that the incidence of the same discharge codes in BC can be compared to the incidence of the same codes in the rest of Canada as a control. Thus, for example, the incidence rates per 100,000 for children less than 1 year old in BC for Intracranial Injury (S06.0-S06.9), Retinal Hemorrhage (H35.6), and Maltreatment (T74) WITH Assault codes for Assault (X85-Y09) and Sequelae of assault/undetermined (Y87.1-87.2) averaged 31.07/100,000 between 2001 and 2004. The primary outcomes will be a combination of broad and narrow code definitions presented as a time-series and as a comparison of BC with the remainder of Canada before and after implementation of the prevention program.

b. Evaluative Component Update:

The formal request to the Canadian Institute for Health Information (CIHI) has been submitted in late August 2008 and is currently been revised in consultation with the decision support services' program lead to optimize the utility of the dataset, (9.3). SBS have revised the request to permit:

a) An ascertainment of SBS (Abusive Head Trauma (AHT)) cases within BC and across Canada.
b) An ascertainment of physical abuse.
c) Variables that will permit a cost-benefit analysis.

While this evaluative component is not complete,it is on track to be established within the next budget year. The estimated time for data retrieval is 12 weeks.

5. Cases reported in the Canadian Pediatric Surveillance System (CPSP) that includes BC and the rest of Canada.

a. **Evaluative Component Overview:**

Beginning in March 2005, the Canadian Pediatric Surveillance System began to collect cases of "head injury secondary to suspected child maltreatment (abuse and neglect)." The CPSP collects cases from BC and across Canada through a two-tiered monthly mail out to all pediatricians in Canada. In response to the first mail out, pediatricians indicate whether they have encountered a case of the relatively rare conditions being surveyed. If they answer in the affirmative to one of them, a second questionnaire is sent asking for more information about the case. Reported cases are verified as being true, non-duplicative, and meeting criteria. Return rates for the first mail out averaged 82%, and for the follow-up questionnaires 93% during 2005. We will use this system to obtain BC-specific and national rates from the CPSP surveillance system.

b. Evaluative Component Update:

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The Canadian Pediatric Surveillance Program (CPSP) data has been obtained; however, the surveillance will be discontinued after 3 years and not be renewed. Therefore, we will not be using the CPSP data as an outcome measure for this project (9.4).

6. Process Evaluation for Cultural Change, Program Penetration, and 6-month recall.

a. Cultural Change: General population awareness through an Ipsos-Reid poll of change in community knowledge concerning crying and shaking.

Overview:

To gauge the effectiveness of the Period of PURPLE Crying program to change cultural norms around infant crying and shaking, SBS used Ipsos-Reid omnibus polling to acquire a cost-effective measure of the effect of the PURPLE program. The omnibus polls allowed SBS to add questions at $800-$1200 per question depending on format. SBS anticipated that approximately 5 questions (estimated cost $5200 per survey) will be sufficient.

SBS benefits from the previous experience and results obtained of asking content questions in the Phase I evaluation. Two polls will be taken; one in 2007 before implementation, and the second in 2011 after full implementation. The per cent of households that have a child under two years of age is approximately 7 per cent. SBS anticipates that the recognition of the Period of PURPLE Crying information should reach at least 25 per cent of the population, and there is a good chance that it will be much more widespread than that.

Update:

An Ipsos-Reid poll on questions that survey the public for baseline community knowledge on shaken baby syndrome (SBS) and the Period of PURPLE crying materials was conducted in May 2007. This poll was conducted on a randomized sample of 800 members of the public within BC. The responses provided us with excellent baseline information on each question that we will be able to use for the projected 2011 follow-up poll. An abstract on the results of this poll that includes a comparison of a parallel poll done in North Carolina has been submitted to the Society for Research and Child Development (SRCD) at their March 2009 meeting, (9.1).

b. Program Penetration Rates.

Overview:

"Penetration rates" refer to the per cent of the targeted population who actually receive the Period of PURPLE Crying materials. In this program, the primary target is mothers (or parents) of each newborn in the province. The highest reported penetration rates to date for any SBS prevention program is 69% through a maternity-based program (Dias et al., 2005). Because of the unique

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delivery system of the public health visitor program in BC, SBS targets, and expect, that the combined maternity ward and public health home visitor program will result in successful "penetration" rates of 90-95% or better.

Update:

Two systems to access program penetration percentages have been developed. The first one using Public Health Nurse (PHN) telephone contact protocols and a second using a parent questionnaire in a random sampling of new parents over the next 3 years. The parent questionnaire will be used as a quality improvement evaluation.

Six-month Recall by Parents Receiving the *PURPLE* Program.

Overview:

After the program is implemented, SBS conducted a telephone survey of a sample of parents of newborns to ascertain their self-reported exposure to the PURPLE intervention (hospital, home visitor, and media campaign), their recollection and understanding of the messages, their self-reported behaviors about caring for their child during the period of PURPLE crying, and their dissemination of PURPLE crying materials and messages to other caregivers. The survey was a semi-structured telephone interview survey with 520 new mothers.

The timing of the interviews corresponds to the birth of their infant and is conducted four to six months after the child's birth to allow for the period of PURPLE crying (between two and four months of age) to have occurred.

The sample of mothers are approached through Health Unit to obtain permission for the later interview. Estimating the interview completion rate at 65 percent, 100 new parents are selected from randomly chosen health units every three months for two years (Years 2 through Year 4). The semi-structured interview guide will incorporate some of the outcome measures used to evaluate the intervention's effectiveness in the Phase I trials just completed.

Update:

As above – parent questionnaire will be used as a quality improvement evaluation.

Summary of Evaluation

This evaluation is a cost-effective method of obtaining essential information to be able to assess the main outcomes to test effectiveness of the *Period of PURPLE Crying* program to (a) reach targeted groups; (b) reduce shaken baby syndrome and abusive injury in infants generally; and (c) achieve a cultural change in the community's understanding of early crying and its relationship to shaking. Such an evaluation is critical when the program is being introduced to assure that the program reaches its goals, and that expenditures are justified by a benefit to the population and the government of implementation and support of the program.

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Cultural Change: General population awareness through an Ipsos-Reid poll of change in community knowledge concerning crying and shaking.

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Although still under discussion, the 5 questions will probably be: one to gauge whether the Period of PURPLE Crying is recognized; another to determine where the respondent heard of it; two questions to gauge understanding of the key messages, and one question to gauge actions that might be taken.

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There are a number of possible strategies for obtaining penetration rates. A likely strategy will be by public health home visitor administrative data, but the final strategy is still under consideration.

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Contract #XLR167974
Period of PURPLE Crying Program (Shaken Baby
Value of Initial and Modified Contract Summary

Initial Contract	$195,824.00	Term: 2007/10/01 to 2008/09/30
Modification #1	$426,822.00	Term: 2008/10/08 to 2009/09/30
Modification #2	$277,864.50	Term: 2009/10/01 to 2010/03/31
Modification #3	$303,050.00	Term: 2010/04/01 to 2011/03/31
Modification #4	$172,556	Term: 2011/04/01 to 2012/03/31
Total Amount	$1,376,116.50	

Shaken Baby Syndrome and the Period of Purple Crying®

The Period of PURPLE Crying®

- British Columbia is the first Canadian jurisdiction to implement province-wide the shaken baby syndrome prevention program, The Period of PURPLE Crying.
- In April 2008, MCFD announced a **$1.4 million** over four years towards the implementation and expansion of the program throughout the province.
- The province-wide milestone was reached at the end of January 2009 with the completion of implementation in health units and all birthing hospitals across the province. There are approximately 52 hospitals and 126 health units in the province.
- This means that every new birthing parent or caregiver has access to and receives the program before returning home with their new child.
- The program is available in ten languages, including English, ensuring it's understandable to more residents of the province.
- The positive research results and implementation across B.C. have been highlighted at international conferences in Vancouver (September 2008) and Atlanta, Georgia (September 2010) and profiled in the Canadian Medical Association Journal (March 2009).

Expansion to Foster Parents & Social Workers

- The program is currently being expanded; MCFD is rolling-out program training to MCFD social work staff, foster parents, and contract family support workers.
- A variety of training methods for expansion to the foster system and staff have been developed, including in-services, online training, conferences, and web conferencing. The program will be included in the 53-hour foster parent training curriculum.
- Foster parents can also receive the prevention material either through the hospital, MCFD personnel, or contracted care providers.
- Training of social workers throughout the regions is currently underway.

Other Expansions

- Two out of six private adoption agencies in the province completed training and have implemented the Period of PURPLE Crying program last October.
- "Train the Trainer" sessions were provided to 76 Child Care Resource & Referral personnel throughout the province.
- Thirty Early Childhood Educators serving both urban and rural areas throughout B.C. completed training in May 2010.
- Four additional pregnancy outreach and infant development offices completed online training, and 95% of their offices offer the PURPLE program.
- PURPLE has also been incorporated into the curriculum of six post-secondary institutions for Registered Nurses, Licensed Practical Nurses, Midwives, Early Childhood Educators and Community Health Support Personnel.

Research that Led to B.C. Implementation

- The "PURPLE program" materials were originally developed by the National Centre on Shaken Baby Syndrome in the USA and have been endorsed by Prevent Shaken Baby Syndrome BC (PSBSBC).
- An initial contribution of **$380,000** from the Ministry of Children and Family Development in 2004 helped fund research to examine the effectiveness of the materials.
- For parents, materials include an 11-page booklet and a 10-minute DVD that explains the periods of crying, when to expect it, and provides tools to help handle the frustration of inconsolable crying. Before receiving their materials, parents receive a 3-minute verbal education from the maternity nurse about the program. After parents leave the hospital, the 3-minute verbal education is reinforced by a public health nurse.
- Dr. Ronald Barr, head of community child health at the Child & Family Research Institute and paediatrics professor at UBC, was the lead author.
- The study involved 1279 women in Vancouver between March 2005 and November 2006 to determine whether educational materials increase knowledge and behaviours linked to preventing shaken baby syndrome.
- The positive research results led to the $1.4 million funding from MCFD, announced in 2008.
- The program is supported by a partnership including MCFD, Ministry of Health, BC Children's Hospital Foundation, The Centre for Community Child Health Research of the Child and Family Research Institute, Child Health BC, the Civil Forfeiture Office with the Ministry of Public Safety and Solicitor General, BC Perinatal Health Program, Fraser Health's Acquired Brain Injury Program, and about 15 other local donors.
- The most common trigger for shaking a baby is inconsolable crying, which is the trigger that *The Period of PURPLE Crying*® program is targeted toward.

Shaken Baby Syndrome/Abusive Head Trauma

- Shaken Baby Syndrome is a leading but preventable cause of physical and mental disability among infants and young children.
- In B.C., on average, **between five and 10 children** will suffer traumatic brain injury from shaking and require hospitalization each year.
- About one-third of hospitalized cases result in death and of those who survive, approximately 80 per cent will have permanent disabilities.
- Long-term consequences of shaking include learning disabilities, physical disabilities, visual disabilities/blindness, hearing impairment, speech disabilities, cerebral palsy, seizures, behaviour disorders, cognitive impairment, or death.

Ministry of Children and Family Development

Business Case

This form must be completed for services greater than $50,000 and attached to the Request for Contract Approval (CF2511RCA) form.

⇒ This arrow represents common elements of business case planning guidelines designed to assist you in writing your business case. Refer to the Business Case Planning Guidelines for more detailed information (extracted from PCMP course materials).

Background

⇒ **Identify the problem, opportunity or needs – what is the current situation?**

⇒ Physical abuse is the leading cause of serous head injury and death in children aged 2 and younger. Shaken Baby Syndrome (SBS) usually results in death or a range of extremely damaging injuries. Approximately 20-25% of hospitalized babies who are shaken die. Of those who survive, as many as 80% have significant, lifelong brain injuries. There is increasing evidence that shaking as an "acceptable" parental care-giving strategy, which is a critical risk behaviour for SBS, is more widespread than anticipated. SBS represents a major public health problem that threatens the development of BC's youngest infants, and is a leading, but preventable, cause of physical and mental handicap among infants and young children. It is now clear that crying, especially inconsolable crying, is the most common trigger for shaking and physical abuse. Furthermore, research has shown that all normal babies have inconsolable crying in the first few months. Critical to the preventability of shaking episodes is the underlying dynamic connecting crying with shaking.

⇒ In 2003, Marilyn Barr conducted an environmental scan between February and June to determine the status of SBS prevention in BC, community readiness and who the key stakeholder should be, as well as provide community education about the extent of the problem and possible solutions. The main outcomes of the scan showed that 73% of those surveyed thought SBS was a serious problem and 100% reported that an SBS prevention program was needed.

⇒ In the last three years, the research project has achieved the following:

- ⇒ 2003 – 2004: Preparation of various community stakeholders for a major SBS prevention program and acceptance for a large clinical trial;
- ⇒ 2004: Focus groups held to evaluate new educational materials for the prevention program;
- ⇒ 2005 – 2007: Clinical research to evaluate the effectiveness of materials before major implementation occurs; and
- ⇒ 2005 – ongoing: Establishment of a BC surveillance system to determine the incidence of SBS cases.

Strategic and Operational Considerations

⇒ **Consider factors that may influence the requirement, for example "how does it fit within the Ministry Service Plan"; identify critical success factors and research other jurisdictions for similar requirements.**

⇒ MCFD is committed to the identification and strengthening of effective services for children, youth, families and communities in BC, within a strengths-based, developmental approach. SBS will support the MCFD Service Plan Goal 1: The identification and strengthening of effective services for children, youth, families and communities in BC within a strengths-based, developmental approach. Phase I of the program has provided evidence on the effectiveness of the preventative materials used. SBS has been tested in a rigorous, randomized, controlled trial (RCT) for its ability to change knowledge, attitudes and behaviour when delivered by public health home visitor nurses within the first two weeks after birth.

The material effectiveness evaluation indicates that:

- ⇒ The most important outcome (change in Crying Knowledge) reliably increased; these increases ranged from 4.5 to 22% depending on the knowledge item;
- ⇒ The erroneous and dangerous belief that shaking is a good way to soothe an infant was decreased by 63%;
- ⇒ Walk Away behaviour increased; and
- ⇒ PURPLE materials increased knowledge sharing to other transient caregivers.

⇒ SBS will support the government's Great Goal #3 for a Golden Decade: Build the best system of support in Canada for persons with disabilities, those with special needs, children at risk, and seniors. SBS represents a major public health problem that threatens the development of British Columbia's youngest infants, and is a leading but preventable cause of physical and mental handicap among infants and young children.

⇒ This program would be the first of its kind to be implemented jurisdiction-wide in North America, and likely in the world. There are a number of reasons why this project should be implemented in BC: (1) Presence of the universal nurse home visitor program that reaches 97% of newborns within the first three weeks of life for 1.5 hrs/visit; (2) the current state of the literature suggests, mostly on the basis of the Olds et al. studies, (Olds et al., 1997), that nurse visitors are the optimum means to prevent child abuse by preventative efforts; (3) the intervention takes advantage of important and new information about a significant developmental challenge, namely, the specific properties of early infant crying, by approaching this through infant development education: thus, the program is also an intervention for all parents related to early child development; (4) other, less well-considered and less well-documented interventions are already being introduced in various jurisdictions across North America (some mandated by law) because of the urgency and increasing salience of the shaken baby syndrome form of child abuse.

Evaluation Criteria

⇒ **Establish the evaluation criteria for the options analysis and keep it high level program/project output/outcome related**

⇒ INTERVENTION:

- ⇒ Video and booklet
- ⇒ Education by RNs on maternity ward
- ⇒ Education by Public Health Nurses during home visits
- ⇒ Reinforcement by other health care providers
- ⇒ Media campaign

⇒ IMPACTS:

- ⇒ Knowledge Changes
  - ⇒ Mother understands
    - Normalcy of PURPLE crying
    - Dangers of shaking
    - Alternative approaches to dealing with PURPLE crying
    - How to judge if alternative caretaker is "safe"
  - ⇒ General public understands normalcy of PURPLE crying and dangers of shaking
- Attitude and belief changes
  - ⇒ Mother believes:
    - Crying is normal
    - Shaking can be prevented
    - Child's safety from shaking a high priority
    - She can select good caregivers
    - She can train other caregivers in PURPLE crying concepts
  - ⇒ Social norms that: PURPLE crying is normal and shaking is not acceptable
- Skill changes
  - ⇒ Mother can recognize frustration and need to employ alternative coping strategies
  - ⇒ Mother can choose and employ appropriate coping strategies (providing comfort, leaving baby in safe place, choosing alternative caregiver)
  - ⇒ Mother can train alternative caregivers in PURPLE principles

⇒ INTERMEDIATE BEHAVIORAL OUTCOME 1

- Mother demonstrates these coping behaviours:
  - ⇒ Providing comfort to baby and/or
  - ⇒ Leaving baby in a safe place to cry and/or
  - ⇒ Choosing and training quality alternative caregivers
  - ⇒
  - ⇒

- Alternative caregivers able and willing to help

⇒ INTERMEDIATE BEHAVIOURAL OUTCOME 2
- Reduction in shaking incidence

⇒ ULTIMATE OUTCOME
- Reduction in abusive head trauma

Development of Options

⇒ **Describe the status quo, provide alternative solutions and explain the advantages of disadvantages of each option, and evaluate the impact on stakeholders.**

⇒ **OPTION # 1: status quo**

⇒ **PROS:**

- Presently, MCFD is committed to support only year one of the four-year implementation strategy.
- Even though MOH is generally supportive of the initiative, a formal partnership has not yet been established.
- MCFD is one of the eight funders of the initiative (the total program cost – year one: $512,853). Not all of the funders have confirmed their commitments.
- There is SBS prevention information available on Internet.

⇒ **CONS:**

- The province will not have a program in place to address the leading cause of serious head injury and death in children younger than 2.
- The environmental scan conducted between February and June 2003 to determine the status of SBS prevention in BC showed that 73% of those surveyed thought SBS was a serious problem and 100% reported that an SBS prevention program was needed.
- MCFD funded the first three years of the program including clinical research in preparation for the province-wide implementation.

⇒ **OPTION # 2: provide funding to the SBS Prevention program**

⇒ **PROS:**

- The province will have a comprehensive program in place to address the leading cause of serious head injury and death in children younger than 2.
- SBS is an evidence-based program, with clearly established accountability mechanisms.
- The costs associated with the initial hospitalization and long-term care for victims of SBS are substantial.

⇒ **CONS:**

- Funding expense **($**195,824)
- Same as the Option # 1 PROS.

Strategic Risk Assessment

⇒ **Think in terms of high-level service delivery strategies, market conditions, security and safety, serving the public and identify the risk of each option identified.**

⇒ **Status quo:**

⇒ More children are seriously injured/die as a result of SBS.

⇒ Questions are being raised regarding why the program was not implemented after the environmental survey confirmed that the program was needed.

⇒ **Provide funding to the SBS Prevention Program**

- There is no funding commitment beyond the first year.
- Even though MOH is generally supportive of the initiative, there may be some resistance by maternity nurses (Health Authorities) to the program implementation due to workload issues.

Cost/Benefit Analysis

⇒ **Consider quantitative and qualitative costs and benefits of providing in-house or outsourced. Include a rationale for utilizing contracted resources and identify strategies to build future internal capacity.**

⇒ **Costs:**

- **2007/2008 (Year One): $195,824** – as per the attached list.

⇒ **Benefits:**

- Increased Crying Knowledge;
- Decreased belief that shaking is a good way to soothe an infant;
- Increased Walk Away behaviour;
- Reduction in shaking incidence;
- Reduction is abusive head trauma;
- BC will be the first province in North America to have an SBS prevention program implemented province-wide; and
- The costs associated with the initial hospitalization and long-term care for victims of SBS are substantial.

Recommendations and Proposed Implementation Strategy

⇒ **Identify key conclusions/recommendations and address specific features of the "roll-out" of the preferred solution**

⇒ Implement a "triple dose" strategy:

1. Provide the PURPLE Program to parents, both mothers and fathers, in the hospital after the birth of their baby. Maternity nurses to be trained and provided with a script and the materials.
2. Public Health Nurse Home Visitors will take a set of materials to the parents if they have not already received them.
3. A public education campaign will provide this information to all those who did not receive it through the above methods.

⇒ The Ministry of Health/Health Authorities should be involved and in agreement with the plan.

Project Description	⇒ **Provide an overview of the project goals and objectives and brief description of the service to be delivered. Refer to Project Charter template**

- **Organize a leadership committee** consisting of representatives of organizations vital to the program including: MCFD, Ministry of Health, non-governmental organizations, Aboriginal agencies, child care administrators, medical associations and other organizations serving children and families.
- **Establish written agreements** with birthing hospitals and health units for implementation of the program for the parents they serve.
- **Maternity Services:** Establish agreements with 23 (approximately 50% of the total) birthing hospitals for program implementation; train maternity nurses at these hospitals on program delivery and how to give it to parents. Scripts to be provided.
- **Health Units:** Establish agreements with 56 health units (approximately 50% of the total) for program implementation; train nurses at these health units on the program delivery and how to give it to parents. Scripts will be provided.
- **Provide training to agencies that serve families and train them on the program**. In year 1, this will include parent and crisis hotlines, MCFD personnel and foster care workers, and day care centre personnel through MCFD licensing.
- **Develop training guide and online training** version which will be accessible to all participants.
- **Public education campaign.** Broadcast and print media ads will be donated by the National Center on SBS. Adjustments for Canadian audiences will be made and translation into other languages will take place as needed. Development of relationships with media will take place with the assistance of the Department of Communication at Children's Hospital. A specific plan for social marketing will be devised.
- **Evaluation.**

Prepared by: **_Aleksandra Stevanovic_____**
Date: **_August 20, 2007_____**

CLIFF # 167974

Ministry of Children and Family Development

Request for Contract Approval – Part 1

Expense Authority Checklist

This request can be completed only after considering all other resourcing options – Options 1 to 4 in the Resource Needs Assessment form (CF2511RNA). Information systems development and maintenance and service delivery contracts (STOBs 75/79/80) are exempt from the Resource Needs Assessment process.

The Procurement Governance and Policy Team (PGPT) is available to assist you complete the contracting process.

Nature of Contract
(☑ applicable box)

- ☑ Professional Service Contracts (STOBs 60/61/63/2000)
- ❑ Service Delivery Contracts (STOBs 75/79/80)

Description of Services Required _____

_____

(If this request is not funded, consult Financial Planning and Reporting)

Planning
(☑ all that apply)

- ☑ Resource Needs Assessment form (CF2511RNA) for STOBs 60/61 reviewed, completed and attached
- ☑ Standards of Conduct for Public Service Employees Engaged in Government Procurement Processes reviewed (standards available at Procurement Governance and Policy Intranet site @ http://icw.mcf.gov.bc.ca/rasp/procon/toolkit.htm)
- ☑ Business Case completed – mandatory for contracts over $50,000. (Business Case template available at Intranet site above.)
- ☑ Privacy Impact Assessment initiated – for new programs and systems only
- ☑ Estimated cost of proposed contract including expenses - $ 195,824
- ☑ Contract term – from October 01, 2007 to September 30, 2008
- ❑ Pre-approval for solicitation process received (see approval matrix)

Solicitation
(☑ applicable box)

- ❑ Request for Proposal (RFP)
- ❑ Written or Verbal Quotes (minimum of 3 quotes for contracts of $75,000 or less)
- ❑ Invitation to Quote (ITQ)
- ❑ Selected from Ministry's Bidders List (follow MCFD guidelines at PGPT Intranet site)
- ❑ Corporate Supply Arrangement (CSA)

Award
(☑ all that apply)

- ❑ Contract awarded following a competitive process
- ✓ Direct Award or Sole Sourced – must meet at least one of the following criteria (attach additional justification):
  - ❑ the contract is with another government organization;
  - ✓ the ministry can strictly prove that only one contractor is qualified to provide the service;
  - ❑ an unforeseeable emergency exists and the services could not be obtained in time by means of a competitive process;
  - ❑ a competitive process would interfere with the ministry's ability to maintain security or order or to protect human life or health; and/or
  - ❑ the acquisition is of a confidential or privileged nature and disclosure through an open bidding process could reasonably be expected to compromise government confidentiality, cause economic disruption or be contrary to the public interest.
- ✓ Notice of Intent (NOI) – must be posted if the contract is over $50,000 and awarded directly on the basis that only one contractor is qualified. NOI to be posted in BC Bid.

Review and Advice – see Approval Matrix/Process Chart
(☑ and sign where applicable)

- ✓ Contract Specialist: _____ Date _____
- ✓ Procurement Governance and Policy Team: _____ Date _____

Approvals – see Approval Matrix /Process Chart
(☑ and sign where applicable)

- ✓ Expense Authority Signature _____ Date _____
- ✓ ADM Signature _____ Date _____
- ✓ EFO Signature _____ Date _____

Administration and Monitoring
(☑ all that apply)

- ❑ Contract deliverables clearly defined and measurable
- ❑ Payment Schedule correctly specified (e.g. by deliverable, hourly rate, daily rate, other)
- ❑ Contract number ____XLR167974_____ (use CLIFF number)
- ❑ Contract document complete and signed *prior to start of work*
- ❑ Modification Agreement (complete CF2511 RCA - Part 2 and attach approved Part 1)
- ❑ Approved CF2511(RCA) and executed copy of agreement submitted to Accounts Payable

Post Contract Evaluation
(☑ all that apply)

- ❑ Evaluation form (CF0411) – mandatory requirement for all contracts over $50,000
- ❑ CF0411 completed and sent to Procurement Governance and Policy Team for Provincial Office contracts

Distribution:
Original – Contract File
Copy 1 - Financial Planning and Reporting
Copy 2 – Procurement Government and Policy Team

CONFIDENTIAL ESTIMATES NOTE **Ministry: Children and Family Development** **Date: March 5, 2010** **Minister Mary Polak**	**Shaken Baby Syndrome Prevention Program**

KEY FACTS:

- The *Period of* PURPLE *Crying* ® program comprises elements of education, surveillance and intervention related to the prevention of shaken baby syndrome in infants. The ultimate goals of this program are to create a cultural change in parents' understanding of and response to infant crying and a 50 per cent decrease in the number of cases of traumatic brain injury due to shaken baby syndrome.
- Minister Christensen launched the program by making a public announcement at Children's Hospital in April 2008.
- The Ministry of Children and Family Development (MCFD) is endorsing and offering funding to the project, which is led by Prevent Shaken Baby Syndrome BC (PSBSBC). The program is also supported (and funded) by several other organizations, including the BC Children's Hospital, the Fraser Health Authority, the Vancouver Foundation and the Rick Hansen Foundation.
- The Ministry of Healthy Living and Sport provides in-kind support to the program, as maternity services and the public health nurses are vital to the delivery of the program.
- The *Period of* PURPLE *Crying*® prevention program implements a 'triple-dose' strategy to educate parents and the community about normal infant development through the distribution of attractive, positive messages for caregivers rather than negative warnings about the consequences of shaken baby syndrome.
- Program materials are distributed directly to new parents via birthing hospitals (Dose I), public health units, including public health nurses on home visits (Dose II) and to the general public through a broader media campaign (Dose III).
- MCFD has provided a commitment of up to $1.4 million over four years (2007/08 – 2010/11) to support the program.
- The ministry entered into a contract with the Children's and Women's Health Centre of BC on October 1, 2007, to implement the *Period of* PURPLE *Crying* ® prevention program. The initial contract expenditure for 2007/08 was $185,873.
- The contract was extended from October 2008 to September 2009, for a total contract value of $427,000 for the latter half of fiscal year 2008/09 and the first half of fiscal year 2009/10. The contract was further extended from October 2009 to March 2010, for a contract value of $277,864.50.
- Funds are secure in the MCFD budget to support this program until the end of fiscal 2010/11. Over the next fiscal year, the program will focus on a public education campaign to educate the general public on the dangers of shaking a baby.

Program Area: Early Childhood Development Policy and Support

Key Contact	A/Senior Director	Deputy (if required)
Lara Woodman	**Aleksandra Stevanovic**	

- From 2006 to 2007, MCFD provided $386,644 to support the Shaken Baby Syndrome Research Project, some of which was carried out in partnership with BC Children's Hospital.

Actual Expenditure for 2007/08	Actual Expenditure for 2008/09	Budget for 2009/10	Budget for 2010/11 (not confirmed)
$185,873	$363,035	$426,000	$426,000

Program Implementation:

- As of January 2009, the program was fully implemented in all birthing hospitals and Health Units across British Columbia:
  - 1,950 (97.7%) of a targeted 1,997 maternity nurses trained
  - 950 (99.1%) of a targeted 959 public health nurses trained
  - 53 birthing hospitals and 123 health units implemented the program
- Health care support staff including emergency room physicians and nurses, family physicians, pediatricians and midwives have received training in administering the program.
- The surveillance/evaluation aspect of the program includes collaboration with emergency services and hospitals in reviewing patient charts, child protection services in reviewing all abuse cases involving children under age two, public health nurses on home visits and, if warranted, with the BC Coroner's Office in conveying details of deaths of children under age two due to abusive head trauma.
- From October 2008 to February 2009, specific training material for Ministry of Children and Family Development personnel and contracted family support workers was developed. To date, a total of 754 MCFD Social Workers across the province have received training through in-services and web conferences.
- Development and approval of the *Period of* PURPLE *Crying*® presentation for foster parents was completed for online training February, 2009. The online module is currently available to all foster parents with downloadable certificate of completion.
- In August 2009, additional training methods were identified so that training for foster parents will have three components:
  1. On-line training or in-person training for foster parents available through regional Foster Parent Support Society offices;
  2. Training for MCFD Resource Social Workers to ensure that they encourage the use of the on-line foster parent training modules when placing infants in foster homes; and
  3. In September 2009, foster homes that identified a preference to care for children under the age of 3 were mailed a package containing an information sheet which explains the basic points of the program, the Period of Purple Crying DVD/ Information Pamphlet and instructions on how to access the on-line training.
- As of January 2010, 565 foster parents across the province had completed the training using the online training module.
- The Children's and Women's Health Centre of BC is also providing the *Period of* PURPLE *Crying*® prevention program to Aboriginal families.
- The program is working with First Nations Health Council and a BC Perinatal Health Program Aboriginal Nurse Consultant to train First Nations health centre nurses and other groups working with the Aboriginal population.

Program Area: Early Childhood Development Policy and Support

Key Contact	A/Senior Director	Deputy (if required)
Lara Woodman	**Aleksandra Stevanovic**	

- Program staff are currently working with Child Care Resource & Referral agencies, Early Childhood Development programs, Emergency Room departments, Child & Youth Mental Health community programs and Immigrant Settlement Service Agencies.

Program Area: Early Childhood Development Policy and Support

Key Contact	A/Senior Director	Deputy (if required)
Lara Woodman	**Aleksandra Stevanovic**	

BRITISH COLUMBIA	Ministry of Children and Family Development	**MODIFICATION AGREEMENT**

BETWEEN

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA,
represented by Minister Of Children and Family Development

The Ministry of Children and Family Development
(the "Province", the "Minister", a "Director", "we", "us", or "our" as applicable)

AND

Children and Women's Health Centre of British Columbia and the University of British Columbia
(the "Contractor", "you", or "your" as applicable)

BACKGROUND

A. The parties entered into an agreement number **XLR167974** and dated **October 1**, **2007**, (the "Agreement").

B. The parties have agreed to modify the Agreement effective March 31, 2010.

AGREEMENT

The parties agree as follows:

1. To extend the term of the contract to March 31, 2011.

   To amend Schedule A (attached).

   To amend Schedule B (attached).

2. In all other respects, the Agreement is confirmed.

The parties have duly executed this modification agreement as of the _____ day of _____, _____.

SIGNED AND DELIVERED on behalf of the Province by its authorized representative:	**SIGNED AND DELIVERED** by or on behalf of the Contractor (or by an authorized signatory of the Contractor if a Corporation)
Authorized Representative	Contractor or Authorized Signatory
Name Aleksandra Stevanovic	Name Dr. Jan Friedman
Title Acting Senior Director, Early Years Policy & Support	Title Interim Director, Child and Family Research Institute

DISTRIBUTION: COPY 1 - FINANCIAL SERVICES DIVISION COPY 2 - CONTRACTOR COPY 3 - ORIGINATING OFFICE

BRITISH COLUMBIA	Ministry of Children and Family Development	**MODIFICATION AGREEMENT**

BETWEEN

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represented by Minister Of Children and Family Development

The Ministry of Children and Family Development
(the "Province", the "Minister", a "Director", "we", "us", or "our" as applicable)

AND

Children and Women's Health Centre of British Columbia and the University of British Columbia
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Authorized Representative	Contractor or Authorized Signatory
Name Aleksandra Stevanovic	Name Dr. Jan Friedman
Title Acting Senior Director, Early Years Policy & Support	Title Interim Director, Child and Family Research Institute

DISTRIBUTION: COPY 1 - FINANCIAL SERVICES DIVISION COPY 2 - CONTRACTOR COPY 3 - ORIGINATING OFFICE

Prevent Shaken Baby Syndrome BC Steering Committee Meeting
Friday, April 15, 2011 - 2:00 pm to 4:00 pm
Children's & Women's Health Centre of BC – ACB
Social W K1-201
Teleconference Number: Participant ID:

Agenda

1. Approval of Agenda and Oct 08, 2010 Meeting Minutes…..……..…...Karen Breau

2. Introduction of new members…….....Karen Breau
   - Lara Blazey, Policy Analyst, MCFD, Early Years Policy, ECD
   - Tansey Ramanzin, Medical Reviewer, Coroner, Child Death Unit

3. *PURPLE* program update……..……...Marilyn Barr
   - Maintenance and sustainability at hospitals and health units
   - Updates to *PURPLE* DVD/booklet: soothing film addition

4. Training of MCFD, First Nations personnel and Community…….Claire Yambao

5. Knitted caps and tears campaigns……..……Claire Yambao and Dawn Mount

6. *PURPLE* evaluation update……..……..…….....Dr. Ronald Barr

7. Next meeting date…….....Karen Breau

Prevent Shaken Baby Syndrome BC Steering Committee Meeting
Friday, April 23, 2010 - 2:00 pm to 4:00 pm
BC Women's He ardroom F-504
Teleconference Number: Participant ID:

Agenda

1. Approval of Agenda and Jan 15, 2010 Meeting Minutes…..…..……..Karen Breau

2. Emerging yardsticks from the *PURPLE Crying* Implementation….Dr. Ronald Barr
   - Emergency Room study (crying complaints)
   - Mothers' stress reaction study
   - Falls in early months of life
   - Fractures in early months of life

3. *PURPLE* public education campaign…….Marilyn Barr
   - Media process
   - Smak and special events
   - LimelitePR and social media
   - CBC sponsorship
   - Timelines
   - Apple application update

4. Training of MCFD, First Nations and physicians: an update …..….Anoo Mammen

5. Training of reinforcement groups……..……..…..Claire Yambao
   - Child care, immigration and early childhood educators

6. Nurse and parent study surveys…….....Fahra Rajabali

7. Next meeting date.…….....Karen Breau

Prevent Shaken Baby Syndrome BC Steering Committee Meeting
Friday, April 24, 2009 - 2:00 pm to 4:00 pm
Children's and Wo entre of BC, ACB – K
Teleconference Number: Participant Code:

Agenda

1. Approval of Agenda and Oct 31, 2008 Meeting Minutes……..Karen Breau

2. Introduction of new member…….…….....Karen Breau
   - Lara Woodman – Policy Analyst, MCFD – ECD

3. Overview of implementation progress……..…….……...Marilyn Barr
   - Birthing hospitals and health units
   - Perinatal Planners and Public Health Directors teleconferences

4. Training of MCFD personnel……Jocelyn Conway
   - Ministry personnel, foster parents and community support workers

5. Training of First Nations groups……Anoo Mammen
   - Health and community personnel

6. Training of reinforcement groups……..……..…..Claire Yambao
   - Hospital, community, adoption and post-secondary personnel

7. *PURPLE* surveillance and evaluation……..……Fahra Rajabali

8. Next meeting date – September 11, 2009……...Karen Breau

Prevent Shaken Baby Syndrome BC Steering Committee Meeting
Friday, January 15, 2010 - 2:00 pm to 4:00 pm
BC Women's He ardroom F-504
Teleconference Number: Participant ID:

Agenda

1. Approval of Agenda and Sept 11, 2009 Meeting Minutes……..……..Karen Breau

2. *PURPLE* public education campaign…..……Marilyn Barr
   - Media process
   - British Columbia Association of Broadcasters Humanitarian Award

3. Overview of *PURPLE* implementation progress..…..……...Marilyn Barr
   - One year anniversary visits
   - Perinatal and Public Health Leaders Report
   - Implementation protocol revision

4. Training of MCFD personnel……Jocelyn Conway
   - Ministry personnel, foster parents and community support workers

5. Training of First Nations groups and physicians……..…Anoo Mammen

6. Training of reinforcement groups……..……..…..Claire Yambao
   - Hospital, community, adoption and post-secondary personnel

7. *PURPLE* surveillance and evaluation……....Fahra Rajabali

8. Next meeting date…….....Karen Breau

Shaken Baby Syndrome Steering Committee Meeting
Friday, January 18, 2008 - 2:00 pm to 4:00 pm
Ambulatory Care Building, Room K0-157

Agenda

1.0 Approval of Agenda and October 05, 2007 Meeting Minutes……...Karen Breau

2.0 *The Period of PURPLE Crying*® Program Implementation Update…...Marilyn Barr
- Training of acute and public health nurses
- Training of Reinforcement and Enhancement Groups
- Distribution of Materials – first order completed, storage and shipping
- Recognition for Additional Supporters – Ministry of Health and BC Perinatal Health Program

3.0 Response and Feedback about Process……Joan Geber (TBD)
Barbara Selwood

4.0 Training of MCFD Personnel……...Aleksandra Stevanovic/
Loreen O'Byrne

5.0 Process Evaluation and Program Evaluation……Khairun Jivani

6.0 Evaluation Project at the BC Coroners Office……..…Kellie Kilpatrick (TBD)

7.0 Child Health BC Conference (Jan 11 - 12, 2008)……Marilyn Barr

8.0 Terms of Reference……..……..….Karen Breau

9.0 Other Business

10.0 Next Meeting Date

Shaken Baby Syndrome – Intentional Injury Prevention Program
Steering Committee Meeting
Friday, March 30, 2007 - 2:00 pm to 4:00 pm
Room K1-201 Social Work Department Meeting Room

Agenda

1.0 Approval of Agenda

2.0 Approval of October 27, 2006 meeting minutes

3.0 Preliminary Results: *Period of PURPLE Crying* Program…….. Marilyn Barr

4.0 Implementation of the *Period of PURPLE Crying* Program in B.C. ….Marilyn Barr
- Description of Implementation Process (3 doses)

Support for the Program:
- MCFD Support
- Public Health Nurses
- Vancouver Foundation
- Fraser Health Authority
- Japan Ministry of Health

5.0 Website and Learning Modules……Jocelyn Conway and Claire Yambao

6.0 Name Change……Marilyn Barr
- Prevent SBS Canada

7.0 Other Business

8.0 Next Meeting

Prevent Shaken Baby Syndrome BC Steering Committee Meeting
Friday, Oct 08, 2010 - 2:00 pm to 4:00 pm
BC Women's He ardroom F-504
Teleconference Number: Participant ID:

Agenda

1. *PURPLE* knitted caps event…….Jeanette Miller and Harriet Fancott

2. Approval of Agenda and April 23, 2010 Meeting Minutes…..……..…..Marilyn Barr

3. Introduction of new member and staff…….....Marilyn Barr
   - Elizabeth Ketterer - Policy Analyst, MCFD – ECD
   - Dawn Mount – Program Assistant, Prevent SBS BC

4. Public education campaign update……Claire Yambao

5. New phase for *PURPLE* program……...Marilyn Barr

6. Nurse and parent study surveys……..…….....Fahra Rajabali

7. Next meeting date.…….....Marilyn Barr

Shaken Baby Syndrome Steering Committee Meeting
Friday, October 31, 2008 - 2:00 pm to 4:00 pm
Children's and Women's Health Centre of BC, ACB – K1-157

Agenda

1.0 Approval of Agenda and May 30, 2008 Meeting Minutes……..Karen Breau

2.0 Introduction of new members…….…..Karen Breau
- Larry Gold – President, BCCH and SHHCC
- Greg Perrins – Policy Analyst, MCFD – ECD

3.0 Seventh NA SBS Conference (Oct 05 – 07, 2008) Summary……Marilyn Barr
- BC participants
- Overall demographics
- Program
- Media/Goudge Report

4.0 Overview of Implementation Progress……...Marilyn Barr
- Claire Yambao – Fraser and Interior Health Authorities
- Anoo Mammen – Vancouver Coastal, Vancouver Island and North Health Authorities

5.0 Training of MCFD personnel…….Jennifer Locke and Jocelyn Conway
- Ministry Personnel, Foster Parents and Community Support Workers

6.0 Training of First Nations and Community Groups…..……..…….Jocelyn Conway
- Aboriginal Perinatal Program
- First Nations Health Council

7.0 Next Meeting Date

Prevent Shaken Baby Syndrome BC Steering Committee Meeting
Friday, September 11, 2009 - 2:00 pm to 4:00 pm
BC Women's Health Centre – Boardroom F-504
Teleconference Number: Participant ID:

Agenda

1. Approval of Agenda and April 24, 2009 Meeting Minutes……..Karen Breau

2. Overview of implementation progress……..…….……...Marilyn Barr
   - One year visits

3. Training of MCFD personnel…….Jocelyn Conway
   - Ministry personnel, foster parents and community support workers

4. Training of First Nations groups and physicians……Anoo Mammen

5. Training of reinforcement groups……..……..…..Claire Yambao
   - Hospital, community, adoption and post-secondary personnel

6. *PURPLE* surveillance and evaluation……..…….Fahra Rajabali

7. New PURPLEcrying.info website for parents……Marilyn Barr

8. Eleventh International Conference on SBS Sept 12 – 14, 2010……..Marilyn Barr

9. Next meeting date – November 27, 2009.……...Karen Breau

Prevent Shaken Baby Syndrome BC Steering Committee Minutes
April 23, 2010

Present: Karen Breau (Chair), Dr. Jean Hlady, Dr. Ian Pike, Barbara Selwood, Leslie Clough and Marilyn Barr via in-person; Joan Geber and Kellie Kilpatrick via conference call

Guests: Dr. Ronald Barr, Fahra Rajabali, Anoo Mammen and Claire Yambao

Regrets: Aleksandra Stevanovic and Lara Woodman

Recorder: Claire Yambao

1.0 Approval of Agenda and January 15, 2010 Meeting Minutes

Karen Breau called the meeting to order and the Committee reviewed the agenda and January 15, 2010 minutes for approval.

- Both agenda and minutes were approved as circulated.

2.0 *PURPLE* public education campaign

Marilyn Barr reported:

- There is a need to have a cultural change to make this program effective. It is necessary to have temporary caregivers, neighbours and the like also understand the normal infant crying cycle so they do not put more pressure on parents when their baby cries. This is the Dose 3 of the program strategy.
- Purpose: 1) to reinforce the *PURPLE* message to parents of infants, 2) to introduce the program to friends, family members and others involved in the care of infants (i.e. mothers' boyfriends), and 3) to bring about a cultural change in the understanding of increased crying and shaking.
- Prevent SBS BC will be collaborating with Smak for public relations and LimelitePR for social media.
- Media events will include: projection media in June, street-level activation in July/August, purple tear decals on bus racks in September, purple tear decals in birthing hospitals and health units in September, knitted purple hats in November and a jewelry contest in February. Radio ads will air in conjunction with the events.
- Resources will be used for media placement.
- There is potential for added-value from CBC around the knitted hats event.
- The goals of the public education campaign are: 1) name recognition, 2) provide *PURPLE* messages, and 3) drive the general public to the parent website (www.purplecrying.info).
- The *PURPLE* Apple application is still in process.

3.0 Training of MCFD, First Nations and physicians: an update

Anoo Mammen reported:

- An education program specific to MCFD personnel was developed collaboratively with their leadership and has been offered via in-services, webinars and online; to date, over 754 personnel have been trained.
- Online training was specifically designed for foster parents and currently over 500 foster parents have been trained using this method. 1,043 foster parents received packets in a previous distribution that included the *PURPLE* package.
- Since January 2009, community health nurses supporting 100 out of 198 First Nations communities have been trained.
- Family physicians were offered *PURPLE* information and resources through: 1) the BC Medical Journal - Pulsimeter section, January/February 2010 issue, 2) the Medical Office Assistants Association of BC quarterly newsletter, January/February 2010 issue, and 3) the program website - www.dontshake.ca.

4.0 Training of reinforcement groups

Claire Yambao reported:

- Two out of six private adoption agencies have been offering *PURPLE* to families.

- 51 child care resource and referral personnel in the Vancouver, Vancouver Island, Fraser and North Regions have been offering *PURPLE* to child care providers and families.
- Immigration Services Offices who provide MCFD child care subsidy outreach, English Language Services for Adults, Affiliation of Multicultural Societies and Service Agencies of BC and their affiliates have been offered training and are currently at various stages of completion.
- A *PURPLE* podcast has been launched and is currently being used by Nursing, Midwife, Early Childhood and Community Health Support students BC-wide.

5.0 Nurse and parent study surveys

Fahra Rajabali reported:

Nurse Surveys are being conducted by phone with the exception of Fraser who opted for paper surveys.

- Eight birthing hospitals have completed the surveys and two are in progress
- Nurses are very positive about *PURPLE*
- Nurses are implementing the improved protocol and are asking mothers to open *PURPLE* packages in the hospital during the crying education
- 90% of nurses encourage mothers to share *PURPLE* materials with all caregivers
- 75% of nurses encourage mothers to take their babies to a doctor if crying is a concern

Parent Surveys in the Interior and Vancouver Coastal Regions are being conducted by program evaluation personnel while nurses in the Vancouver Island and Northern Regions are conducting the interviews. Fraser is in the process of approving the surveys.

- One health unit has completed the surveys and two are in progress
- First-time mothers are especially appreciative of the program
- 75% of mothers remember nurses explaining that shaking their babies is the most dangerous thing they could do
- Mothers remember the *PURPLE* messages well!
- 100% of parents know that:
  - a good parent should not always be able to soothe his/her crying infant
  - a crying infant can look like they're in pain even when they are not
  - it's okay to walk away from a crying infant if his/her crying becomes frustrating

6.0 Emerging yardsticks from the *PURPLE Crying* Implementation

Dr. Ronald Barr reported:

- Economy – The decline of the economy mirrors a nationwide surge in abusive head trauma (AHT) and other types of child abuse, which may in part be attributable to the recession.
- Misclassification of AHT - There is no evidence in the literature that shows serious intracranial pathology resulting from short falls (especially, for example, with witnessed falls in a hospital setting). However, cases of intracranial injury due to reported short falls have the same pattern as the normal crying curve.
- *PURPLE* as an infant abuse prevention program – The incidence of abusive fractures and traumatic brain injury has a similar pattern to the normal crying curve together occurring at a rate of 50 per 100,000 in children under the age of 12 months.
- Prolonged crying spells increase frustration – A study shows that there are six different frustration trajectories; it is unclear what properties of the crying, if any, make parents more/less likely to reach threshold of frustration.
- Crying complaints in BCCH Emergency – Age-related incidence of emergency room visits for crying at BCCH from 2002 to 2008 follow the same pattern as the normal crying curve.

7.0 Next Meeting Date

- To be determined at a later date.

Prevent Shaken Baby Syndrome BC Steering Committee Minutes
April 24, 2009

Present: Karen Breau (Chair), Ian Pike, Barbara Selwood, Kellie Kilpatrick and Marilyn Barr via in-person; Joan Geber Aleksandra Stevanovic and Lara Woodman via conference call

Guests: Jennifer Locke, Fahra Rajabali, Jocelyn Conway, Anoo Mammen and Claire Yambao

Regrets: Dr. Bob Armstrong, Larry Gold, Dr. Jean Hlady and Leslie Clough

Recorder: Claire Yambao

1.0 Approval of Agenda and Oct 31, 2008 Meeting Minutes

- Karen Breau called the meeting to order followed by introductions. The Committee reviewed the agenda and Oct 31, 2008 minutes for approval.
  - Both agenda and minutes were approved as circulated.
- Marilyn Barr reported that on Apr 22, Apple began selling an iPhone application called the "Baby Shaker". Due to a public outcry, the application was removed on Apr 24. Apple has inadequately apologized and will not comment on how the application was approved.

2.0 Introduction of new member

- Item was covered during introductions.

3.0 Overview of implementation progress

- Marilyn Barr reported:
  - As of Jan 31, 2009, all 54 birthing hospitals in BC have been implementing *PURPLE*
    - 96% of maternity nurses were trained (based on information at first contact)
    - Training was completed via 221 in-services, 62 go-to-meetings, 3 videoconferences and online
  - As of Jan 31, 2009, all 124 health units in BC have been implementing *PURPLE*
    - 100% of public health nurses were trained (based on information at first contact)
    - Training was completed via 1 workshop, 20 in-services, 23 go-to-meetings and online
  - As of Apr 21, 2009, 82 out of 122 midwives in BC have been implementing *PURPLE*
  - Teleconferences were held with Perinatal Planners and Public Health Directors in Jan 2009 to discuss training, implementation, successes, challenges and schedules for future updates.
  - In year two, Prevent SBS BC will: 1) maintain implementation at hospitals and health units, 2) implement *PURPLE* at NICU departments, and 3) provide training and resources to First Nations, MCFD and community groups.
  - A "Year Two" updates packet was sent to each birthing hospital and health unit in Feb 2009.
- Marilyn Barr asked Barbara Selwood about the status of *PURPLE* on the care pathway.
  - Barbara Selwood reported that the Maternal pathway is almost complete and the Newborn pathway is anticipated to be completed by Jun 2009.
- Barbara Selwood asked how maintaining 80% trained at an institution was being tracked.
  - Marilyn Barr reported that Prevent SBS BC was in the process of sending out a one year congratulatory letter and visiting hospitals/health units to discuss updates.

Action: Barbara Selwood offered to provide Jocelyn Conway with a contact list of members on the Perinatal Committee so that a "Year Two" packet may be sent to them.

Action: Claire Yambao and Anoo Mammen offered to send Barbara Selwood a statement about NICU progress to share with the Perinatal Committee.

4.0 Training of MCFD personnel

- Jocelyn Conway introduced Jennifer Locke, MCFD Project Manager, and reported:
  - A top-down approach for training MCFD personnel
    - Fraser via in-services, North via community managers, Vancouver Island and Interior via go-to-meetings and Vancouver Coastal has yet to be contacted.
  - All foster parents will be informed of training by the end of May 2009.

- Foster parents with children under the age of 3 years will receive a copy of *PURPLE* from their resource teams and a certificate of completion.
- Progress reports are sent to coordinators each week.

- Karen Breau asked whether prospective foster parents were being trained.
  - Jennifer Locke confirmed that prospective foster parents have 53 hours of training prior to becoming a foster parent which has included *PURPLE*.
- Kellie Kilpatrick asked whether Community Living BC (CLBC) and Children in the House of a Relative (CIHR) personnel were also going to be trained.
  - Jocelyn Conway confirmed that CLBC will commence training soon.
- Karen Breau asked whether adoptive parents were being addressed.
  - Marilyn Barr reported that foster parents will receive *PURPLE* as "professional parents" and adoptive parents will receive *PURPLE* during Dose 1.

5.0 Training of First Nations groups

- Anoo Mammen reported:
  - Prevent SBS BC has been working with Lucy Barney and Marilyn Ota to make training of First Nations Health Professionals culturally sensitive.
  - To date, nurses providing follow up for 35 bands have been trained
- Marilyn Barr asked for the total number of bands in BC.
  - Anoo Mammen reported a total of 198 bands.

6.0 Training of reinforcement groups

- Claire Yambao reported:
  - The 6 private adoption agencies in BC are completing *PURPLE* training on May 21st via in-service.
  - Several post-secondary schools offering Nursing and Midwifery programs have included *PURPLE* in their curriculum; currently in talks for adding *PURPLE* to 31 more institutions in 2009.
  - Doulas are currently completing training via online.
  - Pregnancy Outreach and Infant Development Programs are anticipated to implement program by the end of May 2009.
  - Preliminary contact has been made with ER, BC Ambulance Services and Family Services.
- Aleksandra Stevanovic suggested including immigration services.
- Barbara Selwood suggested contacting Dr. Karen Bueller to get information on upcoming Physicians Conference.
- Jennifer Locke suggested including Strong Start Personnel.
- Kellie Kilpatrick suggested including instructors of teenage mothers.

7.0 *PURPLE* surveillance and evaluation

- Fahra Rajabali reported on 6 key areas:
  1. process measures – 1) public health nurse forms, 2) questions
  2. Active: head trauma cases at BC Children's Hospital
  3. Active: Child Protection Services – commenced 2007
  4. Passive: BC Coroners Office – commencing in 2009
  5. Passive: Canadian Institute Health Information
  6. ER study of crying complaints 0-5 months – 5% present at ER with crying complaints
- Jennifer Locke asked if a sub-study with BC NurseLine calls has been considered.
  - Jocelyn Conway reported that Dr. Ronald Barr will contact Peter Quick to check if it is possible.
- Joan Geber asked who would be contacting parents for the process measures.
  - Fahra Rajabali clarified that it would be members of the evaluation team calling.
- Joan Geber said that a few things may need to be considered such as privacy impact and the eventual replacement of iPHIS with Panorama.

8.0 Next meeting date

- Karen Breau announced next meeting date scheduled for Sept 11, 2009
  - Possibly in the Perinatal Health Program boardroom.

Prevent Shaken Baby Syndrome BC Steering Committee Minutes
January 15, 2010

Present: Karen Breau (Chair), Dr. Jean Hlady, Barbara Selwood, Leslie Clough and Marilyn Barr via in-person; Joan Geber and Lara Woodman via conference call

Guests: Fahra Rajabali, Jocelyn Conway, Anoo Mammen and Claire Yambao

Regrets: Dr. Bob Armstrong, Dr. Ian Pike, Aleksandra Stevanovic and Kellie Kilpatrick

Recorder: Claire Yambao

1.0 Approval of Agenda and September 11, 2009 Meeting Minutes

- Karen Breau called the meeting to order and the Committee reviewed the agenda and Sept 11, 2009 minutes for approval.
  - Both agenda and minutes were approved as circulated.

2.0 *PURPLE* public education campaign

- Marilyn Barr reported:
  - As contracted with MCFD, dose three of *PURPLE* is a public education campaign.
  - An Ipsos-Reid poll determining the baseline of BC *PURPLE* awareness was completed prior to implementation.
  - The campaign will consist of radio, print, billboard and soon to be television ads, posters, social media and earned (free) media.
  - limelitePR was the chosen public relations firm to collaborate on the BC campaign.
  - Prevent SBS BC applied for the BC Broadcasters Humanitarian Award which donates ~2 million in television and radio placement (decision on Apr 01, 2010).
  - The correct address for the parent website is www.purplecrying.info.
- Dr. Jean Hlady reported that non-related male caregivers are 50x more likely to shake an infant than related caregivers.
- Marilyn Barr reported that maternity nurses try to include partners during *PURPLE* education and PHNs speak with mothers, but whether mothers share the message will not be determined until parent surveys are completed.
- Marilyn Barr added that a revision in protocol encourages parents to review *PURPLE*:
  - Maternity nurses tell parents they are receiving a gift;
  - Parents are encouraged to open the gift at the hospital so they can see they are receiving both a DVD and booklet; and
  - Parents are encouraged to review the booklet during the nurse teaching.
- Dr. Jean Hlady said the histories Child Protection Services receive are inaccurate and the timing of shaken baby syndrome incidents is a mix.
- Marilyn Barr reported that soothing techniques will be provided on the parent website with a disclaimer that they may not work (prevent more harm than good).
- Marilyn Barr asked the Steering Committee who the target audience for the public education campaign should be with the two purposes of the campaign in mind: 1) to keep babies safe from shaking and 2) to have others support mothers.

Action: Leslie Clough offered to provide Marilyn Barr a date and time to ask parents who they feel should be the next group to receive the information during a BCW's prenatal class.

- Marilyn Barr mentioned that a *PURPLE* apple application is being developed.

Action: Barbara Selwood and Marilyn Barr will discuss the visual layout of the apple application.

3.0 Overview of *PURPLE* implementation progress

- Marilyn Barr reported:
  - 80% of hospital/health unit one year visits are completed with the rest to be done in Jan.
  - Perinatal and Public Health Leaders received a semi-annual report in Dec 2009/Jan 2010.
    - Fraser: returned evaluation forms = 75% of births and of those births, 93% of moms recall receiving *PURPLE* from maternity (dose one)
    - Interior: returned evaluation forms = 81% of births; recall rate = 92%
    - North: returned evaluation forms = 81% of births; recall rate = 78%

- Vancouver Coastal: returned evaluation forms = 75% of births; recall rate = 82%
- Vancouver Island: returned evaluation forms = 61% of births; recall rate = 92%

  - Revised implementation protocol was discussed earlier in the meeting.

4.0 Training of MCFD Personnel

- Jocelyn Conway reported:
  - Jackie Behrens and Jane Cowell encourage resource workers to complete training by use of a briefing note.
  - Social Workers are authorized to complete training as continuing education.
  - Foster parents of children aged three and under received a mail-out with a letter from Mark Sieben encouraging training.
  - A media event with Minister Pollack announced the *PURPLE* training of foster parents.
  - 684 contracted workers are trained.

5.0 Training of First Nations groups and physicians

- Anoo Mammen reported:

  With respect to First Nations, the following groups are providing *PURPLE* to families:
  - Community health nurses for 84 out of 198 communities;
  - Home visitors for 99 out of 198 communities;
  - Three out of eight pregnancy outreach programs; and
  - 15 out of 200+ Canada Prenatal Nutritional Groups.

  With respect to physicians and health support personnel:
  - A letter to the editor and news submission were sent to the BC Medical Journal;
  - BC College of Physicians will feature *PURPLE* in their e-newsletter and main page of revamped website; and
  - A *PURPLE* article has been included in the BC Medical Office Assistants' newsletter.

Action: Barbara Selwood offered to include the www.dontshake.ca website in the physician pathway.

6.0 Training of reinforcement groups

- Claire Yambao reported:
  - Majority of main reinforcement groups have received training and resources such as pregnancy outreach, infant development, post-secondary, adoption, etc.
  - Currently working with child care resource & referral, early childhood, immigration, ER departments and child & youth mental health (community program).

7.0 *PURPLE* surveillance and evaluation

- Fahra Rajabali reported:
  - The evaluation team is conducting: 1) parent surveys (VIHA and IHA but the other health authorities may require hiring a casual nurse to conduct the surveys) and 2) nurse surveys.
- Joan Geber suggested checking with PHSA groups whether privacy information agreements are necessary for data sharing.
- Fahra Rajabali mentioned that the parent surveys are conducted two to four months after receiving the phone numbers.
  - As of Aug 2009, returned evaluation forms equivalent to 86% of BC births show that more than 80% of mothers recall receiving *PURPLE* from maternity.
  - Active Surveillance: 66 abusive head trauma cases from July 2006–2010 of children aged 0-2; of these cases, 31 were referred to CPS and 6 were definite abuse.
  - Passive Surveillance: Half of the Coroners cases of children aged 0-2 have been reviewed.
  - ER study: crying complaints are charted for children aged 0-6 months (no ICD code for crying).

8.0 Next Meeting Date (and Other Business)

- Further discussion was made about the *PURPLE* education campaign "target group".
  - Grandparents and male caregivers were preferred options.
- Marilyn Barr announced that Jocelyn Conway will be leaving her position as Provincial Coordinator. Dr. Bob Armstrong has also left his position and his replacement on the Committee will need to be determined.
- Karen Breau announced that the next meeting date will be scheduled for April 2010.

Prevent SBS British Columbia Steering Committee Minutes

January 18, 2008

Present: Marilyn Barr (Chair), Sharon Toohey, Dr. Jean Hlady, Barbara Selwood, Aleksandra Stevanovic, Kellie Kilpatrick

Guests: Khairun Jivani, Dr. Ron Barr

Regrets: Karen Breau, Dr. Bob Armstrong, Dr. Ian Pike, Lidia Kemeny, Loreen O'Byrne, Joan Geber

Recorder: Claire Yambao

1.0 Approval of the Agenda and October 05, 2007 Meeting Minutes

- Karen Breau, Chairman, was unable to attend the meeting but asked Marilyn Barr to lead the meeting
- On behalf of Karen Breau, Marilyn Barr called the meeting to order and the Committee reviewed the agenda and last meeting's (October 05, 2007) minutes for approval.
- Aleksandra Stevanovic requested a correction in last meeting's minutes. In section "4.0 - MCFD Contract", the final copy of the contract was sent to Alan Markworth, not Mark Sieben.
- Minutes were approved by the group.

2.0 *The Period of PURPLE Crying*® Program Implementation Update

Marilyn Barr reported:

- Implementation of *The Period of PURPLE Crying*® has five phases: 1) training of maternity and public health nurses, 2) distribution of materials to parents, 3) first evaluation, 4) support maintenance, and 5) second evaluation.
- Two conference calls were held in November 2007, involving Perinatal Planners and Public Health Representing Directors, from all health authorities. This was set up by Barbara Selwood and Joan Geber.
- Prevent Shaken Baby Syndrome BC has two regional trainers: Claire Yambao for Fraser and the Interior, and Anoo Mammen for Vancouver Coastal, Vancouver Island, and the North.
- Training updates were mentioned:
  - Fraser is currently receiving training and should be completed by March 2008. Peace Arch Hospital is fully trained and all public health units will be trained on January 25, 2008.
  - Vancouver Island will commence training at the end of January 2008.
  - Vancouver Coastal will be trained from April to June, 2008.
  - Interior is in preliminary talks for commencing Public Health training in May, 2008.
  - North has a big training opportunity May 07th and 08th where Marilyn Barr and Ron Barr will be presenting at the Regional Child Abuse Conference. This may be a good time for Anoo Mammen to visit other parts in the North for training. Ron Barr added that Rose Perrin is a great source for contact information.
- In theory, training of reinforcement and enhancement groups were scheduled for year two; however some groups have already or are currently receiving training.
  - In Fraser and in Vancouver Island NICU nurses, pediatric nurses, social workers, midwives and ER personnel have been trained simultaneously with maternity staff.
  - Ron Barr presented at the BC College of Family Physicians Conference in December 2007 with 240 practitioners attending. The leader of the association is currently in the process of potentially getting CME credits for *PURPLE* training.
  - Ron Barr also presented at the Grand Rounds in January 2008 where practitioners from 8 sites attended.
  - Barbara Selwood reported that there may be a training opportunity of Aboriginal groups at a forthcoming Perinatal Aboriginal Committee Meeting. The new contact is Lucy Barney.
- The first order of *PURPLE* materials has been completed. The BC Ministry of Children and Family Development (MCFD) is funding materials for all new parents in BC. Child Health BC and the BC Perinatal Health Program are both funding 5,000 additional copies of *PURPLE* materials each year for 4 years to support community groups.
- The Press Release of *the Period of PURPLE Crying*® in North Carolina, USA was presented. Discussion of appropriately creating a press release for the BC program was discussed.

- Sharon Toohey recommended that the press release acknowledge UBC, BC Children's Hospital (including the foundation), Child and Family Research Institute, BC Ministry of Health, and BC MCFD.
- Marilyn Barr suggested the possibility of having the press release out by the end of January 2008. It will be sent to Bob Armstrong, Sharon Toohey, and Marisa Nichini for approval.
- Barbara Selwood reported that as per Joan Geber, it must first go through the Public Affairs Bureau.
- Aleksandra Stevanovic added that all the negative press about Dr. Charles Smith may change the press release of *PURPLE*
- Ron Barr expressed that this would be a good time for a press release as it will counter the negative press. He is doing "Sounds of Canada" on CBC which was set up by Jennifer Moss. He is also doing a piece on the "Almanac" on CBC through Dr. Haley.

Action: Barbara Selwood offered to provide Marilyn Barr with additional information on the forthcoming Perinatal Aboriginal Committee Meeting.
Action: Marilyn Barr offered to provide Aleksandra Stevanovic with a list of community groups being trained on *PURPLE.*
Action: Aleksandra Stevanovic offered to provide information on Prevent Shaken Baby Syndrome BC's press release to the Ministry and follow up with Marilyn Barr.

3.0 Response and Feedback About Process

- Marilyn Barr acknowledged the wonderful support Prevent SBS British Columbia has received from Child Health BC by funding a workshop on best practices for SBS prevention (January 11 - 12, 2008).
- Barbara Selwood listed the challenges of *PURPLE* implementation expressed at the workshop:
  - Finding a good time to teach parents as well as finding champions who can train other medical personnel (acute level)
  - Reaching fathers, especially in acute
  - Reaching marginalized groups (i.e. children in foster care and in adoptive families, young parents, Aboriginal communities, families in remote sites)
  - Training physicians
  - Inequalities in lack of computer skills and availability of computers for nurses but the importance of online training

Suggestions for minimizing some of these challenges included:

- Contacting the Community Health Resource (folks); Contact: Lucy Barney
- Letting hospitals and health units know what other hospitals and health units are doing (i.e. training). Pictures and personal stories may be helpful.

Updates included:

- Both the post-partum care path and liaison form are currently being updated and will incorporate *PURPLE.*
- The *PURPLE* evaluative form has been reviewed by Public Health members, and a few suggestions were made.

Action: Barbara Selwood will review the evaluative form with Marilyn Barr.

4.0 Training of MCFD Personnel

Aleksandra Stevanovic reported:

- Conference call was made to inform all MCFD regions about *PURPLE* implementation.
- Proposal for attending the Seventh North American SBS Conference was received and looks very promising; MCFD will be a sponsor which gives them 68 spots (MCFD will need more).
- *PURPLE* training needs to be linked to: 1) Safe Baby program, 2) foster parents, and 3) front-line workers
- List of all the BC MCFD offices was given to Jocelyn Conway by Jennifer Locke.
- Training of MCFD may occur simultaneously with training of public health nurses in each health authority. Marilyn Barr would be pleased to work it out, but expressed the potential challenge of amalgamating the training sessions.

5.0 Process Evaluation and Program Evaluation and
6.0 Evaluation Project at the BC Coroners Office

Kellie Kilpatrick reported that:

- The Coroner's Office and Evaluation program is alive; there is a global interest in *PURPLE*.

- The evaluation program will soon be getting a signed agreement (Tej will be providing what is needed)

Ron Barr added:

- The Coroner's Offices is 1 of 6 evaluating systems but provides a solid outcome measure
- The contrast group being used is motor vehicle accidents to determine markers
- The evaluation team knows how to extract information from 1999 – 2002 and is now trying to extract information from 2002+ onward (due to change from ICD-9 to ICD-10 codes).
- Drs. Ron Barr and Takeo Fujiwara have been invited to a Centre for Disease Control Meeting in Atlanta, GA to discuss ways of overcoming challenges between ICD-9 and ICD-10 codes
- Dr. Ash Singhal, Head of BC Children's Neurosurgery Dept is also involved in the evaluative process.

Kellie Kilpatrick reported:

- Terms such as Sudden Infant Death Syndrome and Sudden Unexplained Death Syndrome, both are labeled, "undetermined" in BC
- New legislation in BC requires all cases that are determined "natural", to be sent to the Coroner's Office first.
- Sudden/Unexpected deaths = ~175 vs. Natural = ~175/yr

Khairun Jivani reported:

- Factors that needed to be considered in creating a comprehensive evaluation form for the PHNs to fill out included:
  - How the information would reach public health nurses and in turn, how it would reach the evaluation team
  - How many mothers were reached
  - Language
  - Efficiency – follow up with trainers
    1) Fathers are a subset of CIHI
    2) Child Protection Services
    3) Active Surveillance
    4) Coroner's Office
- Barbara Selwood added that we would receive the evaluation forms from the public health units either via pick up from Prevent SBS staff or from a mail-out
- Ron Barr mentioned that the IPSOS-Reid is done and may be done again sometime during implementation of PURPLE and then afterwards
- Kellie Kilpatrick asked if both closed and open files were included in the evaluation process
- Ron Barr clarified that closed files were included and there was a possibility that open files were included but that follow up was needed

7.0 Child Health BC Workshop (Jan 11 - 12, 2008)

- This section was covered by Barbara Selwood during "3.0 Response and Feedback about Process"

8.0 Seventh North American Shaken Baby Syndrome Conference (October 05 – 07, 2008)

Marilyn Barr reported:

- The conference will have over 80 workshops
- Include "other theories" on shaken baby syndrome
- Several world-renowned experts as keynote presenters
- Include the military
- Dr. Chadwick will have an article out supporting that short falls do NOT cause shaken baby syndrome, which will be available in March 2008.
- All BC professionals wanting to attend the conference can register collectively under the "BC Team" so that rates are discounted to $150.00 per person.

Kellie Kilpatrick added:

- The entire Coroner's Unit will be in attendance; operational-side may also attend
- Suggests getting the Crown to attend

9.0 Other Business

Barbara Selwood reported:

- Baby's Best Chance DVD will be updated and *PURPLE* will be incorporated

Jean Hlady reported:

    - There were 7 confirmed Abusive Head Trauma (AHT) cases and 5 suspected cases at BC Children's Hospital last year. Most AHT cases are shaken baby cases and this can be determined when 1) there is a witness to the shaking, 2) Ministry is involved, and 3) the story of incidence is vague. Biological evidence is not needed in cases and the oldest case in 2007 was 3 – 3.5 years.
- The continued need for a Shaken Baby Syndrome Steering Committee was discussed. Members agreed that having a committee was important. Whether semi-yearly meetings may replace quarterly meetings was also discussed.
- Barbara Selwood suggested that a tertiary group of "nannies" should also be considered in *PURPLE* training.
  Action: Steering Committee Members to discuss further the replacement of quarterly meetings with semi-yearly meetings.

10.0 Next Meeting

- The committee will determine the next meeting date for May/June 2008.

Shaken Baby Syndrome Steering Committee Minutes

March 30, 2007

Present: Karen Breau (Chair), Marilyn Barr, Clara Robbins, Lidia Kemeny, Loreen O'Byrne, Aleksandra Stevanovic, Dr. Jean Hlady, Sharon Toohey, Dr. Ian Pike, Khairun Jivani

Regrets: Beth Larcombe, Kellie Kilpatrick, Dr. Bob Armstrong, Mark Sieben

Recorder: Claire Yambao

1.0 Approval of the Agenda

- Karen called the meeting to order and the Committee reviewed the agenda for approval.
- In addition to the agenda, Jean presented 5 severe cases of SBS admitted at Children's Hospital from December 2006 to March 2007. Ages ranged between 2 months to 15 months. Four of the five cases were determined as abusive head trauma (AHT) with one having crying as a specified trigger. The most current case is suspected AHT and is undergoing investigation.

2.0 Approval of October 27, 2006 meeting minutes

- Minutes from the last Steering Committee meeting (October 27, 2006) were approved as circulated.

3.0 Preliminary Results: *Period of PURPLE Crying* Program

3.1 Preliminary Results

Marilyn reported:

- A correlation between mother's sense of adequacy – increase in infant crying resulted in an increase of reported depression
- 22% increased knowledge of normal infant crying
- 63% decreased belief that shaking was a good way to calm an infant
- 74% increased walk away when frustrated behaviour
- 9%-13% increased sharing of information on:
    - Normal infant crying
    - Walk away when frustrated behaviour
    - Dangers of shaking

3.2 Updates on the Study

- 1800 participants in total
- *PURPLE* video was modified 8 times and the booklet was modified 16 times
- By the end of 2007 both the *PURPLE* video and booklet will be translated into 8 different languages as well as closed-captioning for the hearing impaired
- Lidia suggested the phrase "Healthy babies can cry a lot in their first *four* months of life" on the first page of the *PURPLE* booklet be changed to "Healthy babies can cry a lot in their first *few* months of life".

4.0 Implementation of the *Period of PURPLE Crying* Program

Marilyn reported:

- Based on research, prevention programs have an efficacy rate of 25% – 47%
- SBS has a clear stimulus = crying
- This program aims to provide 90% - 95% of mothers with *PURPLE* materials using three methods:
    1. Maternity Wards (main distribution)
    2. Public Health Units
    3. Public Education Program

- Evaluation of penetration will be achieved via incidence data (Surveillance Team) and via the public campaign (Ipsos-Reid).
- Support for the program has come from many institutions and organizations
    - Children's Hospital
    - MCFD
    - B.C. Public Health Nurses
    - Vancouver Foundation – translation, website
    - Fraser Health Authority – website and learning modules
    - Japan Ministry of Health – translation, media campaign
    - Rick Hansen Foundation –3 translations
    - Community Cares Foundation – 1 translation
- Loreen brought up the issue of the Ministry of Health having "scant knowledge" of the *PURPLE* program. They have heard of the program but still have many questions. More information needs to be provided. One potential solution is to have more Health Authority representatives attend Steering Committee Meetings.
- Action: Sharon Toohey to follow-up with Rebecca Harvey and Brian Schmidt regarding potential Ministry of Health representatives on the Steering Committee.
- Another issue may be getting public health nurses to distribute program information if they have already received training in other programs. One potential solution is to commence implementation as soon as possible. A representative from Women's Hospital would also be helpful on the Steering Committee.
- Action: Karen Breau to follow-up with John Andruschak, (Director, BC Reproductive Care Program) as a representative of perinatal provincial services for the Steering Committee.
- Increase of infants presenting multiple fractures with crying as a stimulus needs to be further examined.
- Action: Ian Pike and Marilyn Barr will proceed with efforts to include other injuries of infants in the evaluation process

5.0 Website and Learning Module

- Jocelyn presented the B.C. Shaken Baby Syndrome Prevention Program website and learning module. The various areas of the website were discussed: What is SBS?, Infant Crying, Information for Professionals, as well as Parents and Caregivers, Resources and Journal Articles. The Introductory Learning Module which is intended for multidisciplinary professionals and the general public interested in learning more about SBS was funded by FHA. The first 50 FHA employees may take the course free of charge.
- Sharon suggested ensuring that the government logo be visible on the website.
- Other suggestions from the Steering Committee included having information for persons who suspect that a child is being shaken, as well has having information for parents who feel they may shake their child and need immediate assistance (for example, B.C. Nurses Line, Helpline for Children 310-1234).

6.0 SBS Surveillance Update

Ian and Khairun presented the update for SBS Surveillance.

The methods which will be used to test the *PURPLE* Program effectiveness in reducing SBS are as follows:

- A province-wide surveillance of inflicted trauma in infants 0-2 years of age
- Current Phase: Capture all possible inflicted child neurotrauma cases at the department of neurosurgery at BC children's Hospital (Active Surveillance). They are also trying to capture cases from the Discharge Abstract Database (administrative dataset) based on ICD 10 codes (Passive Surveillance). A major impediment to monitoring cases is the lack of an operational definition for SBS in the International Disease Classification (ICD) 10 coding system (introduced in BC in 2001). In order to address this challenge they are trying to establish different categories based on literature, possible diagnosis and causes for ICN. These potential categories will then be used to calculate incidence rates for 2001/02-04/05 from Discharge Abstract Database (DAD).
- They are still pursuing relationships with child protection groups in hopes to unify case definitions and capture all possible SBS cases.
- Data collection (as part of the active surveillance) Is underway

- A recent study found that based on ICD 09 codes, using an administrative database is effective. This surveillance project breaks new ground as there are no existing studies that measure SBS through ICD 10 codes.
- Difficulty with establishing possible SBS case definitions due to the shift of ICD-09 codes to ICD-10 coding system.
- Active Surveillance at BC Children's Hospital has identified 13 traumatic brain injury (TBI) cases (Aug 06- March 07) of which 5 cases have been identified as SBS and were referred to CPS.
- Surveillance data will establish SBS incidence baseline to evaluate the effectiveness of the PURPLE intervention program

7.0 Name Change

Marilyn unveiled the B.C. Shaken Baby Syndrome Prevention Program's new name:

- The names presented were "Prevent SBS B.C." and "Prevent SBS British Columbia".
- Loreen suggested that the "SBS" acronym may be misinterpreted as "Success by Six". Marilyn recalled hearing "SBS" as "School Bus Safety".
- The Steering Committee produced the alternative name "Prevent Shaken Baby Syndrome B.C."
- Action: Marilyn and the team will evaluate these recommendations.

8.0 Other Business

Karen asked the committee if there was other business that needed to be addressed.

- Beth Larcombe asked to be excused from the SBS Steering Committee
- Kellie Kilpatrick may be Beth's permanent replacement
- Acknowledgement of Ian Pike: resignation and replacement, Khairun Jivani on the Committee

9.0 Next Meeting

- The committee will determine the next meeting date for September 2007.

Prevent SBS British Columbia Steering Committee Minutes

May 30, 2008

Present: Karen Breau (Chair), Barbara Selwood, Aleksandra Stevanovic, Kellie Kilpatrick, Joan Geber, Marilyn Barr

Guests: Fahra Rajabali, Jocelyn Conway, Claire Yambao

Regrets: Bob Armstrong, Ian Pike, Jean Hlady, Loreen O'Byrne, Larry Gold, Leslie Clough

Recorder: Claire Yambao

1.0 Approval of the Agenda and January 18, 2008 Meeting Minutes

- Karen Breau reported:
  - The Terms of Reference is attached per requested.
  - Larry Gold, President of BCCH, will be replacing Sharon Toohey. Leslie Clough, Manager of Patient and Family Education at BCW/WHC, will also be joining the Committee. Lidia Kemeny has resigned from her position at BCCH and a possible replacement, Jennifer Locke from MCFD was mentioned.
- Kellie Kilpatrick requested a correction in section "8.0 Seventh North American Shaken Baby Syndrome Conference" in January 18, 2008 meeting minutes; Kellie Kilpatrick reported that the Child Death Review Unit will be in attendance, not the entire BC Coroners Office.

Action: Invite Jennifer Locke to the next Prevent SBS BC Steering Committee Meeting.
Action: Committee will review Terms of Reference.

2.0 Overview of Implementation Process

- Marilyn Barr reported:
  - *PURPLE* "Implementation" has two phases: 1) training of professionals; 2) distribution of materials.
  - Suggestions for implementation include: 1) people who have not yet received training or implemented the program speak with people who have already gone through the processes, 2) testimonials from parents.
  - The BC Coroners Office Annual Report is available on June 25, 2008. *The Period of PURPLE Crying*® received a gold star for prevention.
  - The BC assistant deputy ministers presented *The Period of PURPLE Crying*® as a provincial initiative at the June 2008 MCFD and equivalent Deputy Ministers nation-wide retreat.

3.0 *PURPLE* Training and Implementation Progress, Maternity, Public Health, and Midwifery Reports

- Current BC update of *PURPLE* Implementation is attached.

4.0 Training of MCFD, First Nations, and Community Groups

- Jocelyn Conway reported:

MCFD

- Jennifer Locke has been in contact
- Currently working with Ronald Barr to give proper information to high-risk groups
- MCFD front line social workers, child protection workers, resource workers etc. will receive the same training in *PURPLE*. Specific training for safe-start and foster parents will also be available.

First Nations

- First Nations representatives are always invited to *PURPLE* training sessions.
- Ronald Barr presented *PURPLE* at the BC Perinatal Health Program Provincial Aboriginal Planning meeting in April 2008.
- Lucy Barney has presented the idea with her group to have a one day workshop to train leads on *PURPLE*. A copy of *PURPLE* will be included in the educational packages being sent to each band office.

Action: Joan Geber, Barbara Selwood and Kellie Kilpatrick offered to connect Marilyn Barr with Marilyn Ota.

BC Nurseline

- All 128 nurses have been trained on *PURPLE* using the online training modules.
- The Nurseline changed their protocol so that nurses advise parents to take their child to the hospital after two hours of crying rather than thirty minutes.

Action: Jocelyn Conway offered to forward the nurses comments on training to Joan Geber.

Community Groups

Action: Updates on emergency groups and midwives will be added to next meeting's agenda
Action: Barbara Selwood offered to provide Jocelyn Conway with the contact information for the MOA Newsletter.

5.0 April 11th *PURPLE* Media Event and Child Abuse Prevention Day

- There was coverage in various online news reports and evening news (CTV, Global, etc.).

6.0 Evaluation of *PURPLE* Program

❖ Fahra Rajabali reported:

- CIHI Proposal: Confirmed the ICD-10 codes and finalizing proposal/obtaining signatures
- Coroners Report: Finalizing agreement; signatures required. Agreement was sent out June 02, 2008.
- Child Protection Services Data (CPS): Cases requiring investigation will be done with the CPS team and if in doubt, medical health record files will be extracted.
- Process measures: Possible implementation process measures include 1) parent survey form, and 2) nurse fidelity form.
- Possible alternative process measures include evaluation forms in the DVD/booklet package or sending out an email with a link to the survey.

7.0 Progress Report for Perinatal Point of View

Barbara Selwood reported:

- Challenges that were mentioned regarding *PURPLE* included:
    1. Public health being trained and ready to go, but having to wait for their affiliated hospitals to complete training
    2. Ensuring that Aboriginal counterparts are included
    3. Obtaining ~80% trained
- It was also reported that *PURPLE* will be included in the maternal care path and community liaison record form.

8.0 Update: Research at the BC Coroners Office

Kellie Kilpatrick reported:

- BC Coroners Office is almost there in getting the research contract signed.
- Annual Report – review of 395 deaths (children 19 years and under) from 1999 – 2007 will be available June 25, 2008.

Action: Kellie Kilpatrick offered to send the Committee an electronic version of the report.

9.0 Seventh NA SBS Conference (Oct 05 – Oct 07, 2008)

Marilyn Barr reported:

- MCFD, Ministry of Health, BC Children's Foundation and Fraser Health Acquired Brain Injury Program have each contributed $10,000 to the Conference. This will be used to provide 68 free scholarships for each group.

Action: Joan Geber offered to distribute ten scholarships to MoH colleagues.
Action: Kellie Kilpatrick offered to inform colleagues at the BC Coroners Office of five available scholarships.

9.0 Terms of Reference

- Will be reviewed and approved at the next meeting.

10.0 Next Meeting

- The Committee will determine the next meeting date for mid to late October 2008.

* Please note that these minutes are a summary and the detailed version is on file.

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BC Children's Hospital Shaken Baby Syndrome Steering Committee January, 2010

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BRITISH COLUMBIA

July 14, 2010

Annie Lam
Research Contracts Coordinator
Child & Family Research Institute
Rm A2-135, 950 W 28th Ave
Vancouver BC V4C 1C8

Dear Ms. Lam:

Enclosed please find one revised fully signed contract (XLR167974), which is a modification agreement amending and extending the contract through March 31, 2011. This is for your records.

Would you please make sure that Dr. Barr and the Shaken Baby Syndrome Prevention group also have a copy of this contract?

Thank you very much.

Sincerely,

Terre Poppe
Office Manager

Enclosure

Ministry of Children and Family Development

Early Years Team

Mailing Address:
PO Box 9778 Stn Prov Govt
Victoria, BC V8W 9S5

Telephone: 250 356-1126
Facsimile: 250 356-0399
Web: http://www.gov.bc.ca/mcf

Location Address:
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Victoria, BC V8W 1L8

BRITISH COLUMBIA

April 30, 2010

Annie Lam
Research Contracts Coordinator
Child & Family Research Institute
Rm A2-135, 950 West 28th Ave
Vancouver, BC, V4C 1C8

Dear Ms. Lam:

Enclosed please find one fully signed contract (XLR167974), which is a modification agreement amending and extending the contract through March 31, 2011. This is for your records.

Would you please make sure that Dr. Barr and the Shaken Baby Syndrome Prevention group also have a copy of this contract?

Thank you very much.

Sincerely,

Terre Poppe
Office Manager

Enclosure

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Early Years Team

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BRITISH COLUMBIA

March 31, 2011

Annie Lam
Research Contracts Coordinator
Child & Family Research Institute
Rm 3110, 950 W 28th Ave
Vancouver BC V5Z 4H4

Dear Ms. Lam:

Enclosed please find one fully signed contract (XLR167974), which is a modification agreement covering the period of April 1, 2011, through March 31, 2012.

Would you please make sure that Dr. Barr and the Shaken Baby Syndrome Prevention group also have a copy of this contract?

Thank you very much.

Sincerely,

Terre Poppe
Office Manager

Enclosure

Ministry of Children and Family Development

Early Years Team

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BRITISH COLUMBIA

October 28, 2009

Lana Lee
Government Contracts Assistant
University – Industry Liaison Office
University of British Columbia
#103 – 6190 Agronomy Rd
Vancouver BC V6T 1Z3

Dear Ms. Lee:

Enclosed please find one fully signed contract (XLR167974), which is a modification agreement amending and extending the contract through March 31, 2010. This is for your records.

Would you please make sure that Dr. Barr and the Shaken Baby Syndrome Prevention group also has a copy of this contract?

Thank you very much.

Sincerely,

Terre Poppe
Office Manager

Enclosure

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BC Children's Hospital Shaken Baby Syndrome Steering Committee September, 2008

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From: Douglas, Kelly A MCF:EX
Sent: Thursday, September 20, 2007 3:12 PM
To: Stevanovic, Aleksandra MCF:EX
Subject: SBS

Attachments: Shaken Baby Syndrome.xls
SBS info from MARS

Shaken Baby Syndrome.xls (21 K..

Kelly Douglas
Policy Analyst
Early Years Team
Ministry of Children and Family Development
p: (250) 387-7267
f: (250) 356-7346

BRITISH COLUMBIA | Ministry of Children and Family Development

REQUEST FOR CONTRACT APPROVAL: MODIFICATION AGREEMENT

The information requested on this form is collected under the authority of and will be used for the purpose of administering the *Financial Administration Act*. Under certain circumstances, the collected information may be subject to disclosure as per the *Financial Administration Act* and/or the *Freedom of Information and Protection of Privacy Act*. Any questions about the collection, use or disclosure of this information should be directed to the Help Desk, Finance and Administration Branch, (250)953-4380, PO Box 9760 Stn Prov Govt, Victoria, B.C. V8W 9S4.

In order to initiate the modification process, you are required to attach a copy of your approved CF2511A form, a copy of the initial contract and a draft copy of this form (CF2511B).

For office use only

CLIFF # 197196

CROSSREFERENCE # 192378

1. VALUE OF INITIAL AND MODIFIED CONTRACT

	FROM (YYYY/MM/DD)	TO (YYYY/MM/DD)	MAXIMUM FEES	MAXIMUM EXPENSES	TOTAL
Initial Contract			$	$	$ 0.00
Modification #1			$	$	$ 0.00
Modification #2			$	$	$ 0.00
Total Amount (cumulative value of Initial contract and any modifications)			$ 0.00	$ 0.00	$ 0.00

2. RATIONALE FOR MODIFICATION (check all that apply)

- ☐ Change in contractor's legal name or address
- ☐ Price change
- ☐ Term change
- ☑ Price and Term change
- ☐ Scope change (same as Direct Award)
- ☐ Direct Award (must meet at least one of the criteria in CPPM,

3. ADDITIONAL RATIONALE FOR MODIFICATION

(Identify factors that were not known during the procurement and contract award processes)

Contract term extended to March 31, 2012 to implement the final year of the Period of PURPLE Crying Shaken Baby Syndrome prevention program.

Contract aggregate increased to $1,376,116

4. REVIEW AND ADVICE (see Approval Matrix/Process Chart)

☐ Contract Specialist (if applicable)

Reviewed by: _____ Date (YYYY/MM/DD): _____

and/or

☑ Procurement Governance and Policy Team (for professional service contracts only)

Reviewed by: Michael Quinn (see email) Date (YYYY/MM/DD): 2011/03/17

5. APPROVALS (See Approval Matrix/Process Chart and sign where applicable)

APPROVING AUTHORITY		SIGNATURE	DATE SIGNED (YYYY/MM/DD)
Expense Authority - I hereby certify that this request meets all applicable government and ministry policies			
Assistant Deputy Minister	☐ Approved ☐ Not Approved		
Executive Financial Officer	☐ Approved ☐ Not Approved		

CF2511B (07/11)

DISTRIBUTION: ORIGINAL - CONTRACT FILE COPY 1 - FINANCIAL PLANNING AND REPORTING COPY 2 - PROCUREMENT GOVERNANCE AND POLICY TEAM

BRITISH COLUMBIA	Ministry of Children and Family Development	**MODIFICATION AGREEMENT**

BETWEEN

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA,
represented by Minister Of Children and Family Development

the Ministry of Children and Family Development
(the "Province", the "Minister", a "Director", "we", "us", or "our" as applicable)

AND

Children and Women's Health Centre of British Columbia
(the "Contractor", "you", or "your" as applicable)

BACKGROUND

A. The parties entered into an agreement number **XLR167974** and dated **October 1**, **2007**, (the "Agreement").

B. The parties have agreed to modify the Agreement effective April 1, 2011.

AGREEMENT

The parties agree as follows:

1. To modify Schedule A (see attached)

   To modify Schedule B (see attached)

2. In all other respects, the Agreement is confirmed.

The parties have duly executed this modification agreement as of the _____ day of _____, _____.

SIGNED AND DELIVERED on behalf of the Province by its authorized representative:	**SIGNED AND DELIVERED** by or on behalf of the Contractor (or by an authorized signatory of the Contractor if a Corporation)
Authorized Representative	Contractor or Authorized Signatory
Name Keva Glynn	Name Dr. Jan Friedman
Title Senior Director, Early Years Policy & Support	Title Acting Executive Director, Children & Family Research Institute

DISTRIBUTION: COPY 1 - FINANCIAL SERVICES DIVISION COPY 2 - CONTRACTOR COPY 3 - ORIGINATING OFFICE

SCHEDULE A – SERVICES

The Contractor will provide the following deliverables for the period of this modification, April 1, 2011, through March 31, 2012.

PURPLE **Program Implementation**

1. **Birthing Hospitals and Health Centres**

   a) Provide ongoing consultation, training and distribution of materials to all birthing hospitals and health centres.
   b) Provide annual report to Perinatal and Public Health Directors, by March 31, 2012, and quarterly newsletter updates to all birthing hospitals and health centres.
   c) Provide annual report on process measures and progress reports, by March 31, 2012.
   d) Create partnerships with champions from each health authority to sustain *PURPLE* program.

2. **MCFD Personnel, Foster Parents, Social Workers and Contracted Family Support Workers**

   a) Provide ongoing consultations and training with specifically designed online modules and compact discs to ministry personnel, foster parents, social workers and contracted family support workers at no charge 24/7. Incorporate these trainings into ministry curriculum whenever possible.
   b) Provide training and implementation reports to Coordinators/Managers as requested.
   c) Supply resource packages as needed to agency educators and newly trained personnel.
   d) Continue to support partnerships with champions from each agency and association and describe protocol for institutionalizing the *PURPLE* program training.

3. **Community Groups**

   a) Provide ongoing consultation and training to health support workers, emergency room personnel, family physicians, paramedics and community agencies.
   b) Supply resource packages and online module access as needed for newly trained personnel.
   c) Continue to support partnerships with champions from each agency and describe protocol to ensure the *PURPLE* program messages and training are institutionalized.

4. **Aboriginal Services**

   a) Provide ongoing training to community health nurses, federal nurses and band nurses as well as community agencies, delegated agencies, Aboriginal foster parents and family support workers.
   b) Supply resource packages as needed to newly trained personnel and materials to be distributed to on-reserve families.
   c) Continue to support partnerships with champions from each agency and association and describe protocol for sustaining *PURPLE* program.

Public Education

5. **Implement a public education campaign that will target specific social populations**

    a) Implement a "*PURPLE Tear*s" decals event, where birthing hospitals, health centres and public establishments (grocery stores, community centres and banks) throughout the province will place tear decals (with the normal crying messages) on their floors, windows or doors for a minimum two-week period: May 2011 – July 2011.
    b) Implement a second year "Knitted Caps Campaign". Volunteers contacted via social media to knit purple baby caps to be distributed in conjunction with the *PURPLE* DVD/booklet package at birthing hospitals: June 2011 – December 2011.
    c) Maintain public and media relations efforts such as op-eds, speaking opportunities, by-lined articles and pitching unique story angles to local media province-wide.
    d) Continue to utilize social media and leverage Web site.

Evaluation

6. **Continue internal process evaluation to determine the ongoing effectiveness of program and progress toward stated goals** by tracking numbers of parents served, number and types of training sessions for nurses and community groups, number and types of meetings attended and number of *PURPLE* materials used.

7. **Continue active surveillance of head trauma admissions, including chart reviews,** to determine number of cases of SBS/abusive head trauma to compare against pre-implementation baseline.

8. **Acquire third set of Canadian Institute for Health Information** data and do post-implementation analysis of incidence rate of: (a) abusive head trauma (confirmation of first analysis in 2009); (b) abusive fractures with and without head trauma (new); and (c) physical abuse generally in 0-2, 0-1, 1-2 year olds in BC, Canada and non-implemented provinces. The CIHI data will be the most important outcome index because of the ability to compare BC rates with Canada and other provinces.

9. **Evaluate economic recession impact on SBS/AHT and physical abuse incidence in 0-6 months, 0-1, 0-2 and 1-2 year olds in BC (2009-2010).**

10. **Complete Child Protection Services Chart Review to confirm cases using Feldman's criteria** of SBS/AHT, physical abuse and complaints of shaking to establish annual incidences through to the end of the contract.

11. **Complete post-implementation review of BC Coroner's Office cases of SBS/AHT and physical abuse deaths (2008-2011).** Note: because of "open" cases, completion of 2012 cases may extend beyond the end of the contract.

12. **Complete measures of "distribution** "as of February 28, 2012, of program by Public Health Nurses (PHN) reporting forms to track ability to reach >85 percent of new births in all areas (birthing hospitals) in the province. This will give us a good three-year dataset. Additionally, smaller samples of PHN surveys will be conducted until the end of the contract to ensure that materials are being delivered.

13. **Complete stratified random sampling nurse interview measures of "fidelity"** in the delivery of the protocol by Health Authority. This will be ongoing until the end of the contract.

14. **Complete stratified random sampling maternal 2 – 4 month interview** at two to four months post-birth in each Health Authority to assess: (a) fidelity of delivery in hospital; (b) rate of use (reading booklet, viewing DVD); (c) retention of messages; (d) distribution rate; and (e) method of receipt of program. This will be ongoing until the end of the contract.

15. **Estimating *change in* false negative rates of SBS/AHT.** CIHI data will be used to estimate *change in* probable false negative rates of SBS/AHT by use of W codes to determine how many cases were inappropriately attributed to short-fall causes (after Chadwick et al., 2007). Pre-implementation baseline rates (established in Year 3) are used as baseline for change.

16. **Estimate time courses and temporal correlation of SBS/AHT, abusive fractures and physical abuse with economic recession** using CIHI data, active surveillance of SBS/AHT rates, CPS confirmed cases and BC Coroner's cases. This adds another year of *recovery* to the time course.

17. **Establish post-implementation annual incidence rate of Medical Emergency Room (MER) complaints of crying/colic in infants 0-5 months of age between 2008-2011.** By comparing to baseline (established in Year 3), this provides a secondary outcome measure to determine whether *PURPLE* implementation increased or decreased (expected) MER usage for crying/colic complaints.

18. **Carry out Ipsos-Reid poll** of general public knowledge of *Period of PURPLE Crying*, crying knowledge and shaking. This is the repeat of the original poll done in 2007. Comparison of original poll and this one provides estimate of societal change in understanding of crying and shaking pre- to post-implementation.

<u>Reporting</u>

19. **Provide written report by March 31, 2012,** on the deliverables listed in this Schedule, summarizing key activities of each, in a format acceptable to the ministry.

SCHEDULE B – FEES & EXPENSES

1. Fees:

The Province will pay the Contractor total fees of $172,556 for the deliverables outlined in sections 1 through 19 in Schedule A of this Agreement, for the period April 1, 2011, through March 31, 2012.

2. Payment:

The Province will make payments to the Contractor in the following amounts and manner:

a) The amount of $12,296.33 on or about the 15th day of each month commencing on the 15th day of April 2011, and continuing to the end of the Funding Period to a maximum amount, not to exceed $147,556.
b) An amount not to exceed $25,000 for PURPLE materials, to be paid upon submission of an invoice detailing costs.

3. Maximum Amount Payable:

In no event will the financial contribution payable to the Contractor for the term of April 1, 2011, through March 31, 2012, exceed $172,556.

SCHEDULE A – SERVICES

The Contractor will provide the following deliverables for the period of this modification, April 1, 2011, through March 31, 2012.

PURPLE **Program Implementation**

1. **Birthing Hospitals and Health Centres**

   a) Provide ongoing consultation, training and distribution of materials to all birthing hospitals and health centres.
   b) Provide annual report to Perinatal and Public Health Directors, by March 31, 2012, and quarterly newsletter updates to all birthing hospitals and health centres.
   c) Provide annual report on process measures and progress reports, by March 31, 2012.
   d) Create partnerships with champions from each health authority to sustain *PURPLE* program.

2. **MCFD Personnel, Foster Parents, Social Workers and Contracted Family Support Workers**

   a) Provide ongoing consultations and training with specifically designed online modules and compact discs to ministry personnel, foster parents, social workers and contracted family support workers at no charge 24/7. Incorporate these trainings into ministry curriculum whenever possible.
   b) Provide training and implementation reports to Coordinators/Managers as requested.
   c) Supply resource packages as needed to agency educators and newly trained personnel.
   d) Continue to support partnerships with champions from each agency and association and describe protocol for institutionalizing the *PURPLE* program training.

3. **Community Groups**

   a) Provide ongoing consultation and training to health support workers, emergency room personnel, family physicians, paramedics and community agencies.
   b) Supply resource packages and online module access as needed for newly trained personnel.
   c) Continue to support partnerships with champions from each agency and describe protocol to ensure the *PURPLE* program messages and training are institutionalized.

4. **Aboriginal Services**

   a) Provide ongoing training to community health nurses, federal nurses and band nurses as well as community agencies, delegated agencies, Aboriginal foster parents and family support workers.
   b) Supply resource packages as needed to newly trained personnel and materials to be distributed to on-reserve families.
   c) Continue to support partnerships with champions from each agency and association and describe protocol for sustaining *PURPLE* program.

Public Education

5. **Implement a public education campaign that will target specific social populations**

    a) Implement a "*PURPLE Tear*s" decals event, where birthing hospitals, health centres and public establishments (grocery stores, community centres and banks) throughout the province will place tear decals (with the normal crying messages) on their floors, windows or doors for a minimum two-week period: May 2011 – July 2011.
    b) Implement a second year "Knitted Caps Campaign". Volunteers contacted via social media to knit purple baby caps to be distributed in conjunction with the *PURPLE* DVD/booklet package at birthing hospitals: June 2011 – December 2011.
    c) Maintain public and media relations efforts such as op-eds, speaking opportunities, by-lined articles and pitching unique story angles to local media province-wide.
    d) Continue to utilize social media and leverage Web site.

Evaluation

6. **Continue internal process evaluation to determine the ongoing effectiveness of program and progress toward stated goals** by tracking numbers of parents served, number and types of training sessions for nurses and community groups, number and types of meetings attended and number of *PURPLE* materials used.

7. **Continue active surveillance of head trauma admissions, including chart reviews,** to determine number of cases of SBS/abusive head trauma to compare against pre-implementation baseline.

8. **Acquire third set of Canadian Institute for Health Information** data and do post-implementation analysis of incidence rate of: (a) abusive head trauma (confirmation of first analysis in 2009); (b) abusive fractures with and without head trauma (new); and (c) physical abuse generally in 0-2, 0-1, 1-2 year olds in BC, Canada and non-implemented provinces. The CIHI data will be the most important outcome index because of the ability to compare BC rates with Canada and other provinces.

9. **Evaluate economic recession impact on SBS/AHT and physical abuse incidence in 0-6 months, 0-1, 0-2 and 1-2 year olds in BC (2009-2010).**

10. **Complete Child Protection Services Chart Review to confirm cases using Feldman's criteria** of SBS/AHT, physical abuse and complaints of shaking to establish annual incidences through to the end of the contract.

11. **Complete post-implementation review of BC Coroner's Office cases of SBS/AHT and physical abuse deaths (2008-2011).** Note: because of "open" cases, completion of 2012 cases may extend beyond the end of the contract.

12. **Complete measures of "distribution** "as of February 28, 2012, of program by Public Health Nurses (PHN) reporting forms to track ability to reach >85 percent of new births in all areas (birthing hospitals) in the province. This will give us a good three-year dataset. Additionally, smaller samples of PHN surveys will be conducted until the end of the contract to ensure that materials are being delivered.

13. **Complete stratified random sampling nurse interview measures of "fidelity"** in the delivery of the protocol by Health Authority. This will be ongoing until the end of the contract.

14. **Complete stratified random sampling maternal 2 – 4 month interview** at two to four months post-birth in each Health Authority to assess: (a) fidelity of delivery in hospital; (b) rate of use (reading booklet, viewing DVD); (c) retention of messages; (d) distribution rate; and (e) method of receipt of program. This will be ongoing until the end of the contract.

15. **Estimating *change in* false negative rates of SBS/AHT.** CIHI data will be used to estimate *change in* probable false negative rates of SBS/AHT by use of W codes to determine how many cases were inappropriately attributed to short-fall causes (after Chadwick et al., 2007). Pre-implementation baseline rates (established in Year 3) are used as baseline for change.

16. **Estimate time courses and temporal correlation of SBS/AHT, abusive fractures and physical abuse with economic recession** using CIHI data, active surveillance of SBS/AHT rates, CPS confirmed cases and BC Coroner's cases. This adds another year of *recovery* to the time course.

17. **Establish post-implementation annual incidence rate of Medical Emergency Room (MER) complaints of crying/colic in infants 0-5 months of age between 2008-2011.** By comparing to baseline (established in Year 3), this provides a secondary outcome measure to determine whether *PURPLE* implementation increased or decreased (expected) MER usage for crying/colic complaints.

18. **Carry out Ipsos-Reid poll** of general public knowledge of *Period of PURPLE Crying*, crying knowledge and shaking. This is the repeat of the original poll done in 2007. Comparison of original poll and this one provides estimate of societal change in understanding of crying and shaking pre- to post-implementation.

<u>Reporting</u>

19. **Provide written report by March 31, 2012,** on the deliverables listed in this Schedule, summarizing key activities of each, in a format acceptable to the ministry.

SCHEDULE B – FEES & EXPENSES

1. Fees:

The Province will pay the Contractor total fees of $172,556 for the deliverables outlined in sections 1 through 19 in Schedule A of this Agreement, for the period April 1, 2011, through March 31, 2012.

2. Payment:

The Province will make payments to the Contractor in the following amounts and manner:

a) The amount of $12,296.33 on or about the 15th day of each month commencing on the 15th day of April 2011, and continuing to the end of the Funding Period to a maximum amount, not to exceed $147,556.
b) An amount not to exceed $25,000 for PURPLE materials, to be paid upon submission of an invoice detailing costs.

3. Maximum Amount Payable:

In no event will the financial contribution payable to the Contractor for the term of April 1, 2011, through March 31, 2012, exceed $172,556.

SCHEDULE A: SERVICE DELIVERABLES

PREVENTING SHAKEN BABY SYNDROME AND INFANT ABUSE: THE *PERIOD OF PURPLE CRYING* PROGRAM

The period to which this Services Schedule applies commences on **October 01, 2007,** and ends on **September 30, 2008,** unless ended earlier in accordance with this agreement.

1. Develop a training guide for program delivery including an online training version.

1.2 The guide and the online training version will be accessible to all nursing participants by the end of the first quarter.
1.3 Evaluation: Training guide and online version will be available to MCFD staff for review.

2. Initiate and develop key community stakeholder partnerships.

2.1 Expand the present Hospital Steering Committee to include appropriate stakeholder representation (e.g. health authority members representing maternity care and public health nurses, Ministry of Health and others as determined necessary for program implementation), or designate a subcommittee to provide an advisory role on implementation and partnership building.
2.2 Initial communications will occur within the first two quarters of Year 1.
2.3 Evaluation: Minutes of meetings will be on file for review.

3. Maternity Services:

3.1 Establish agreements with up to 23 (approximately 50 percent of the total) birthing hospitals for program implementation. While priorities will be given to hospitals which show readiness for the implementation, the goal will be to implement the program in all five MCFD regions whenever possible.
3.2 Train up to 80 percent of maternity nurses; at 8 hospitals by the second quarter, at a further 4 hospitals by end of third quarter, and at a further 11 hospitals by end of fourth quarter, for a total of 23 hospitals or at a schedule that suits the established agreements in 3.1 above.
3.3 Evaluation: Records of hospital trainings and nursing attendance will be on file for review.

4. Health Units:

4.1 Establish agreements with up to 57 health units (approximately 50 percent of the total) for program implementation. Priorities will be given to health units ready for implementation. The goal is to train public health nurses across all five MCFD

regions whenever possible, including Aboriginal community nurses, as well as First Nations off-reserve nurses.

4.2 Train up to 80 percent of community health nurses, at 24 health units by the second quarter, at a further 11 health units by the third quarter, and at 22 further health units by the fourth quarter or at a schedule that suits the established agreements in 4.1 above.

4.3. Evaluation: Records of health unit trainings and nursing attendance will be on file for review.

5. **Develop protocol for implementation steps** for hospitals and health units to be used as standard by end of first quarter.

5.1 Evaluation: Protocol for implementation will be on file for review.

6. **Health Support and Community agencies:**

6.1 Provide training for health care support workers as partnerships are created (i.e. emergency room physicians and nurses, family physicians, paediatricians and midwives) and community agencies (parent and crisis lines, day care centres, etc.).

6.2 Implement additional training opportunities for ministry personnel and foster care workers as requested.

6.3 Evaluation: Records of meetings and groups trained will be on file for review.

7. **Devise public education campaign plan** that will target specific social populations and provide specific timelines for implementation by the end of fourth quarter.

7.1 Develop relationships with media through the Department of Public Relations and Communications at BC Children's Hospital and MCFD Communications officers.

7.2 Make adjustments as needed for Canadian audiences in advertisement provided by the National Center on Shaken Baby Syndrome, USA by end of fourth quarter.

7.3 Develop multicultural advertisement components for use in multicultural media outlets by end of fourth quarter.

7.4 Evaluation: Public education campaign plan will be on file for review.

8. **Establish internal process evaluation** to determine the ongoing effectiveness of program and progress toward stated goals.

8.1 At a minimum, keep track of the number of parents served, the number and types of training sessions for nurses and community groups, number and types of meetings attended, and the numbers of PURPLE materials used.

8.2 Evaluation: Process evaluation will be updated quarterly and on file for review.

9. Program Evaluation for Incidence Reduction

9.1 Conduct Ipsos-Reid poll on a minimum of 600 members of the public within the first quarter. Questions will survey the public for baseline community knowledge on shaken baby syndrome and the Period of PURPLE Crying materials.

9.1.1 Evaluation: Report on Ipsos-Reid poll will be on file for review.

9.2 Collect patient chart information and review for ongoing prospective active surveillance of head trauma admissions during all quarters.

9.2.1. Evaluation: Quarterly reports on data collection will be on file for review.

9.3 Request initial data from Canadian Institute for Health Information for retrospective discharge database codes back to 2001 for coding by end of second quarter.

9.3.1 Evaluation: all findings to date will be on file for review.

9.4 Obtain initial data set for first two years of Canadian Pediatric Surveillance Program (CPSP) data for baseline by end of third quarter.

9.4.1 Evaluation: Report on CPSP data will be on file for review.

9.5 Develop data transfer protocol with five Child Protection Service units in the province for surveillance of all cases of known abuse in children under two years of age by end of second quarter.

9.5.1 Evaluation: Data transfer protocol will be on file for review.

9.6 Obtain written agreement with BC Coroner's office for active surveillance of deaths due to abusive head trauma by end of third quarter.

9.6.1 Evaluation: Agreement will be on file for review.

9.7 Develop data collection protocol to evaluate program penetration percentages to parents by end of the second quarter.

9.7.1 Evaluation: Protocol for data collection will be on file for review.

Schedule A – Services The PERIOD of PURPLE Crying Program		
Service Deliverables	**Cost**	**Due Date**
1. Maternity Services: Between October 9, 2008, and December 31, 2008, it is expected that 100 percent of the maternity nurses in all remaining 30 birthing hospitals will be trained and giving out the program. Agreements will be established with each hospital. When a minimum of 80 percent of the nurses are trained, the nurses in each hospital will begin giving the program to parents.	**Total: $15,275**	December 31, 2008
2. Public Health Units: Between October 9, 2008, and December 31, 2008, it is expected that 100 percent of the public nurses in all five health regions will be trained and reinforcing the message as Dose Two. When a minimum of 80 percent of the Public Health Nurses are trained, they will receive the supplemental materials, contact parents and keep contact records indicating if the parents received the program and viewed it.	**Total: $15,276**	December 31, 2008
3. Provide Ongoing Support and Inventory: Training coordinators will provide ongoing consultation, training and distribution of materials to all hospitals and health departments in five health regions.	**Materials: $90,000** **Ongoing: $55,417**	Materials: October 31, 2008 September 30, 2009
4. Community Groups: Provide ongoing training for health care support workers (i.e. emergency room physicians and nurses, family physicians, pediatricians and midwives) and community agencies (parent and crisis lines, day care centres, etc.) as partnerships are created.	**Total: $20,126**	September 30, 2009
5. MCFD Personnel, Foster Parents and Contracted Family Support Workers: a) Develop specific training material for Ministry personnel focusing additionally on new research that may help with child protection services. Develop specific training materials for foster parent education about the program. Incorporate these trainings into Ministry curriculum whenever possible.	**Total: $70,176**	September 30, 2009

b) Provide training opportunities for Ministry personnel, foster parents and contracted family support workers. The goal is to have all foster parents and family support workers trained in Year 2 and to have provided adequate opportunities for all Ministry personnel and foster parents to receive training.		
6. Aboriginal Services: Develop a process unique to this system to provide the PURPLE Program to Aboriginal families. Dose one will include the maternity and birthing hospitals. Dose two will be developed according to the unique process needed.	**Total: $8,300**	September 30, 2009
7. Develop a public education campaign plan that will target specific social populations and provide specific timelines for implementation by the end of Fourth Quarter. a) Make adjustments as needed for Canadian audiences in advertisement provided by the National Center on Shaken Baby Syndrome, USA, by end of Fourth Quarter. b) Develop multicultural advertisement components for use in multicultural media outlets by end of Fourth Quarter.	**Total: $38,800**	September 30, 2009
8. Continue internal process evaluation to determine the ongoing effectiveness of program and progress toward stated goals. At a minimum, keep track of the numbers of parents served, the number and types of training sessions for nurses and community groups, number and types of meetings attended, and the numbers of PURPLE materials used.	**Total: $14,850**	September 30, 2009
9. Continue collecting patient chart information and reviewing for ongoing prospective active surveillance of head trauma admissions during all quarters.	**Total: $4,165**	September 30, 2009
10. Receive initial data from Canadian Institute for Health Information by end of Second Quarter for retrospective study of cases of Shaken Baby Syndrome (SBS) from 2002 to present through 4th Quarter.	**CIHI Data: $10,000** **Review: $18,800**	CIHI Data: October 31, 2008 Review: September 30, 2009

11. Complete the Chart Review of physical abuse cases with the Child Protection Service (CPS) for the year 2007 by end of Fourth Quarter.	**Total: $6,755**	September 30, 2009
12. Obtain written agreement with BC Coroner's Office by end of Second Quarter for active surveillance of deaths due to abusive head trauma and commence data abstraction through end of 4th Quarter.	**Total: $4,800**	September 30, 2009
13. Initiate measure of "penetration" of program by Public Health Nurses (PHN) through a survey form by end of the Third Quarter and collect data through end of 4th Quarter.	**Total: $11,956**	September 30, 2009
14. Initiate measures for nurse "fidelity" to the protocol through nurse interviews by end of Second Quarter and collect data through end of 4th Quarter.	**Total: $7,500**	September 30, 2009
15. Initiate maternal interviews two months post-birth to: a) access message transfer, facilitators, inhibitors, memory and acceptability of program (samples of mothers from different regions); and b) access penetration.	**Total: $17,537**	September 30, 2009
16. Develop materials and training for babies and families of babies who are in the Neonatal Intensive Care Unit.	**Total: $17,089**	September 30, 2009
Total	**$426,822**	

Schedule A – Services The PERIOD of PURPLE Crying Program		
Service Deliverables	**Cost**	**Due Date**
1. Maternity Services: Between October 9, 2008, and December 31, 2008, it is expected that 100 percent of the maternity nurses in all remaining 30 birthing hospitals will be trained and giving out the program. Agreements will be established with each hospital. When a minimum of 80 percent of the nurses are trained, the nurses in each hospital will begin giving the program to parents.	**Total: $15,275**	December 31, 2008
2. Public Health Units: Between October 9, 2008, and December 31, 2008, it is expected that 100 percent of the public nurses in all five health regions will be trained and reinforcing the message as Dose Two. When a minimum of 80 percent of the Public Health Nurses are trained, they will receive the supplemental materials, contact parents and keep contact records indicating if the parents received the program and viewed it.	**Total: $15,276**	December 31, 2008
3. Provide Ongoing Support and Inventory: Training coordinators will provide ongoing consultation, training and distribution of materials to all hospitals and health departments in five health regions.	**Materials: $90,000** **Ongoing: $55,417**	Materials: October 31, 2008 September 30, 2009
4. Community Groups: Provide ongoing training for health care support workers (i.e. emergency room physicians and nurses, family physicians, pediatricians and midwives) and community agencies (parent and crisis lines, day care centres, etc.) as partnerships are created.	**Total: $20,126**	September 30, 2009
5. MCFD Personnel, Foster Parents and Contracted Family Support Workers: a) Develop specific training material for Ministry personnel focusing additionally on new research that may help with child protection services. Develop specific training materials for foster parent education about the program. Incorporate these trainings into Ministry curriculum whenever possible.	**Total: $70,176**	September 30, 2009

b) Provide training opportunities for Ministry personnel, foster parents and contracted family support workers. The goal is to have all foster parents and family support workers trained in Year 2 and to have provided adequate opportunities for all Ministry personnel and foster parents to receive training.		
6. Aboriginal Services: Develop a process unique to this system to provide the PURPLE Program to Aboriginal families. Dose one will include the maternity and birthing hospitals. Dose two will be developed according to the unique process needed.	**Total: $8,300**	September 30, 2009
7. Develop a public education campaign plan that will target specific social populations and provide specific timelines for implementation by the end of Fourth Quarter. a) Make adjustments as needed for Canadian audiences in advertisement provided by the National Center on Shaken Baby Syndrome, USA, by end of Fourth Quarter. b) Develop multicultural advertisement components for use in multicultural media outlets by end of Fourth Quarter.	**Total: $38,800**	September 30, 2009
8. Continue internal process evaluation to determine the ongoing effectiveness of program and progress toward stated goals. At a minimum, keep track of the numbers of parents served, the number and types of training sessions for nurses and community groups, number and types of meetings attended, and the numbers of PURPLE materials used.	**Total: $14,850**	September 30, 2009
9. Continue collecting patient chart information and reviewing for ongoing prospective active surveillance of head trauma admissions during all quarters.	**Total: $4,165**	September 30, 2009
10. Receive initial data from Canadian Institute for Health Information by end of Second Quarter for retrospective study of cases of Shaken Baby Syndrome (SBS) from 2002 to present through 4th Quarter.	**CIHI Data: $10,000** **Review: $18,800**	CIHI Data: October 31, 2008 Review: September 30, 2009

11. Complete the Chart Review of physical abuse cases with the Child Protection Service (CPS) for the year 2007 by end of Fourth Quarter.	**Total: $6,755**	September 30, 2009
12. Obtain written agreement with BC Coroner's Office by end of Second Quarter for active surveillance of deaths due to abusive head trauma and commence data abstraction through end of 4th Quarter.	**Total: $4,800**	September 30, 2009
13. Initiate measure of "penetration" of program by Public Health Nurses (PHN) through a survey form by end of the Third Quarter and collect data through end of 4th Quarter.	**Total: $11,956**	September 30, 2009
14. Initiate measures for nurse "fidelity" to the protocol through nurse interviews by end of Second Quarter and collect data through end of 4th Quarter.	**Total: $7,500**	September 30, 2009
15. Initiate maternal interviews two months post-birth to: a) access message transfer, facilitators, inhibitors, memory and acceptability of program (samples of mothers from different regions); and b) access penetration.	**Total: $17,537**	September 30, 2009
16. Develop materials and training for babies and families of babies who are in the Neonatal Intensive Care Unit.	**Total: $17,089**	September 30, 2009
Total	**$426,822**	

SCHEDULE A: SERVICE DELIVERABLES

PREVENTING SHAKEN BABY SYNDROME AND INFANT ABUSE: THE *PERIOD OF PURPLE CRYING* PROGRAM

The period to which this Services Schedule applies commences on **October 8, 2008,** and ends on **September 30, 2009,** unless ended earlier in accordance with the terms and conditions of this agreement.

1. Maternity Services:

1.1 Between October 8, 2008 and December 31, 2008 it is expected that 100 percent of the maternity nurses in all remaining 30 birthing hospitals will be trained and giving out the program. Agreements will be established with each hospital. When a minimum of 80 percent of the nurses are trained, the nurses in each hospital will begin giving the program to parents.

1.2 Evaluation**:** Records of hospital trainings and nursing attendance will be on file for review. Records of participating hospitals and use of program inventory will be detailed and on file. Records from public heath will indicate if parents received the program and will be detailed in a report.

2. Public Health Units:

2.1 Between October 8, 2008 and December 31, 2008 it is expected that 100 percent of the public nurses in all five health regions will be trained and reinforcing the message as Dose Two. When a minimum of 80 percent of the Public Health Nurses are trained, they will receive the supplemental materials, contact parents and keep contact records indicating if the parents received the program and viewed it.

2.2 Evaluation: Records of health department training will be on file for review. Records of participating health regions, and the forms they complete when contacting the parents will be detailed and on file. Records from public heath will indicate whether parents received the program, watched/read it and this will be detailed in a report.

3. Provide Ongoing Support and Inventory:

3.1 Training coordinators will provide ongoing consultation, training and distribution of materials to all hospitals and health departments in five health regions.

3.2 Evaluation: Records of ongoing training sessions and reports of materials will be detailed and on file for review.

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4. Health Support and Community Agencies:

4.1 Community Groups: Provide ongoing training for health care support workers as partnerships are created (i.e. Emergency room physicians and nurses, family physicians, paediatricians and midwives) and community agencies (parent and crisis lines, day care centres, etc.).

4.2 MCFD Personnel: Implement training opportunities for Ministry personnel, foster parents and contracted family support workers. The goal is to have all foster parents and family support workers trained in Year Two and to have provided adequate opportunities for all Ministry personnel to receive training.

4.3 Develop specific training materials for foster parent education about the program. Develop specific training material for Ministry personnel focusing additionally on new research that may help with child protection services. Incorporate these trainings into Ministry curriculum whenever possible.

4.4 Aboriginal Services: Develop a process unique to this system to provide the PURPLE Program to Aboriginal families. Dose One will include the maternity and birthing hospitals. Dose Two will be developed according to the unique process needed.

4.5 Evaluation: Records of meetings and groups trained, as well as the new training materials, will be on file for review.

5. Develop a public education campaign plan that will target specific social populations and provide specific timelines for implementation by the end of Fourth Quarter.

5.1 Develop media spots that can be used in broadcast and print media.

5.2 Develop relationships with media through the Department of Public Relations and Communications at BC Children's Hospital and MCFD Communications Officers and the provincial media.

5.3 Make adjustments as needed for Canadian audiences in advertisements provided by the National Center on Shaken Baby Syndrome, USA, by end of Fourth Quarter.

5.4 Develop multicultural advertisement components for use in multicultural media outlets by end of Fourth Quarter.

5.5 Evaluation: Documentation of news reports, articles in local and provincial media sources and general education will be kept, detailed and available in a public education file and report and will be on file for review.

6. Continue internal process evaluation to determine the ongoing effectiveness of program and progress toward stated goals.

6.1 At a minimum, keep track of the number of parents served, the number and types of training sessions for nurses and community groups, number and types of meetings attended, and the number of PURPLE materials used.

6.2 Evaluation: Process evaluation will be updated quarterly and on file for review.

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7. Program Evaluation for Incidence Reduction

7.1 Continue collecting patient chart information and reviewing for ongoing prospective active surveillance of head trauma admissions during all quarters.

7.1.1 Evaluation: Quarterly reports on data collection will be on file for review.

7.2 Receive initial data from Canadian Institute for Health Information for retrospective study of cases of Shaken Baby Syndrome (SBS) from 2002 to present by end of Second Quarter.

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7.2.1 Evaluation: All findings to date will be on file for review.

7.3 Complete the Chart Review of physical abuse cases with the Child Protection Service (CPS) for the year 2007 by end of Fourth Quarter.

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7.3.1 Evaluation: Data reports as completed will be on file for review.

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7.4 Obtain written agreement with BC Coroner's office for active surveillance of deaths due to abusive head trauma and commence data abstraction by end of Second Quarter.

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7.4.1 Evaluation: Agreement and data reports as completed will be on file for review.

7.5 Initiate measure of "penetration" of program by Public Health Nurses (PHN) through a survey form by end of the Third Quarter.

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7.5.1 Evaluation: Protocol for data collection will be on file for review.

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7.6 Initiate measures for nurse "fidelity" to the protocol through nurse interviews by end of Second Quarter.

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7.6.1 Evaluation: Protocol and data will be on file for review.

7.7 Initiate maternal interviews two months post-birth to: 1) access message transfer, facilitators, inhibitors, memory and acceptability of program (samples of mothers from different regions); and 2) access penetration.

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7.7.1 Evaluation: Data collected will be on file for review.

7.8 Develop materials and training for babies and families of babies who are in the Neonatal Intensive Care Unit.

7.8.1 Evaluation: Training program and information given to parents will be available on file for review.

SCHEDULE A: SERVICE DELIVERABLES

PREVENTING SHAKEN BABY SYNDROME AND INFANT ABUSE: THE *PERIOD OF PURPLE CRYING* PROGRAM

The period to which this Services Schedule applies commences on **October 01, 2007,** and ends on **September 30, 2008,** unless ended earlier in accordance with this agreement.

1. Develop a training guide for program delivery including an online training version.

1.2 The guide and the online training version will be accessible to all nursing participants by the end of the first quarter.
1.3 Evaluation: Training guide and online version will be available to MCFD staff for review.

2. Initiate and develop key community stakeholder partnerships.

2.1 Expand the present Hospital Steering Committee to include appropriate stakeholder representation (e.g. health authority members representing maternity care and public health nurses, Ministry of Health and others as determined necessary for program implementation), or designate a subcommittee to provide an advisory role on implementation and partnership building.
2.2 Initial communications will occur within the first two quarters of Year 1.
2.3 Evaluation: Minutes of meetings will be on file for review.

3. Maternity Services:

3.1 Establish agreements with up to 23 (approximately 50 percent of the total) birthing hospitals for program implementation. While priorities will be given to hospitals which show readiness for the implementation, the goal will be to implement the program in all five MCFD regions whenever possible.
3.2 Train up to 80 percent of maternity nurses; at 8 hospitals by the second quarter, at a further 4 hospitals by end of third quarter, and at a further 11 hospitals by end of fourth quarter, for a total of 23 hospitals or at a schedule that suits the established agreements in 3.1 above.
3.3 Evaluation: Records of hospital trainings and nursing attendance will be on file for review.

4. Health Units:

4.1 Establish agreements with up to 57 health units (approximately 50 percent of the total) for program implementation. Priorities will be given to health units ready for implementation. The goal is to train public health nurses across all five MCFD

regions whenever possible, including Aboriginal community nurses, as well as First Nations off-reserve nurses.

4.2 Train up to 80 percent of community health nurses, at 24 health units by the second quarter, at a further 11 health units by the third quarter, and at 22 further health units by the fourth quarter or at a schedule that suits the established agreements in 4.1 above.

4.3. Evaluation: Records of health unit trainings and nursing attendance will be on file for review.

5. **Develop protocol for implementation steps** for hospitals and health units to be used as standard by end of first quarter.

5.1 Evaluation: Protocol for implementation will be on file for review.

6. **Health Support and Community agencies:**

6.1 Provide training for health care support workers as partnerships are created (i.e. emergency room physicians and nurses, family physicians, paediatricians and midwives) and community agencies (parent and crisis lines, day care centres, etc.).

6.2 Implement additional training opportunities for ministry personnel and foster care workers as requested.

6.3 Evaluation: Records of meetings and groups trained will be on file for review.

7. **Devise public education campaign plan** that will target specific social populations and provide specific timelines for implementation by the end of fourth quarter.

7.1 Develop relationships with media through the Department of Public Relations and Communications at BC Children's Hospital and MCFD Communications officers.

7.2 Make adjustments as needed for Canadian audiences in advertisement provided by the National Center on Shaken Baby Syndrome, USA by end of fourth quarter.

7.3 Develop multicultural advertisement components for use in multicultural media outlets by end of fourth quarter.

7.4 Evaluation: Public education campaign plan will be on file for review.

8. **Establish internal process evaluation** to determine the ongoing effectiveness of program and progress toward stated goals.

8.1 At a minimum, keep track of the number of parents served, the number and types of training sessions for nurses and community groups, number and types of meetings attended, and the numbers of PURPLE materials used.

8.2 Evaluation: Process evaluation will be updated quarterly and on file for review.

9. Program Evaluation for Incidence Reduction

9.1 Conduct Ipsos-Reid poll on a minimum of 600 members of the public within the first quarter. Questions will survey the public for baseline community knowledge on shaken baby syndrome and the Period of PURPLE Crying materials.

9.1.1 Evaluation: Report on Ipsos-Reid poll will be on file for review.

9.2 Collect patient chart information and review for ongoing prospective active surveillance of head trauma admissions during all quarters.

9.2.1. Evaluation: Quarterly reports on data collection will be on file for review.

9.3 Request initial data from Canadian Institute for Health Information for retrospective discharge database codes back to 2001 for coding by end of second quarter.

9.3.1 Evaluation: all findings to date will be on file for review.

9.4 Obtain initial data set for first two years of Canadian Pediatric Surveillance Program (CPSP) data for baseline by end of third quarter.

9.4.1 Evaluation: Report on CPSP data will be on file for review.

9.5 Develop data transfer protocol with five Child Protection Service units in the province for surveillance of all cases of known abuse in children under two years of age by end of second quarter.

9.5.1 Evaluation: Data transfer protocol will be on file for review.

9.6 Obtain written agreement with BC Coroner's office for active surveillance of deaths due to abusive head trauma by end of third quarter.

9.6.1 Evaluation: Agreement will be on file for review.

9.7 Develop data collection protocol to evaluate program penetration percentages to parents by end of the second quarter.

9.7.1 Evaluation: Protocol for data collection will be on file for review.

The *PERIOD of PURPLE Crying*® Program March 31, 2010 to March 31, 2011

Service Deliverables	Cost	Due Date
1. Birthing Hospitals and Health Centres a) Provide ongoing consultation, training and distribution of materials to all birthing hospitals and health centres. b) Provide second annual reports (implementation data) and incentives economically via virtual meetings with all birthing hospitals and health centres by end of third quarter. c) Provide annual reports to Perinatal and Public Health Directors and monthly newsletter updates to all birthing hospitals and health units. d) Ensure parents of all new babies are getting the program and the presentation from the nurse according to the protocol.	**Materials: $95,000** **Meetings: $11,500** **Staffing: $33,598** **Total: $140,098**	A one-time fee for materials will be paid upon receipt of invoice. Payment for meetings and staffing for ongoing consultation and training will be prorated in 12 equal payments to be paid the last day of each month.
2. MCFD Personnel, Foster Parents, Social Workers and Contracted Family Support Workers a) Provide training modules specifically developed for Ministry personnel, foster parents, social workers and contracted family support workers which are accessible at no charge 24/7. b) Provide training and implementation reports to Coordinators/Managers as requested. c) Supply resource packages to newly trained personnel. d) Conduct training sessions on-line or in person as needed.	**Total: $15,600**	Payment for training of MCFD personnel and Foster Parents will be prorated in 12 equal payments to be paid the last day of each month.
3. Community Groups a) Provide ongoing consultation and training for health support workers (emergency room physicians and nurses, family physicians, midwives, paramedics, etc.) and community agencies (CCRR, ECD, immigration services, crisis lines, etc.). b) Supply resource packages to newly trained personnel.	**Total: $15,000**	Payment for ongoing consultation and training for community groups will be prorated in 12 equal payments to be paid the last day of each month.

4. Aboriginal Services a) Provide training opportunities for Dose Two including Community Health Nurses, Federal Nurses and Band Nurses as well as community agencies (Community Health Representatives, Community Health Workers, Infant Development, Pregnancy Outreach, etc.). b) Provide training opportunities for Aboriginal delegated agencies, Aboriginal foster parents and family support workers. c) Supply resource packages to newly trained personnel and materials to be distributed to on-reserve families.	**Total: $21,000**	Payment for training of Aboriginal service agencies will be prorated in 12 equal payments to be paid the last day of each month.
5. Develop a and implement a public education campaign that will target the general public and support systems to parents with a focus on males aged 18 – 30. Contract with communications firm was established in Year Two. Staff time will still be required to assist with campaign a) Implement a public relations launch event including both out of home and radio media with added value opportunities by end of first quarter. b) Implement a second public relations event with added value opportunities by end of second quarter. c) Utilize social media and leverage Web site. d) Compile reports on media outreach coverage and retain public relations counsel.	**Total: $10,000**	Payment for developing and implementing a public education campaign will be prorated in 12 equal payments to be paid the last day of each month.
6. Continue internal process evaluation to determine the ongoing effectiveness of program and progress toward stated goals Track number of parents served, number and types of training sessions for nurses and community groups, number and types of meetings attended and numbers of *PURPLE* materials used.	**Total: $5,500**	Payment for internal process evaluation will be prorated in 12 equal payments to be paid the last day of each month.
7. Continue active surveillance of head trauma admissions, including chart reviews, to determine number of cases of SBS/abusive head trauma to compare against pre-implementation baseline.	**Total: $5,500**	Payment for surveillance of head trauma admissions will be prorated in 12 equal payments to be paid the last day of each month.

8. Acquire second set of Canadian Institute for Health Information data, and do baseline analysis of incidence rate of: (a) abusive head trauma (confirmation of first analysis in 2009); (b) abusive fractures with and without head trauma (new); (c) physical abuse generally in 0-2, 0-1, 1-2 year olds in BC, Canada and non-implemented provinces. The CIHI data will be the most important outcome index because of the ability to compare BC rates with Canada and other provinces.	**Total: $3,500**	A one-time fee for the CIHI data will be paid upon receipt of invoice.
9. Continue Child Protection Service Chart Review to confirm cases using Dr. Kenneth Feldman's criteria for determination of SBS/AHT, physical abuse and complaints of shaking to establish annual incidences.	**Total: $14,000**	Payment for Child Protection Service Chart Review will be prorated in 12 equal payments to be paid the last day of each month.
10. Complete baseline review of BC Coroner's Office cases of SBS/AHT and physical abuse deaths (2002 - 2007) and begin post-implementation review of cases (2008, 2009).	**Total: $5,283**	Payment for baseline review of BC Coroner's Office cases of SBS/AHT will be prorated in 12 equal payments to be paid the last day of each month.
11. Continue measures of "distribution" of program by Public Health Nurses (PHN) reporting forms to track ability to reach >85% of new births in all areas (maternity centres) in the province.	**Total: $12,000**	Payment for measuring distribution of program by PHNs will be prorated in 12 equal payments to be paid the last day of each month.
12. Stratified random sampling nurse interview measures of "fidelity" in the delivery of the protocol by Health Authority. Begun 2009-2010; continues through to final year of program.	**Total: $8,000**	Payment for measuring fidelity in the delivery of the protocol by HAs will be prorated in 12 equal payments to be paid the last day of each month.
13. Stratified random sampling maternal 2 month interview at two months post-birth in each Health Authority to assess: (a) fidelity of delivery in hospital; (b) rate of use (reading booklet, viewing DVD); (c) retention of messages; (d) distribution rate; and (e) method of receipt of program.	**Total: $16,900**	Payment for stratified random sampling maternal 2 month interview will be prorated in 12 equal payments to be paid the last day of each month.

14. Estimating false negative rates of SBS/AHT. CIHI data will be used to estimate probable false negative rates of SBS/AHT by use of W codes to determine how many cases were inappropriately attributed to short fall causes (after Dr. David Chadwick et al, 2007).	**Total: $2,000**	Payment for estimating false negative rates of SBS/AHT will be prorated in 12 equal payments to be paid the last day of each month.
15. Estimate time courses and temporal correlation of SBS/AHT, abusive fractures, and physical abuse with economic recession using CIHI data, active surveillance of SBS/AHT rates, CPS confirmed cases, and BC Coroner's cases and Canada economic data.	**Total: $4,500**	Payment for estimating time courses and temporal correlation of SBS/AHT with economic recession will be prorated in 12 equal payments to be paid the last day of each month.
16. Prepare Ipsos-Reid poll of 3 years of parents of newborns for knowledge of crying, shaking and *Period of PURPLE Crying*. (Actual carrying out of survey will be fiscal year 2011-2012).	**Total:$4,500**	Payment for preparing Ipsos-Reid poll will be prorated in 12 equal payments to be paid the last day of each month.
17. Establish baseline annual incidence rate of Medical Emergency Room (MER) complaints of crying/colic in infants 0-5 months of age between 2002-2007. This is a secondary outcome measure to determine whether *PURPLE* implementation increases or decreases (expected) MER usage for crying/colic complaints.	**Total: $5,000**	Payment for establishing baseline annual incidence rate of MER complaints will be prorated in 12 equal payments to be paid the last day of each month.
Finance; Human Resources and Space Management	**Total: $14,669**	Payment for finance, HR and space management will be prorated in 12 equal payments to be paid the last day of each month.
HST payable for media services, shipping, supplies, travel and Canadian Institute of Health Information	**Total: $7,787**	HST will be paid in nine equal installments of $865.22 per month beginning July 1, 2010 until the end of the contract term.
	Total : $310,837	

The *PERIOD of PURPLE Crying*® Program March 31, 2010 to March 31, 2011

Service Deliverables	Cost	Due Date
1. Birthing Hospitals and Health Centres a) Provide ongoing consultation, training and distribution of materials to all birthing hospitals and health centres. b) Provide second annual reports (implementation data) and incentives economically via virtual meetings with all birthing hospitals and health centres by end of third quarter. c) Provide annual reports to Perinatal and Public Health Directors and monthly newsletter updates to all birthing hospitals and health units. d) Ensure parents of all new babies are getting the program and the presentation from the nurse according to the protocol.	**Materials: $95,000** **Meetings: $11,500** **Staffing: $33,598** **Total: $140,098**	A one-time fee for materials will be paid upon receipt of invoice. Payment for meetings and staffing for ongoing consultation and training will be prorated in 12 equal payments to be paid the last day of each month.
2. MCFD Personnel, Foster Parents, Social Workers and Contracted Family Support Workers a) Provide training modules specifically developed for Ministry personnel, foster parents, social workers and contracted family support workers which are accessible at no charge 24/7. b) Provide training and implementation reports to Coordinators/Managers as requested. c) Supply resource packages to newly trained personnel. d) Conduct training sessions on-line or in person as needed.	**Total: $15,600**	Payment for training of MCFD personnel and Foster Parents will be prorated in 12 equal payments to be paid the last day of each month.
3. Community Groups a) Provide ongoing consultation and training for health support workers (emergency room physicians and nurses, family physicians, midwives, paramedics, etc.) and community agencies (CCRR, ECD, immigration services, crisis lines, etc.). b) Supply resource packages to newly trained personnel.	**Total: $15,000**	Payment for ongoing consultation and training for community groups will be prorated in 12 equal payments to be paid the last day of each month.

4. Aboriginal Services a) Provide training opportunities for Dose Two including Community Health Nurses, Federal Nurses and Band Nurses as well as community agencies (Community Health Representatives, Community Health Workers, Infant Development, Pregnancy Outreach, etc.). b) Provide training opportunities for Aboriginal delegated agencies, Aboriginal foster parents and family support workers. c) Supply resource packages to newly trained personnel and materials to be distributed to on-reserve families.	**Total: $21,000**	Payment for training of Aboriginal service agencies will be prorated in 12 equal payments to be paid the last day of each month.
5. Develop a and implement a public education campaign that will target the general public and support systems to parents with a focus on males aged 18 – 30. Contract with communications firm was established in Year Two. Staff time will still be required to assist with campaign a) Implement a public relations launch event including both out of home and radio media with added value opportunities by end of first quarter. b) Implement a second public relations event with added value opportunities by end of second quarter. c) Utilize social media and leverage Web site. d) Compile reports on media outreach coverage and retain public relations counsel.	**Total: $10,000**	Payment for developing and implementing a public education campaign will be prorated in 12 equal payments to be paid the last day of each month.
6. Continue internal process evaluation to determine the ongoing effectiveness of program and progress toward stated goals Track number of parents served, number and types of training sessions for nurses and community groups, number and types of meetings attended and numbers of *PURPLE* materials used.	**Total: $5,500**	Payment for internal process evaluation will be prorated in 12 equal payments to be paid the last day of each month.
7. Continue active surveillance of head trauma admissions, including chart reviews, to determine number of cases of SBS/abusive head trauma to compare against pre-implementation baseline.	**Total: $5,500**	Payment for surveillance of head trauma admissions will be prorated in 12 equal payments to be paid the last day of each month.

8. Acquire second set of Canadian Institute for Health Information data, and do baseline analysis of incidence rate of: (a) abusive head trauma (confirmation of first analysis in 2009); (b) abusive fractures with and without head trauma (new); (c) physical abuse generally in 0-2, 0-1, 1-2 year olds in BC, Canada and non-implemented provinces. The CIHI data will be the most important outcome index because of the ability to compare BC rates with Canada and other provinces.	**Total: $3,500**	A one-time fee for the CIHI data will be paid upon receipt of invoice.
9. Continue Child Protection Service Chart Review to confirm cases using Dr. Kenneth Feldman's criteria for determination of SBS/AHT, physical abuse and complaints of shaking to establish annual incidences.	**Total: $14,000**	Payment for Child Protection Service Chart Review will be prorated in 12 equal payments to be paid the last day of each month.
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11. Continue measures of "distribution" of program by Public Health Nurses (PHN) reporting forms to track ability to reach >85% of new births in all areas (maternity centres) in the province.	**Total: $12,000**	Payment for measuring distribution of program by PHNs will be prorated in 12 equal payments to be paid the last day of each month.
12. Stratified random sampling nurse interview measures of "fidelity" in the delivery of the protocol by Health Authority. Begun 2009-2010; continues through to final year of program.	**Total: $8,000**	Payment for measuring fidelity in the delivery of the protocol by HAs will be prorated in 12 equal payments to be paid the last day of each month.
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14. Estimating false negative rates of SBS/AHT. CIHI data will be used to estimate probable false negative rates of SBS/AHT by use of W codes to determine how many cases were inappropriately attributed to short fall causes (after Dr. David Chadwick et al, 2007).	**Total: $2,000**	Payment for estimating false negative rates of SBS/AHT will be prorated in 12 equal payments to be paid the last day of each month.
15. Estimate time courses and temporal correlation of SBS/AHT, abusive fractures, and physical abuse with economic recession using CIHI data, active surveillance of SBS/AHT rates, CPS confirmed cases, and BC Coroner's cases and Canada economic data.	**Total: $4,500**	Payment for estimating time courses and temporal correlation of SBS/AHT with economic recession will be prorated in 12 equal payments to be paid the last day of each month.
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Finance; Human Resources and Space Management	**Total: $14,669**	Payment for finance, HR and space management will be prorated in 12 equal payments to be paid the last day of each month.
HST payable for media services, shipping, supplies, travel and Canadian Institute of Health Information	**Total: $7,787**	HST will be paid in nine equal installments of $865.22 per month beginning July 1, 2010 until the end of the contract term.
	Total : $310,837	

SCHEDULE B

Payment Schedule

The period to which this Payment Schedule applies starts on October 01, 2007, and ends on September 30, 2008, unless ended earlier in accordance with this agreement.

1. **Fees:** $195,824 for performing the services during the term of this contract, from October 01, 2007, to September 30, 2008. To be paid monthly, as per submitted invoices and the attached budget breakdown.

2. **Expenses:** N/A.

3. **Maximum Amount:** Total amount that will be paid to the Contractor is not to exceed $195,824.

Schedule B

Payment Schedule

The period during which this Payment Schedule applies starts on October 9, 2008, and ends on September 30, 2009, unless ended earlier in accordance with this Agreement.

1. **Fees:** $426,822 for performing the services during the term of this contract, from October 9, 2008, to September 30, 2009. To be paid in accordance with the service deliverables 1 – 16 as indicated in Schedule A as per submitted invoices.

    A. A one time fee of $90,000 for Period of PURPLE materials as per deliverable 3.
    B. A one time fee of $10,000 for Canadian Health Institute data as per deliverable 10.
    C. A monthly fee of $15,275.50 for activities under deliverable 1 and 2 in schedule A, to be paid from November 2008-December 2008, for a maximum total of $30,551.
    D. Contractor will be paid on monthly basis, at an approximate rate of $24,689, providing the deliverables 3-16 have been met and approved by the Ministry of Children and Family Development, for a maximum total of $296,271.00.

2. **Expenses:** N/A

3. **Maximum Amount**: Total amount that will be paid to the Contractor during this contract period is not to exceed $426,822.

4. In order to obtain payment of any fees under this Agreement, you must deliver to us a written statement of account for the period from and including the first day of each month to and including the last day of that month, in a form satisfactory to the Ministry containing:

    a) your legal name and address;
    b) the date of the statement, and the month to which the statement pertains;
    c) your calculation of all fees claimed for the month, including a declaration by you of all hours worked during the month for which you claim fees and a description of the applicable fee rates;
    d) a description of this agreement;
    e) a statement number of identification; and
    f) any other billing information reasonably requested by the Ministry.

THIS IS TO CERTIFIY THAT THE SERVICES PURCHASED HEREBY ARE FOR THE USE OF, AND ARE BEING PURCHASED BY, THE MINISTRY FOR CHILDREN AND FAMILY DEVELOPMENT WITH CROWN FUNDS, AND ARE THEREFORE NOT SUBJECT TO THE GOODS AND SERVICES TAX.

Schedule B

Payment Schedule

The period during which this Payment Schedule applies starts on October 9, 2008, and ends on September 30, 2009, unless ended earlier in accordance with this Agreement.

1. **Fees:** $426,822 for performing the services during the term of this contract, from October 9, 2008, to September 30, 2009. To be paid in accordance with the service deliverables 1 – 16 as indicated in Schedule A as per submitted invoices.

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THIS IS TO CERTIFIY THAT THE SERVICES PURCHASED HEREBY ARE FOR THE USE OF, AND ARE BEING PURCHASED BY, THE MINISTRY FOR CHILDREN AND FAMILY DEVELOPMENT WITH CROWN FUNDS, AND ARE THEREFORE NOT SUBJECT TO THE GOODS AND SERVICES TAX.

SCHEDULE B

Payment Schedule

The period of which this Payment Schedule applies starts on October 8, 2008, and ends on September 30, 2009, unless ended in earlier accordance with this agreement.

1. **Fees:** $426,822 for performing the services during the term of this contract, from October 8 2008, to September 30, 2009. To be paid monthly, as per submitted invoices and the attached budget breakdown.

2. **Expenses:** N/A

3. **Maximum Amount**: Total amount that will be paid to the Contractor during this contract period is not to exceed $426,822.

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SCHEDULE B

Payment Schedule

The period to which this Payment Schedule applies starts on October 01, 2007, and ends on September 30, 2008, unless ended earlier in accordance with this agreement.

1. **Fees:** $195,824 for performing the services during the term of this contract, from October 01, 2007, to September 30, 2008. To be paid monthly, as per submitted invoices and the attached budget breakdown.

2. **Expenses:** N/A.

3. **Maximum Amount:** Total amount that will be paid to the Contractor is not to exceed $195,824.

Schedule B
Contract XLR167974
Payment Schedule

The period during which this Payment Schedule applies starts on March 31, 2010, and ends on March 31, 2011, unless ended earlier in accordance with this Agreement.

1. **Fees:** $303,050 for performing the services during the term of this contract, from March 31, 2010, to March 31, 2011. To be paid in accordance with the service deliverables 1 – 17 as indicated in Schedule A as per submitted invoices.

    A. A one-time fee of $95,000 for Period of PURPLE materials as per deliverable 1.
    B. A one-time fee of $3,500 for Canadian Institute for Health Information data as per deliverable 8.
    C. Contractor will be paid on monthly basis over the contract term, at a rate of $17,045.83, for a maximum total of $204,550.

2. **Expenses:** N/A

3. **HST:** Harmonized Sales Tax payable under this agreement is $7,787.00 for the period July 1, 2010 to March 31, 2011. HST will be paid in nine equal installments of $865.22 per month beginning July 1, 2010 until the end of the contract term.

4. **Maximum Amount**: Total amount that will be paid to the Contractor during this contract period is not to exceed $310,837.00, for a total contract aggregate amounting to $1,211,347.50.

5. In order to obtain payment of any fees under this Agreement, you must deliver to us a written statement of account for the period from and including the first day of each month to and including the last day of that month, in a form satisfactory to the ministry containing:

    a) your legal name and address;
    b) contract number;
    c) the date of the statement, and the month to which the statement pertains;
    d) your calculation of all fees claimed for the month, including a declaration by you of all hours worked during the month for which you claim fees and a description of the applicable fee rates;
    e) a description of this agreement;
    f) a statement number of identification; and
    g) any other billing information reasonably requested by the ministry.

Schedule B
Contract XLR167974
Payment Schedule

The period during which this Payment Schedule applies starts on March 31, 2010, and ends on March 31, 2011, unless ended earlier in accordance with this Agreement.

1. **Fees:** $303,050 for performing the services during the term of this contract, from March 31, 2010, to March 31, 2011. To be paid in accordance with the service deliverables 1 – 17 as indicated in Schedule A as per submitted invoices.

    A. A one-time fee of $95,000 for Period of PURPLE materials as per deliverable 1.
    B. A one-time fee of $3,500 for Canadian Institute for Health Information data as per deliverable 8.
    C. Contractor will be paid on monthly basis over the contract term, at a rate of $17,045.83, for a maximum total of $204,550.

2. **Expenses:** N/A

3. **HST:** Harmonized Sales Tax payable under this agreement is $7,787.00 for the period July 1, 2010 to March 31, 2011. HST will be paid in nine equal installments of $865.22 per month beginning July 1, 2010 until the end of the contract term.

4. **Maximum Amount**: Total amount that will be paid to the Contractor during this contract period is not to exceed $310,837.00, for a total contract aggregate amounting to $1,211,347.50.

5. In order to obtain payment of any fees under this Agreement, you must deliver to us a written statement of account for the period from and including the first day of each month to and including the last day of that month, in a form satisfactory to the ministry containing:

    a) your legal name and address;
    b) contract number;
    c) the date of the statement, and the month to which the statement pertains;
    d) your calculation of all fees claimed for the month, including a declaration by you of all hours worked during the month for which you claim fees and a description of the applicable fee rates;
    e) a description of this agreement;
    f) a statement number of identification; and
    g) any other billing information reasonably requested by the ministry.

General Service Agreement
Schedule D – Insurance

1. You must, without limiting your obligation or liabilities and at your own expense, purchase and maintain throughout the term of this agreement the following insurances with insurers licensed in Canada:

   (a) Commercial General Liability in an amount not less than $2,000,000 inclusive per occurrence against bodily injury, personal injury and property damage and including liability assumed under this Agreement and this insurance must

      (i) include the Province as an additional insured,

      (ii) be endorsed to provide the Province with 30 days advance written notice of cancellation or material change, and

      (iii) include a cross liability clause; and

   (b) Professional Liability insuring your liability resulting from errors or omissions in the performance of the Services in an amount per occurrence and in the aggregate calculated as follows

      (i) $1,000,000, if the Maximum Amount set out in schedule "B" is under $500,000,

      (ii) $2,000,000, if the Maximum Amount set out in schedule "B" is $500,000 to $2,000,000, or

      (iii) not less than $2,000,000, if the Maximum Amount set out in schedule "B" exceeds $2,000,000.

2. All insurance described in paragraph 1 of this Schedule must:

   (a) be primary; and

   (b) not require the sharing of any loss by any insurer of the Province.

3. You must provide to us when requested by us:

   (a) evidence in the form of a completed Province of British Columbia Certificate of Insurance of all required insurance; or

   (b) certified copies of required policies.

4. Notwithstanding paragraph 1(b) of this schedule, if in our sole discretion, we have approved in writing an alternative to the Professional Liability Insurance requirement set out in paragraph 1(b), then you will maintain throughout the term of this agreement, that alternative in accordance with the terms of the approval.

Home

Conferences

Conferences

2010 Atlanta, Georgia, USA

formation

Past International Conferences

Related Links

out the City

Addresses

Online

Eleventh International Conference on Shaken Baby Syndrome/Abusive Head Trauma

Atlanta, Georgia, September 12, 13, 14, 2010

The Eleventh International Conference on Shaken Baby Syndrome/Abusive Head Trauma is jointly sponsored by the National Center on Shaken Baby Syndrome and the Warren Alpert Medical School of Brown University.

Conference Educational Objectives

1. Attendees will be able to recognize, evaluate, and diagnose cases of shaken baby syndrome/abusive head trauma with a higher degree of certainty.

2. Will examine current practices, challenges, public policy, family involvement, and research needs related to shaken baby syndrome/abusive head trauma and recommend changes necessary.

3. Attendees will utilize latest practices of prevention to construct and operate programs in their area.

The workshops have now been decided. We are proud to offer 84 breakout sessions during September, 12, 13, 14, 2010 and 5 outstanding keynote presentations. All sessions are open to anyone registered for the conference. Registration is now open. Please click here to register.

The program is now available. Please visit the link below to get the full agenda outline and other pertinent information. For any questions please contact Danielle Vazquez at dvazquez@dontshake.org.

Click Here to Download the Program for Eleventh International Conference on Shaken Baby Syndrome/Abusive Head Trauma (PDF 4752.0 KB)

National Center on
Shaken Baby Syndrome
www.dontshake.org

Seventh North American Conference on Shaken Baby Syndrome (Abusive Head Trauma)

October 5 – 8, 2008
Vancouver, B.C.
Canada

Save the Date

Call for Abstracts/Presenters

National Center on
Shaken Baby Syndrome
2955 Harrison Blvd.
Suite #102
Ogden, UT 84403 USA

Save the Date

The National Center on Shaken Baby Syndrome invites you to participate in the Seventh North American Conference on Shaken Baby Syndrome (Abusive Head Trauma), October 5-8, 2008 at the Westin Bayshore Hotel, on the oceanfront of Coal Harbour in scenic Vancouver, BC, Canada.

The conference program is designed for medical, law enforcement, social work, legal professions, family members and victim advocates.

Plan ahead. Remember, U.S. Customs now requires travelers to have a passport to return to the United States.

Call for Abstracts/Presenters

Interested presenters are invited to submit abstracts online at *www.dontshake.org*. Detailed instructions and guidelines are provided. The deadline for submissions is October 31, 2007.

If you have questions regarding the conference, please contact Bridgett Tasker, Conference Coordinator, 1-801-627-3399 *btasker@dontshake.org*.

For more details on the conference, please visit our website at *www.dontshake.org*.

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CFD-2011-00442
Phase 3

Seventh North American Conference on
Shaken Baby Syndrome/Abusive Head Trauma
Vancouver, British Columbia, Canada
October 5, 6, 7, 2008

Sunday, October 5, 2008

MORNING SPECIAL SESSIONS 8:00 A.M. – 12:00 P.M.

Legal and Investigation Track

A Guide to the Investigation of Shaken Baby (Abusive Head Trauma) Cases:

- Michel Pilon, Investigator, Professor of Criminology (Montreal, Ontario, CA) The Canadian Perspective.
- Randy Watt, Assistant Chief of Police (Ogden, UT, USA) The United States Perspective.
- Philip Wheeler, DCI (London, UK) The United Kingdom Perspective.
- James Lauridson, MD, Pathologist and Medical Examiner (Mobile, AL, USA) Making Sense of an Autopsy Report.
- Brian Holmgren, JD, (Nashville, TN, USA) What the Prosecutor Needs from the Investigator.

Prevention Track

Evidence Based Programs and Tested Materials

- Mark Dias, MD, FAAP, (Hershey, PA, USA)
- Ronald G. Barr, MDCM, FRCPC (Vancouver, BC, CA)

Addressing Challenges and Opportunities In USA and Canada
Funding, Research, Implementation and Maintaining Prevention Programs

- Sandy Nipper, RN, Legacy Health System (Portland, OR, USA)
- Claire Yambao, B.A., B.C. Regional Trainer (Vancouver, B.C., CA)
- Nena Ray, LPN, Indianapolis (IN, USA)
- Kelly Cappos, RN, BSN, CPUR, CLNC (Hershey, PA, USA) and Carroll Rottmund, RN, BSN, CCRN, CLNC (Hershey, PA, USA)
- Denise Polgar, Injury Prevention Educator (London, Ontario, CA) and Tanya Charyk Stewart, B.Sc. M.Sc, (London, Ontario, CA)

National and State Legislation: Advantages and Challenges

- Darryl Gibbs, Parent Advocate (Yonkers, NY, USA), National Legislation
- Amy Wicks, Information Specialist, NCSBS (Ogden, UT, USA)

MORNING CONCURRENT WORKSHOPS SUNDAY, 8:00 A.M. – 12:00 P.M.

Medical Track and Parents Track are Offered in the Following Concurrent Workshops

CONCURRENT WORKSHOPS SUNDAY, 8:00 A.M. – 8:50 A.M.

Cognitive Sequellae of School-Aged Victims of Shaken Baby Syndrome
Annie Stipancic, PhD (Trois-Riviéres, Quebec, CA) • Gilles Fortin, MD, FRCP(Montreal, Quebec, CA)

The Hidden Effect of SBS, The Life of a High-Functioning Survivor
Jennifer Siegfried, Parent (Napa, CA, USA) • Amanda McCarty, Parent(Fargo, ND, USA)

Severe Haemorrhagic Retinopathy and Retinoschisis in a 2 yr Old After an 11 Metre Fall onto Concrete.
Kieran Moran, FRACP (Randwick, AU)

CONCURRENT WORKSHOPS SUNDAY, 9:00 A.M. – 9:50 A.M.

Inflicted Head Injury: What We Know, What We Don't
Bruce Herman, MD (Salt Lake City, UT, USA) • Tim Kutz, MD (Salt Lake City, UT, USA)

One Small Candle
Greg Williams, MEd (Danville, IL, USA) • Marsha Williams, LPN

Lessons from the Au Pair Case-Eleven Years Later
Robert Reece, MD (North Falmouth, MA, USA)

The Literature Is Your Friend: Shaken-Baby Syndrome and Evidence-Based Medicine
Christopher Greeley, MD, FAAP (Houston, TX, USA)

CONCURRENT WORKSHOPS SUNDAY, 10:10 A.M. – 11:00 A.M.

Multidisciplinary Guidelines for Suspected AHT: The Canadian Model
Laurel Chauvin-Kimoff, MD, FRCPC, FAAP (Montreal, Quebec, CA)

If You Saw Me Walking Down the Street, Would You Know I'd Been Shaken?
Bennett Sandwell, Survivor (Springfield, MO, USA) • Carla Sandwell, BS, Mother (Springfield, MO, USA)

Quantification of Risk Associated with Retinal Hemorrhages in Children Suspected of Child Abuse
Brian J Forbes, MD, PhD (Philadelphia, PA, USA) • Naureen A. Mirza-George, MD • Gil Binenbaum, MD • Cindy Christian, MD (Philadelphia, PA, USA)

Stories Bodies Tell: Part 1
Lucy Rorke, MD, Professor of Pathology, Neurology and Pediatrics (Philadelphia, PA, USA)

CONCURRENT WORKSHOPS SUNDAY, 11:10 A.M. – 12:00 P.M.

Postmortem Imaging Techniques for Documenting Hemorrhagic Retinopathy and Associated Fundal Abnormalities
Patrick Lantz, MD (Winston Salem, NC, USA)

Computerized Animations in Court Proceedings and as Teaching Tools
James Lauridson, MD, Pathologist and Medical Examiner (Mobile, AL, USA)

It's Not Monopoly? - A Legal Primer for SBS Families

Pamela Rowse-Schmidt, Parent, RN, BS, MS (Las Vegas, NV, USA)

The Rabbit's View of Inflicted Neurotrauma: Part 2
Lucy Rorke, MD, Professor of Pathology, Neurology and Pediatrics (Philadelphia, PA, USA)

SPECIAL SESSION — SUNDAY, 1:30 P.M. – 5:30 P.M.

Other Theories: Is it Shaken Baby Syndrome (Abusive Head Trauma) or Something Else?

- Randy Alexander, MD, PhD, FAAP (Jacksonville, FL, USA), Pediatrician
- David Chadwick, MD, (La Mesa, CA, USA), Short Falls
- Mary Case, MD, (St Louis, MO, USA), Pathology
- Brian Holmgren, JD, (Nashville, TN, USA), Legal
- Carole Jenny, MD, MBA (Providence, RI, USA), Biomechanics
- Alex Levin, MD, MHSc, FAAP, FAAO, FRCSC (Toronto, ON, CA), Ophthalmology
- Wilbur Smith, MD, FAAP, (Detroit, MI, USA), Radiology

CONSECUTIVE WORKSHOPS — 1:30 P.M. – 5:30 P.M.

Implementing a "Three Inoculation" Strategy to Prevent Shaken Baby Syndrome
Jetta Bernier, MA (Boston, MA, USA)

Keeping Babies Safe Program in British Columbia - Secondary Intervention
Rosalie Fedoryshyn, BA (Abbotsford, BC, CA)

SBS Prevention Program in Japan
Fujiko Yamada, MD (Kangawa-Ken, Japan) • Shin-ichiro Tanaka, Paramedic

Infant Mental Health & Family Law Initiative: Technical Assistance Briefs for Child Welfare and Family Law
Evelyn Wotherspoon, MSW (Calgary, AB, CA)

Keynote Address — SUNDAY, 6:30 P.M. – 8:00 P.M.

Preserving Reason in the Debate About Inflicted Injuries
Sir Roy Meadow, MD (Leeds, United Kingdom)

8:00 P.M. – 10:00 P.M. OPENING RECEPTION AND SOUL PURPOSE BAND (You won't want to miss this)

Monday, October 6, 2008

Keynote Address — MONDAY, 8:00 A.M. – 10:15 A.M.

What are the Three Most Significant Developments as an Expert in Your Field?
(Two Hour Presentation)

Moderator: Carole Jenny, MD, MBA (Providence, RI, USA) Each Panel Member will describe the 3 most important developments in their respective field in the past three years.

- **Ophthalmology**
  Alex Levin, MD, MHSc, FAAP, FAAO, FRCSC (Toronto, ON, CA)
- **Biomarkers to Detect SBS/AHT**
  Rachel Berger, MD, MPH (Pittsburgh, PA, USA)
- **Biomechanical Modeling**
  Susan Margulies, MD, Professor of Engineering (Philadelphia, PA, USA)
- **Overview of Field**
  Cindy Christian, MD (Philadelphia, PA, USA)
- **What is in a Name SBS/AHT?**
  Robert Block, MD,FAAP (Tulsa, OK, USA)
- **Surveillance and Prevention**
  Ronald Barr, MDCM, FRCPC (Vancouver, BC, CA)

CONCURRENT WORKSHOPS MONDAY, 10:30 A.M. – 11:30 A.M.

The Use of Biomarkers to Detect Abusive Head Trauma: New Developments
Rachel Berger, MD, MPH (Pittsburgh, PA, USA)

Using Child Death Review to Improve SBS/AHT Prevention and System Responses
Randy Alexander, MD, PhD, FAAP (Jacksonville, Fl, USA) • Sandra Alexander, MEd (Atlanta, GA, USA)

KISSS: Keeping Infants Safe from Shaking and while Sleeping
Lisa Markman, MD (Ann Arbor, MI, USA) • Vincent Palusci, MD, MS (Detroit, MI, USA)

Exploring Two Provincial Strategies for Shaken Baby Syndrome Prevention
Susan Patenaude, BEd, MEd (Edmonton, AB, CA) • Richard Volpe, PhD, (Toronto, ON, CA)

Retinal Haemorrhages 2008; State of the Art
Alex Levin, MD, MHSc, FAAP, FAAO, FRCSC (Toronto, ON, CA)

Legal Damage Control: Part 1
Brian Holmgren, JD (Nashville, TN, USA)

The Golden Moment: Changing the Trajectory of Fatherhood Right at the Start
Bernie Dorsey, (Seattle, WA, USA) • Carol Jenkins, Med, (Seattle, WA, USA)

Keynote Address MONDAY, 1:00 P.M. – 2:00 P.M.

Abusive Head Trauma: Where Have We Been and Where Are We Going
Ann-Christine Duhaime, MD, (Lebanon, NH, USA)

POSTER PRESENTATIONS MONDAY, 2:00 P.M. – 5:30 P.M.

CONCURRENT WORKSHOPS MONDAY, 2:20 P.M. – 3:20 P.M.

Dummies for Dummies: Using Biomechanics to Understand SBS/AHT (Part One)
Susan Margulies, MD, Professor of Engineering (Philadelphia, PA, USA)• Cindy Christian, MD (Philadelphia, PA, USA) • Ann-Christine Duhaime, MD (Lebanon, NH, USA)

The Period of PURPLE Crying: **Evidence Based Program in B.C. and the U.S.**
Jocelyn Conway, BA (Vancouver, BC, CA) • Marilyn Barr, BIS, SSW (Utah, USA & British Columbia, CA)

Confessions of Perpetrators
Suzanne Starling, MD (Norfolk, VA, USA)

CT Scan Reconstruction for Early Identification of Rib Fractures in Children
Thomas Nakagawa, MD, FAAP, FCCM (Winston-Salem, NC, USA)

A New Unified Theory? The Significance of the Spinal Nerve Root Ganglion
J.C. Upshaw-Downs, MD (Savannah, GA, USA)

Legal Damage Control: Part 2
Brian Holmgren, JD (Nashville, TN, USA)

Caring for the Adolescent Shaken Baby
Doris Lariviere, Parent (Orleans, ON, CA)

CONCURRENT WORKSHOPS MONDAY, 3:25 P.M. – 4:25 P.M.

Dummies for Dummies (Part 2)
Nagarajan Rangarajan, PhD (Boonsboro, MD, USA) • Carole Jenny, MD, MBA (Providence, RI, USA)

Illinois' Shaken Baby Syndrome Public Education Campaign
Mary Salisbury, BS (Springfield, IL, USA)

Forensic Pathology: How to Read a Report & Make Sense of It
James Lauridson, MD, Pathologist and Medical Examiner (Mobile, AL, USA)

The Medical Expert Witness: What You Need to Know
Randy Alexander, MD, PhD, FAAP (Jacksonville, Fl, USA)

Could These Child Homicides Have Been Prevented?
Clare Sheridan-Matney, MD (Loma Linda, CA, USA) • Janet Bell, BS, MPH

Shaken Baby Syndrome for the Law Enforcement Investigator
Dave Parker, Detective Lieutenant, BS; MDiv. (Anchorage, AK, USA)

Missed Cases: Twins, One Was Shaken, One Was Not, or Was She?
Michele Poole, Parent (Lake Worth, FL, USA) • Ronald Barr, MDCM, FRCPC (Vancouver, BC, CA)

CONCURRENT WORKSHOPS MONDAY, 4:30 P.M. – 5:30 P.M.

West Nile Virus, Venous Thrombosis and Other Unique Causations and Untrue Defenses
Mary Case, MD (St. Louis, MO, USA)

Descriptive Study of Legal Outcome of Canadian Cases of Infant Traumatic Brain Injury
Jocelyn Conway, BA (Vancouver, BC, CA)

Using Imaging Data to Understand SBS
Wilbur Smith, MD, FAAP, (Detroit, MI, USA)

Doctors are Human: Unconscious Beliefs and the Effect of Being Human on Medical Decision Making
Antoinette L. Laskey, MD MPH (Indianapolis, IN, USA)

From Inspiration to Outcome: The Shaken Baby Prevention Project in Western Sydney, Australia
Fran Tolliday, BSW (Sydney, NSW, Australia) • Sue Foley, B.Soc.Stud., MSW, MA, MEd

Civil Prosecutions for Victims of SBS: A Case Study

Brian Webster, BA, LLB, QC, (Richmond, BC, CA) • Daniel F. Corrin; BA, LLB

Families Educating Legislators on SBS/AHT - the How's & What's
Carla Sandwell, BS, Mother (Springfield, MO, USA)

TUESDAY, OCTOBER 7, 2008

Keynote Address — TUESDAY, 8:00 A.M. – 9:00 P.M.

SBS/AHT Cases: Circumstances and the Stressors of Military Life
Captain Barbara Craig, MD, FAAP (Bethesda, MD, USA)
Major Shelly Martin, MD, USAF, MC (Bethesda, MD, USA)
Kenneth Palmer, HM3, Parent (Portsmouth, VA, USA)
Care Burpee, Parent (Layton, UT, USA)

CONCURRENT WORKSHOPS — TUESDAY, 9:15 A.M. – 10:15 A.M.

Shaken Baby Syndrome Prevention in Pennsylvania: The Past, the Present, & the Future
Mark Dias, MD, FAAP (Hershey, PA, USA) • Kelly Cappos, RN, BSN, CPUR, CLNC (Hershey, PA, USA)• Marie Killian, RN, BSN, CCRN • Carroll Rottmund, RN, BSN, CCRN, CLNC (Hershey, PA, USA)

What's in a N.A.M.E? National Association of Medical Examiners
Jeffery Jentzen, MD (Milwaukee, WI, USA) • Mary Case, MD (St. Louis, MO, USA)

Inconsistencies in Legal and Social Outcomes in AHT Cases
Amanda Stephens, BA, MBBS (Haberfield, NSW, AU)

Retinal Haemorrhage Differential Diagnosis: Could it be Something Else?
Alex Levin, MD, MHSc, FAAP, FAAO, FRCSC (Toronto, ON, CA)

Shaken Baby Syndrome/Abusive Head Trauma in Japan
Takeo Fujiwara, MD, PhD, MPH (Setagaya-Ku, Tokyo, Japan) • Hiroaki Nagase; MD, PhD • Takahiro Hoshino; MD; Makiko Okuyama, MD, PhD, MA

Cases with Appeals to Higher Court
Allison Turkel, JD (Alexandria, VA, USA)

Dads on the Move: Turning Tragedies Into Advocacy
Bev Byron, RN, BSN, LNC (Silver Springs, MO, USA) • Darryl Gibbs, Parent Advocate (Yonkers, NY, USA)• Patrick Donohue, ESQ, Parent (New York, NY, USA)

CONCURRENT WORKSHOPS — TUESDAY, 10:35 A.M. – 11:35 A.M.

Period of PURPLE Crying: Prevention Science for Keeping Babies Safe in North Carolina
Desmond K. Runyan, MD (Chapel Hill, NC, USA) • Marilyn Barr, BIS, SSW (Utah, USA & British Columbia, CA) • Robert Murphy, PhD (Chapel Hill, NC, USA)

What Animals Models Tell Us About Inflicted Brain Damage
Susan Margulies, MD, Professor of Engineering (Philadelphia, PA, USA)

Risk Factors for Non Accidental Head Injury from a 10-Year Prospective Scotland-Wide Study
Robert Minns, MD, MB, BS, PhD, FRCP, FRCPCH, (Edinburgh, Scotland, UK)

Incidence of Oral, Jaw Line, and Neck Injury Secondary to Endotracheal Intubation
Claire Sheridan-Matney, MD (Loma Linda, CA, USA)

Abusive Head Trauma - The British Columbia's Children's Hospital Experience
Jean Hlady, MD, FRCP (c) (Vancouver, BC, CA) • Adrienne Glen, MSW, (Vancouver, BC, CA)

Meeting Untrue Defenses
Robert Reece, MD (North Fallmouth, MA, USA) • Larry Braunstein, JD, Defense Attorney

From Anger to Acceptance to Appreciation: Parenting a Shaken Baby Syndrome Survivor
Carolyn Stinnett, Parent, PhD (Knoxville, TN, USA)

Keynote Address **TUESDAY, 1:00 P.M. – 2:00 P.M.**
The Case for Shaking in Shaken Baby Syndrome
Mark Dias, MD, FAAP (Hershey, PA, USA)

FILM PREVIEW — TUESDAY, 2:00 P.M. – 5:00 P.M.

CONCURRENT WORKSHOPS — TUESDAY, 2:15 P.M. – 3:15 P.M.

The Rarity of Fatal Short Falls: Less Than One in a Million
David Chadwick, MD (La Mesa, CA, USA)

A New Pediatric Subspecialty? - Why?
Robert Block, MD, FAAP (Tulsa, OK, USA)

Dads the Basics: Preventing SBS by Preparing Dads
Brian Lopez, MBA (Ogden, UT, USA)

Retinal Hemorrhage in Abusive Head Trauma; Does the Child's Age Make a Difference?
Claire Sheridan-Matney, MD (Loma Linda, CA, USA) • Amy Young, MD (Loma Linda, CA, USA)

Metropolitan Police Service UK Dedicated Suspicious Child Death Teams: Four Years of SBS Investigations, What Lessons Have Been Learnt?
Colin Burgess, Detective Inspector (London, England, UK)

Vampires, Mummies, Werewolves - and SBS Defense Expert Patients
JC Upshaw-Downs, MD (Savannah, GA, USA)

The Sarah Jane Brain Project
Patrick Donohue, ESQ, Parent (New York, NY, USA)

CONCURRENT WORKSHOPS — TUESDAY, 3:35 P.M. – 4:35 P.M.

Incidence of SBS/AHT: Results of World Symposia
Ronald Barr, MDCM, FRCPC (Vancouver, BC, CA) • Desmond K. Runyan, MD (Chapel Hill, NC, USA)

Abusive Head Trauma: Clinical Correlates and Controversies: From Clinical Presentation to Neuroimaging
Lori Frasier, MD, FAAP (Salt Laky City, UT, USA) • Gary Hedlund, MD

Incidence of Abusive Head Injury in Estonia
Inga Talvik, MD (Tartu, Estonia) • Tuuli Metsvaht, MD • Tiina Talvik, PhD

What Has Been Learned from a Large Series of Child Death Investigations
M.F.G. Gilliland, MD (Greenville, NC, USA)

The Extent and Nature of Head Injury Secondary to Child Maltreatment in Canada: A 3-year Surveillance Study
Susan Bennett, MB, ChB, FRCP (Ottawa, Ontario, CA)• Gilles Fortin, MD, FRCP(Montreal, Quebec, CA) • Michelle Ward, MD, FRCP(Montreal, Quebec, CA)

Shaken Baby Syndrome Victims: History, Clinical Presentation, and Medical and Legal Outcome Difference Between Male and Female Perpetrators
Debra Esernio-Jenssen, MD (New Hyde Park, NY, USA) • Leigh Bishop, Assistant District Attorney, Special Victims Bureau, Queens County• Marjory Fisher, Bureau Chief Special Victims Bureau, Queens County

Legislative Initiatives: Hospital Prevention and SBS Awareness Week
George Lithco, JD (Poughkeepsie, NY, USA)

Shaken Baby Syndrome Prevention Program: *Period of PURPLE Crying* Fact Sheet

Program Description

- Physical abuse is the leading cause of serious head injury and death in children aged two and younger. Shaken Baby Syndrome (SBS) usually results in death or a range of extremely damaging injuries. It is a leading, but preventable cause of physical and mental handicap among infants and young children.

- The *Period of PURPLE Crying* SBS prevention program was designed to educate caregivers about normal infant crying and its ability to frustrate parents and also to inform them about the dangers of shaking.

- In order to accomplish a cultural change, the program will implement a "triple dose" strategy:

    - Dose One: The PURPLE Program will be given to parents in the hospital after the birth of their baby. Maternity nurses will be trained and provided with a script and the materials.

    - Dose Two: Public Health Nurse home visitors will call parents before their visit, usually within one week of the baby's birth. If needed, the nurses will take a set of materials to the parents. The nurses will go through the information again and ask if there are any questions.

    - Dose Three: A public education campaign will provide the program information to those who did not receive it through the above methods.

Background

- An environmental scan was conducted between February and June 2003 by the SBS Prevention Project to determine the status of SBS prevention in BC.

- The main outcomes of the scan showed that 73% of surveyed thought SBS was a serous problem and 100% reported that a SBS prevention program was needed.

- MCFD funded the SBS Research Project (2004 – 2007) :

    - 2003-2004: Preparation of various community stake holders for a major SBS prevention program and acceptance for a large clinical trial;

    - 2004: focus groups held to evaluate new educational materials for the program;

    - 2005-2007: Clinical research to evaluate the effectiveness of the materials before major implementation occurs; and

    - 2005-ongoing: Establishment of a BC Surveillance system to

determine the incidence of SBS cases.

- Two SBS Symposiums were held, one in the spring of 2005 and the second one in the spring of 2006, in partnership with BC Children's Hospital and MCFD.

Program Goals

- The goal of the program is to make a long term positive effect of a sustained reduction in the number of cases of SBS. There will need to be a cultural change in the way our society understands:
    - The meaning of increased crying in early infancy; and
    - The danger of shaking as a response to the frustration with that crying.

Status

- In 2007/2008, MCFD continued to support the program development and began province-wide implementation of the program.
- The program is focusing on establishing written agreements with birthing hospitals and health units for implementation of the program for the parents they serve.
- The Ministry of Health has joined the Steering Committee, as maternity services and the public health nurses are vital to the delivery of the program.

Priorities/Next Steps

- Establishment of agreements with birthing hospitals and health units for program implementation; training of maternity and public health nurses.
- As partnerships are created, training for family-serving agencies: parent and crisis hotlines, MCFD personnel and foster care workers, day care centre personnel.
- Public education campaign.

Budget

2004/05 BUDGET: $55,700
2005/06 BUDGET: $125,473
2006/07 BUDGET: $131,073
2007/08 BUDGET: $270,222

Contact Information

http://www.dontshake.ca

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Status

- In 2008/2009, MCFD continued to support the program development and began province-wide implementation of the program.
- As of January 2009, the program was fully implemented in all birthing hospitals and Health Units across the province.
- The Ministry of Healthy Living and Sport has joined the Steering Committee, as maternity services and the public health nurses are vital to the delivery of the program.
- The Period of PURPLE Crying program was presented at the Seventh North American Conference on Shaken Baby Syndrome/Abusive Head Trauma in Vancouver on October 5-8, 2008.

- Training materials have been developed for MCFD personnel (Social Workers) and foster parents.

Priorities/Next Steps

- As partnerships are created, training will be implemented for family-serving agencies: parent and crisis hotlines, MCFD personnel, foster care workers and child care centre personnel.
- Training coordinators will provide ongoing consultation, training and distribution of materials to all hospitals and health departments in all regions of BC.
- The develop a public education campaign plan that will target specific social populations will continue.
- Continue internal process evaluation to determine the ongoing effectiveness of the program and progress toward its stated goals.
- Initiate measure of 'penetration' of program by Public Health Nurses.

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June 2009

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- Develop a public education campaign plan that will target specific social populations.
- Continue internal process evaluation to determine the ongoing effectiveness of the program and progress toward its stated goals.
- Initiate measure of 'penetration' of program by Public Health Nurses.

Budget

2004/05 BUDGET: $55,700
2005/06 BUDGET: $125,473
2006/07 BUDGET: $131,073
2007/08 BUDGET: $270,222
2008/09 BUDGET: $426,822

Contact Information

http://www.dontshake.ca

March 2009

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CONFIDENTIAL ESTIMATES NOTE **Ministry: Children and Family Development** **Date: July 23, 2009** **Minister Mary Polak**	**Shaken Baby Syndrome Prevention Program**

KEY FACTS:

- The *Period of* PURPLE *Crying* ® program comprises elements of education, surveillance and intervention related to the prevention of shaken baby syndrome in infants. The ultimate goals of this program are to create a cultural change in parents' understanding of and response to infant crying and a 50 per cent decrease in the number of cases of traumatic brain injury due to shaken baby syndrome.
- The Ministry of Children and Family Development (MCFD) is endorsing and offering funding to the project, which is lead by Prevent Shaken Baby Syndrome BC (PSBSBC). The program is also supported (and funded) by several other organizations, including the BC Children's Hospital, the Fraser Health Authority, the Vancouver Foundation and the Rick Hansen Foundation. The Ministry of Healthy Living and Sport has joined the Steering Committee, as maternity services and the public health nurses are vital to the delivery of the program.
- The *Period of* PURPLE *Crying* prevention program implements a 'triple dose' strategy to educate parents and the community about normal infant development through the distribution of attractive, positive messages for caregivers rather than negative warnings about the consequences of Shaken Baby Syndrome.
- Program materials are distributed directly to new parents via birthing hospitals (Dose I), public health units, including public health nurses on home visits (Dose II), and to the general public through a broader media campaign (Dose III).
- MCFD has provided a commitment of up to $1.4 million over four years (2007/08 – 2010/11) to support the program.
- The Ministry entered into a contract with the Children's and Women's Health Centre of BC on October 1, 2007 to implement the *Period of* PURPLE *Crying* ® prevention program. The initial contract value for 2007/2008 was $74,398 and additional funds of $195,824 were provided in that year. The contract was extended from October 2008 to September 2009, for a contract value of $426,822 for 2008/2009.
- From 2004 to 2007, MCFD provided $386,644 to support the SBS Research Project, some of which was carried out in partnership with BC Children's Hospital.

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Actual Expenditure for 2007/08	Actual Expenditure for 2008/09	Budget for 2009/10	Budget for 2010/11
$270,222	$426,822	TBD	TBD

Program Area: Early Childhood Development Policy and Support

Key Contact	ADM	Deputy (if required)
To be filled out when approved	**To be filled out when approved**	

- As of January 2009, the program was fully implemented in all birthing hospitals and Health Units across British Columbia:
  - 1,950 (97.7%) of a targeted 1,997 maternity nurses trained
  - 950 (99.1%) of a targeted 959 public health nurses trained
  - 53 birthing hospitals and 123 health units implemented
  - 70.7% of all nurses were trained with an attending trainer
- Health care support staff including emergency room physicians and nurses, family physicians, pediatricians and midwives have received training in administering the program.
- The surveillance/evaluation aspect of the program requires collaboration with emergency services and hospitals in reviewing patient charts, Child Protection Services in reviewing all abuse cases involving children under two, public health nurses on home visits and, if warranted, with the BC Coroner's Office in conveying details of deaths of children under two due to abusive head trauma.
- From October 2008 to September 2009, specific training material for Ministry of Children and Family Development personnel, as well as foster parents and contracted family support workers, was developed.
- Development and approval of the Period of PURPLE Crying presentation for foster parents was completed for online training February, 2009. The on-line module is currently available to all foster parents with downloadable certificate of completion. PURPLE materials will be given to trained foster parents with children 3 and under and all safe baby homes.
- The Children's and Women's Health Centre of BC has also been contracted to develop a process unique to this system to provide the *Period of* PURPLE *Crying*® prevention program to Aboriginal families.
- The program is working with First Nations Health Council and a BC Perinatal Health Program Aboriginal Nurse Consultant to train First Nations health centre nurses other groups working with the Aboriginal population.
- The program will continue internal process evaluation to determine the ongoing effectiveness of the program and progress toward its stated goals.

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Program Area: Early Childhood Development Policy and Support

Key Contact	ADM	Deputy (if required)
To be filled out when approved	**To be filled out when approved**	

From: Robbins, Clara MCF:EX
Sent: Tue, September 26, 2006 3:19 PM
To: Carroll, Dena MCF:EX
Cc: Wight, Maureen MCF:EX
Subject: Shaken Baby Syndrome Research Project

Hi Dena,

Our branch is a major contributor to a Shaken Baby Research project that will eventually become a prevention program in the province. Mark Sieben has suggested that your area may be interested in knowing more about this. Could we meet to discuss?

I would also like to invite you to a large meeting where the research project will be presented to our division and some of the ADMs.

Clara Robbins, RSW
Director, Review Initiatives
Child and Family Development Division
Box 9766 Stn Prov Govt
Victoria, BC V8W 9S5
Phone: (250) 356-5201 Fax: (250) 356-2995

New E-mail Address: Clara.Robbins@.gov.bc.ca

Shaken Baby Syndrome Training

- Mark Sieben, ADM, has indicated the ministry's commitment to educating social workers about SBS.

- Training is being provided by the National Centre on SBS. They cover costs of the trainer and venue, but would want to consult with MCFD regarding most appropriate locations. Jocelyn @Children's hospital is co-ordinating the project.

- Training is a 1.5 hour session, in a lecture and Q and A format. Can manage as many people as venue will allow for. Could be 50 people. Target audience is MCFD staff and relevant service providers – would seek MCFD guidance re service provider invitees.

- In Surrey, plan is to do 4 sessions over two days, mornings and afternoons.

- Plan to travel to the north and interior in the fall and would like to start syncing up locations.

- Foster parents are also being educated and so travels would be co-ordinated to enable both ministry and foster parent training in communities.

- Want to complete the training in early 09.

Questions:
How many communities are trainers prepared to visit in their travels through the province, particularly the north, interior, and Vancouver Island?

Professionals

Period of PURPLE Crying

Implementation in British Columbia

by Prevent SBS BC Staff 6.13.2008

2007 – 2011 BC Implementation

British Columbia is the first province in Canada to implement the *Period of PURPLE Crying®* Program. All of the 45,000 parents of a new baby in the province will receive a copy of the 10-minute DVD and 11-page booklet before going home from the hospital. This project is designed to change the way parents and caregivers are educated about normal infant crying and the dangers of shaken baby syndrome. It will also educate the general public about this new information through a public education campaign.

How it will be delivered
Once the program is fully implemented each parent giving birth in BC will receive education about *PURPLE Crying* in three doses:

1) Through Maternity services or midwives: Teaching and materials distributed in hospital or home.
2) Through Public/Community health nurses or midwives: a second teaching and delivery of any materials missed from hospitals.
3) By a public education campaign that educates the general public about the main messages in the materials and how they can help support families with crying babies.

The *PURPLE Crying* materials are currently available in English, Punjabi, Cantonese, Mexican-Spanish, Korean, Vietnamese, Japanese and Brazilian-Portuguese. Quebecois-French will be available by the end of 2008.

As staff within each hospital and the corresponding health units are trained, we will be releasing the materials to distribute to parents. Click here for a list of the hospitals currently distributing the *Period of PURPLE Crying* and other areas receiving training.

Program staff

The Director of Prevent Shaken Baby Syndrome BC is Marilyn Barr, who is also the Executive Director and Founder of the National Center on Shaken Baby Syndrome in Utah, USA. Other staff members include Jocelyn Conway, Provincial Coordinator, Claire Yambao, Regional Trainer for Fraser and Interior Health Authorities and Anoo Mammen, Regional Trainer for Vancouver Coastal, Vancouver Island and Northern Health Authorities.

Funding and Community Partners

On April 11, 2008 the Honourable Minister Tom Christensen announced the **BC Ministry of Children and Family Development's** funding of $1.4 million over four years to implement *The Period of PURPLE Crying*® program for BC parents. The Principal Investigator is Ronald G. Barr, MA, MDCDM, FRCPC, Canada Research Chair in Community Child Health Research; Director, Centre for Community Child Health Research, Child and Family Research Institute; Professor of Pediatrics, UBC Faculty of Medicine and Marilyn Barr, Director, Prevent Shaken Baby Syndrome BC; Founder and Executive Director, National Center on Shaken Baby Syndrome, Utah, USA. Prevent SBS BC will implement the program and the Centre of Community Child Health Research in conjunction with the BC Injury Research and Prevention unit will evaluate the programs' ability to reduce shaken baby syndrome in BC.

BC Children's Hospital has provided substantial leadership for the prevention of SBS in BC with the formation of the Steering Committee on Shaken Baby Syndrome, by supplying office space for the program and other funding.

A major in-kind partner in the distribution of materials is the **BC Ministry of Health.** BC maternity and public health nurses are contributing with their time and enthusiasm to explain the materials to parents. The BC NurseLine Services is also partnering by delivering additional education about the *Period of PURPLE Crying* when parents call for help with their crying babies. Other contributing partners are Child Health BC, the BC Perinatal Health Program, the BC Civil Forfeiture Office and the BC Children's Hospital Foundation with funding from; the Vancouver Foundation, Fraser Health Acquired Brain Injury Program, the Rick Hansen Foundation and several others.

Current Program Evaluation

The funding from the Ministry of Children and Family Development also entails evaluating whether the program is successful in reducing the number of shaken baby cases in the province. **The Centre for Community Child Health Research** with the **BC Injury Research and Prevention Unit** will establish the BC Abusive Head Trauma (AHT) Surveillance System

2006/07

VENDOR_NAM	VENDOR_NUM	CONTRACT
CHILDREN'S & WOMEN'S HEALTH CENTRE OF B C BRANCH	091958	XND2055119

LINE_NUM	DIST_NUM	FISCAL_YEA	RESPONSE	REGION_
0003	2007	2007	18XND Child & Family Welfa	18C60 Integrated Policy and Leg

ORG_	SERVICE_LI	TRIPLE_SUB
18B03 Provincial Office	14650 Program Delivery-CIC Chil	18D22 Children in Care Program

SUB_SUB_VO	SUB_VOTE_	STOB	PROJECT
18C17 Permanency Planning for C	18B06 Child and Family Developm	8007 Service Providers	1800000

CONTRACT_S	CONTRACT_E	SYSTEM	RE_FILE_NU	ITEM_DESCR	STATUS
2004/11/01	2007/03/31	CAS		SHAKEN BABY SYNDROME	Closed For Invoice

CAPACITY	FIXED_AMT	VRBL_AMT	AMOUNT_ORD	AMOUNT_CAN	AMOUNT_BIL	APR_BILLED
0.00	0.00	0.00	131073.00	0.00	131073.00	0.00

MAY_BILLED	JUN_BILLED	JUL_BILLED	AUG_BILLED	SEP_BILLED	OCT_BILLED	NOV_BILLED
0.00	0.00	0.00	0.00	0.00	98304.75	0.00

DEC_BILLED	JAN_BILLED	FEB_BILLED	MAR_BILLED	OTHER_FISC	AMOUNT_REM
0.00	32768.25	0.00	0.00	0.00	0.00

From: Wong, Stephanie MCF:EX
Sent: Wednesday, September 26, 2007 10:18 AM
To: Stevanovic, Aleksandra MCF:EX
Subject: STOB 60 and 61 for XLR

Aleksandra:

We have a budget of under STOB 60 for 100,000 under XLR
STOB 61 for 253,000 under XLR

Of that money $107,560 is committed. Therefore there is $245,440 left to spend.

Thanks

Stephanie Wong
Division Financial Analyst
HQ Financial Management Services, Financial Planning & Reporting
Finance and Corporate Services Branch
Ministry of Children & Family Development
Phone (250)356-5514 Fax: (250)356-9799

Recipient & Contract Purpose	Responsible Branch	*Strong, Safe & Supported* Priority?	08/09 Contract	Amount Committed for 09/10	Ability to Decrease 09/10 Commitment?	Implications of Not Proceeding with 09/10 Commitment	Transition Period Required?

[1] Contract not yet signed; negotiations underway for a one-year extension (April 1/2009 to Mar. 31/2010)

Recipient & Contract Purpose	Responsible Branch	*Strong, Safe & Supported* Priority?	08/09 Contract	Amount Committed for 09/10	Ability to Decrease 09/10 Commitment?	Implications of Not Proceeding with 09/10 Commitment	Transition Period Required?
Prevent Shaken Baby Syndrome (SBS) B.C. is a joint initiative with the Ministry of Health, and was launched in the Spring of 2008. The initiative was created to decrease incidents of shaken baby syndrome.	MCFD Early Years (in partnership with MHS/MHLS)	The SBS Prevention Program falls under Pillar #1: Prevention, Action #4, and is the only program of its kind in North America.	$.426M	$.148M[2]	Implementation of the program would be compromised, if the contract was reduced or cancelled.	• Cancellation of contract would be a breach of the Minister's public commitment of $1.400M to the SBS Prevention Program. • Full delivery of the program would be jeopardized if the contract is reduced or cancelled. • The program has been proven to be effective in reducing SBS; it has been implemented in provincial Health Units and in 50 hospitals across the province. • The SBS Research Project has received high profile due to the nature of its work and the involvement of major partners including the Province, BC Children's Hospital, the Centre for Community Child Health Research, and public health staff and clinicians across B.C. Criticism from the public and health community may arise if funding is cut. • In consultation with MCFD regions, the program is offered to foster parents and child protection workers.	• Current contract term ends in Sept. 30/2009. • Withdrawal from commitment past contract expiry would require inter-ministry dialogue with MHS and MHLS and the development of a communications plan to mitigate potential public criticism

[2] Reflects funding commitment to the current contract which expires Sept. 30/2009; status quo delivery would imply a $0.427M annual expenditure provided contract is renewed for 2009/10 at same levels of 2008/09 commitment. This contract is not an even monthly charge, but based on deliverables – which incur larger costs in the first part of the contract period, will less costly monthly fees making up the lesser cost in the latter part.

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ECD Service/Initiative	Description
4. Shaken Baby Syndrome (Period of PURPLE Crying)	Ministry of Health, was launched in the Spring of 2008. The initiative was created to decrease incidents of shaken baby syndrome. The initiative has been implemented province-wide, in all birthing hospitals and

Available June 2007
The Period of PURPLE Crying®
A New Way to Understand Your Baby's Crying

National Center on Shaken Baby Syndrome
www.dontshake.org

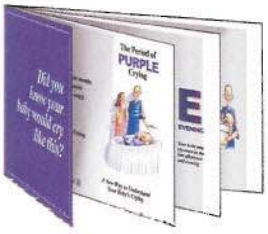
The National Center on Shaken Baby Syndrome (NCSBS) is pleased to announce the NEW **Period of PURPLE Crying®** program will be available for purchase in June 2007. Materials include a full color 11-page booklet and a 10-minute DVD. Other companion pieces are also available.

A Child Development Educational Approach. The **Period of PURPLE Crying®** program approaches SBS prevention by helping parents and caregivers understand the frustrating features of crying in normal infants that can lead to shaking or abuse. The program provides the opportunity for parents to learn about the crying characteristics experienced during this unique period in the first few months of life. The program is based on over 25 years of research on normal infant crying conducted by Ronald G. Barr, MDCM, and other scientists worldwide.

Research Completed. Over the past 3 years, the NCSBS conducted research testing the *PURPLE* program through randomized controlled trials in Seattle, Washington and Vancouver, B.C. Delivery sites included pediatric practices, maternity departments, pre-natal classes, and nurse home visitor programs. Over 4,400 parents participated in the studies. Additionally, 25 parent focus groups were conducted to develop the new materials. The program is available in four languages and includes closed captioning. Five additional languages will be added by the end of 2007.

The **Period of PURPLE Crying®** program is designed and approved by pediatricians, public health nurses, child development experts, and parents. The program is:

- Educational and attractive to parents of newborns.
- Relevant for all parents while emphasizing the dangers of shaking a baby.
- Clear, memorable, and meaningful with a positive message.
- Designed to be interesting and relevant for both males and females.
- Presented at a grade 3 language level.
- Representative of multicultural and ethnic backgrounds.
- Acceptable to public health nurses; no bottles, blankets, and bumper pads.
- Economical with large quantity orders available as low as $2 per package, which includes both the full color 11-page booklet and 10-minute DVD.
- The *PURPLE* program model requires that each family receives the materials so they can review the program when needed and share it with other caregivers.



The **Period of PURPLE Crying®**
National Center on Shaken Baby Syndrome
2955 Harrison Blvd. Ste. 102
Ogden, UT 84403 • 801.627.3399
PURPLE@dontshake.org
You can also visit our website at www.dontshake.org

The **Period of PURPLE Crying®** Program
Prevent Shaken Baby Syndrome B.C.
B.C Children's Hospital
4480 Oak Street Room K1-209
604 875-2000 ext 5100
mbarr@dontshake.org
you can also visit our website at www.dontshake.ca

Early Years (ECD) – Update

Shaken Baby Syndrome Prevention Program: The Period of PURPLE Crying

- Initiated 3 stage program designed and developed to reduce shaken baby syndrome and other infant abuse in B.C.
- BC Shaken Baby Syndrome Prevention Program submitted a proposal Preventing Shaken Baby Syndrome and Infant Abuse: The period of PURPLE Crying Program
- Period of PURPLE Crying booklet will be translated into French.

Update on BC Implementation of *The Period of PURPLE Crying*® Program
as of July 22, 2008

Provincial Health Services Authority

BC Women's
- Started implementation

Vancouver Coastal Health Authority

Out of 8 hospitals:
- 3 have started implementation
- 3 are in various stages of training
- 2 are currently in talks for training

Out of 17 health units:
- 10 have started implementation
- 7 are trained and awaiting implementation

Fraser Health Authority

Out of 8 hospitals:
- 7 have started implementation
- 1 in training

Out of 18 health units:
- 16 have started implementation
- 2 are trained and awaiting implementation

Vancouver Island Health Authority

Out of 8 hospitals:
- 2 have started implementation
- 4 are in various stages of training
- 2 have scheduled training

Out of 18 health units:
- 3 have started implementation
- 15 are in various stages of training

Northern Health Authority

- Received list of main contacts; have been in contact and they are currently in the process of organizing groups and scheduling training

Interior Health Authority

- Received list of main contacts, both perinatal and public health are currently in the process of scheduling training for August and September, 2008

Midwives (1st Dose for home births and 2nd Dose for hospital births)

- Currently receiving training both in-person (hospital/health unit in-services) as well as online
- VCHA midwives will receive materials from their leader (Serving BC Women's and St. Paul's) at monthly meetings
- FHA midwives will receive materials from their respective clinics
    - Out of 11 clinics:
        - 7 have started implementation
        - 4 in various stages of training

The *Period of PURPLE Crying*®

Dear Colleague,

The *Period of PURPLE Crying*® is a new program being offered from Prevent Shaken Baby Syndrome BC, a program of BC Children's Hospital. The program educates all new parents about early infant crying, especially inconsolable crying, and the dangers of shaking a baby because of the frustration over this crying. All new parents receive this 10-minute DVD and 11-page booklet at the hospital to take home with them and share with all the caregivers of their baby. Maternity nurses also spend a few minutes educating parents about the information in the booklet before discharge from hospital.

The Ministry of Children and Family Development has funded both the research and implementation of this program province-wide and is now adding the *Period of PURPLE Crying* to the Foster Parent curriculum. All Foster Parents who presently are an approved home for children 3 years of age and under will receive a copy of the *PURPLE* materials after taking the 35-minute training session. This will support one of the main recommendations from the *PURPLE* materials in that all temporary caregivers of babies view the materials **before** caring for an infant.

Social workers are also being asked to participate in the training of this new provincial Shaken Babies prevention program. The training involves viewing the DVD that parents are provided by maternity staff before they leave the hospital with their newborns then joining a 35 minute presentation through a GOTO meeting (webinar) with audio connection via conference call.

XLR - Early Childhood Development (includes XWC)
Chief Operating Office and Provincial Support Services

2007/08 Contract/Program Chargeback Details
Commitments to July 31, 2007

Funding Available for Commitments	4,650,000
Year to Date Commitments	4,144,409
Uncommited Funds	505,591

COMMITMENT DETAILS:

Description	Contract Number	Commitment Amount	Time Frame	Apr	May	Jun	Jul	YTD Expended/invoiced	Variance To Commitment	Comments	Service Line	stob
Purple Crying Project		-				(5,000)	5,000	-	-			

XLR - Early Childhood Development (includes XWC)
CC and ECD policy

2007/08 Contract/Program Chargeback Details
Commitments to September 30, 2008

Funding Available for Commitments	3,165,400
Year to Date Commitments	3,099,016
Uncommited Funds	**66,384**
COMMITMENT DETAILS:	

Description	Contract Number	Commitment Amount	Time Frame	Apr	May	Jun	Jul	Aug	Sep	YTD Expended/invoiced	Variance To Commitment	Comments	Service Line	stob
Purple Crying - Children & Women's Health	XLR167974	84,349	1 Oct 2007 - 30 Sept 2008						70,291	70,291	14,058	contract set up under stob 60 but should be moved to stob 80 - service provider	15050	6001

Prevent Shaken Baby Syndrome BC
Report on Implementation of
The *Period of PURPLE Crying*® Prevention Program
June 30, 2009

Implemented Hospitals and Health Units

As all hospitals and health units in the province are fully implemented, work is now turning to the second phase of implementation: monitoring the delivery of the program. For hospitals and health units this entails; receiving and recording birth numbers every month, tracking of inventory and filling orders, and responding to questions and additional training requests from staff. Additionally, we receive from health units Program Evaluation forms for all referred births. Reports are created that analyze the program's progress. This information is reported to the evaluation team at regular intervals and also used to report to the hospital and health unit personnel during 1st anniversary visits. A report on program delivery for hospitals is on file for review.

First Anniversary Hospital and Health Unit Visits

Several anniversary visits have been completed already. This event is an opportunity to congratulate the nurses on a job well done and to encourage continued support of the program. We also use this as an opportunity to deal with any detected problems in delivery protocol. We do this through a report on the program delivery rate for each unit and compare it to health authority averages. Incentives are provided that may serve as program reminders: mugs, tumblers, and a clock all printed with the *PURPLE Crying* logo.

Neonatal Intensive Care Units (NICU)

All hospitals with NICU have been contacted and 8 of 11 units have been trained to distribute the *PURPLE* program and advise parents of NICU infants on the differences their babies may experience with crying patterns based on their NICU diagnosis.

Ministry of Children and Family Development

On June 17, 2009 a meeting with the new MCFD Project Manager, Jackie Behrens of the Regional Support Council took place in Victoria. Training for MCFD Social Workers has been progressing; however, a new focus will be placed on getting all Resource Social Workers trained in order to make them aware of the program when placing infants and encourage completion of the on-line training for Foster Parents.

- Fraser Region: 11 in-service training sessions with 171 MCFD staff.
- Vancouver Island Region: 13 web-conference training sessions with 141 MCFD staff.
- Vancouver Coastal Region: 5 in-service training sessions with 87 MCFD staff.
- Northern Region: Web-conference training sessions are scheduled for July.
- Interior Region: No web-conference sessions planned yet.

Foster Parents

One method for Foster Parent training has included an on-line module or in-person training in the regional Foster Parent support society offices. Homes identified with children < 3 years of age have received the *PURPLE* DVD and booklet after their training.

The following Foster Parents have been trained.

- Vancouver Island Region: 92 Foster Parents, 46 identified as homes with children < 3
- Northern Region: 17 Foster Parents, 9 identified as homes with children < 3
- Okanagan Region: 164 Foster Parents, 32 identified as homes with children < 3
- Interior Region: 52 Foster Parents, 18 identified as homes with children < 3
- Vancouver Coastal Region: 16 Foster Parents, 7 identified as homes with children < 3

Work has started on an additional method reach all foster homes that presently or potentially care for children less than 3 years of age for training and distribution of *PURPLE* materials. In early September, 2009, the Regional Support Council will arrange for a mailing to go to every one of these identified foster homes. This package will contain a letter from the Assistant Deputy Minister, Mark Sieben, an information sheet explaining the basic points of the program with additional information on how to receive the free training, and a copy of the *PURPLE* materials packet which Foster Parents will be encourage to watch as soon as possible. As explained above, in conjunction with this mailing, MCFD Resource Social Workers will be asked to contact their foster parents and encourage them to take the online training module so they can submit the *Certificate of Completion* for their office file.

Contracted Community Support Workers

- Community Living BC staff training is in process. The *PURPLE* material packets (1 per office) have been forwarded to all Community Living offices through Julie Iuvacigh, Manager, CLBC Learning Centre along with instructions for the free online training sessions. Training also occurred at the CLBC Learning Center and a total of 24 staff members have been trained through both methods.
- Other training for the "MCFD contracted community support workers" is on hold until new Foster Parent initiative has rolled out which is described above.

Aboriginal Groups

- Work continues with the First Nations Health Council and BC Perinatal Health Program Aboriginal Nurse Consultant to train First Nations health centre nurses and other groups working with Aboriginal peoples.
- Invited to speak at the Maternal Child Health Committee Meeting June 3. Committee members then instructed their nurses to take the on-line training.
- Ongoing on-line training of community health nurses with approximately 50 complete.

Community Groups

We are working with the following agencies to provide training to personnel:

- ER personnel (ongoing training at various hospitals and ENGBC Workshop October 25),
- Adoption Agencies (all staff from 6 agencies scheduled to train October 02),
- Colleges and Universities (ongoing training of student nurses via online and scheduled to include *PURPLE* in 31 additional post-secondary institutions by September 2009),
- Doulas (ongoing training via online),
- Infant Development Programs (ongoing training via in-services and online; approximately ~90% of offices province-wide are trained and implementing *PURPLE*),

- Pregnancy Outreach Programs (ongoing training via in-services and online; approximately ~80% of offices province-wide are trained and implementing *PURPLE*),
- Immigration Services (currently in talks to check how *PURPLE* training can be provided to Settlement and Immigration Services personnel)
- BC Ambulance Services, Family Services, BC Centre for Ability, Child Care Providers, Prenatal Instructors, Red Cross and Down Syndrome Research Foundation, (some personnel have received training and are implementing *PURPLE*)

Family Physicians

BC College of Family Physicians will include an article in their upcoming e-newsletter that will provide links directly to our "Physician" website page and will also be featuring our program on the main page of their updated website. Also in process is work on providing an advertisement and submitting a Letter to the Editor in the BC Medical Journal. The submission of an article for publication is also being considered. Continuing opportunities to speak at College of Family Physicians events are monitored and pursued.

Canadian Military Families

A meeting in Victoria to determine initiatives using the *PURPLE* program for military families took place in August. In BC most these families get the program in the hospital after the birth of their baby but additional support will be offered in the military advocacy program.

Public Education Campaign and Recognition

Print and Radio broadcast advertisements that will be modified for use in BC have been completed.

Work on the *Period of PURPLE Crying* parent website is ongoing. Parents will be directed to this website through all advertisements across North America.

- Earned media for the program this period: **Vancouver Sun, Apr 23 09:** Apple apologizes for Baby Shaker application. Mention of PURPLE and Shaken Baby Syndrome Prevention Program.

Program Evaluation for Incidence Reduction

BC Coroner's Study

BC Coroner's active surveillance of deaths due to abusive head trauma data abstraction has been organized and file review begins July, 2009. Five professionals, including four physicians are conducting this chart review.

Canadian Institute for Health Information

Data evaluation protocol is in place, and analysis has begun.

Active Surveillance of Head Trauma Admissions at BC Children's Hospital

Continuing collection of patient chart information and reviewing for ongoing prospective active surveillance of head trauma admissions.

Review of cases from Child Protection Services units

The review of all 2008 cases at the Vancouver unit has been completed. Arrangements are being made to work with the Surrey CPS team for chart review.

Initiation of Nurse Fidelity Interviews

Interview measure has been accepted by UBC Ethics. Approval has been received from Providence Health, Interior Health, Northern Health and Vancouver Island health to conduct interviews. Other health regions are in process. The survey has been revised and once approved calls to nurse can begin.

Initiation of Maternal Interviews (2 month post-birth)

Interview measure has been accepted by UBC Ethics. Approval has been received from Providence Health, Interior Health, Northern Health and Vancouver Island health to conduct interviews. Other health regions are in process. The survey has been revised and once approved calls to nurse can begin.

Woodman, Lara MCF:EX

From: Barry, Ryan MCF:EX
Sent: Thursday, September 3, 2009 4:51 PM
To: Stevanovic, Aleksandra MCF:EX; Woodman, Lara MCF:EX
Subject: RE: Shaken Baby Contract

Attachments: XLR167974 Purple Crying at 3 Sept 2009.pdf

Hi Aleks & Lara,

The key is to extend & modify so that the current year cost does not exceed $426,000 which I can confirm is still in the stob 80 budget for Purple Crying.

The current agreement XLR167974 has a value of $148,135.50 in it for this fiscal year. $98,757.00 has been billed to date this fiscal (4 x $24,689.25) with $49,378.50 remaining to September 30. (presumably 2 x $24,689.25). You might check with Terre or the supplier to see if they intend to bill for this amount before end of September, but that knowledge is not crucial to the modification.

So the $ value for October 1, 2009 through March 31, 2010 should not exceed **$277,861.50.** (= $426,000 - $148,138.50).

In the last 12 months that we've had a $426k contract with them, they've billed for some of the deliverables at variable times (i.e. not a regular monthly invoice) and spent more than half the contract value in the first half of the contract period – this is why less than half $426k was rolled over into the first 6 months of this fiscal from last fiscal. Also why more than half of $426k is available in the last 6 months of this fiscal. I mention this because it is important to get all the variable deliverables into this next 6 months, if they are going to deliver in the same manner as the last year. I think Terre has a good understanding of the deliverables and the rate at which we get invoiced. If they are going to deliver less in the next 6 months you can sign a contract for less than $278k, but this budget money will disappear on March 31 and you won't be able to carry it forward to FY11 (which presumably will have a budget of $426k for the third and final year – barring anything unforeseen).

Here's the Oracle report:

XLR167974 Purple Crying at 3 S...

Page 2 shows prior years and page 3 shows FY10: $148,135.50 - $98,757.00 has been billed to date = $49,378.50 remaining

Let me know if anything isn't clear...

Ryan Barry
Business Analyst, Provincial Office MCFD
phone (250)387-4361 fax (250)356-2899
Ryan.Barry@gov.bc.ca

From: Stevanovic, Aleksandra MCF:EX
Sent: Thursday, September 3, 2009 12:54 PM
To: Woodman, Lara MCF:EX; Barry, Ryan MCF:EX
Subject: RE: Shaken Baby Contract

Hi Ryan,
I checked with Lenora and we will not be doing a DN for the Minister. Could you just please confirm (when you can) that we still have funds in XLR budget to extend the contract until the end of the fiscal. Thanks Ryan.

Regards,

Aleksandra Stevanovic
Acting Director
Early Childhood Development Policy and Support
Ministry of Children and Family Development
836 Yates Street, 3rd Floor
Victoria, BC V8W 9S5
Tel: (250) 387-1440 Fax: (250) 356-2528
Aleksandra.Stevanovic@gov.bc.ca

From: Woodman, Lara MCF:EX
Sent: Thursday, September 3, 2009 8:44 AM
To: Barry, Ryan MCF:EX
Cc: Stevanovic, Aleksandra MCF:EX
Subject: RE: Shaken Baby Contract

I'm hoping to do just a modification agreement, which will have to be processed and approved before the current contract end date of September 30. However, as Aleks notes below we have a meeting with this group next Friday Sept 11, so we will need to inform them of funding at that time. Thanks.

~Lara

From: Barry, Ryan MCF:EX
Sent: Wednesday, September 2, 2009 5:15 PM
To: Woodman, Lara MCF:EX
Subject: FW: Shaken Baby Contract

Hi Lara,

I have to look at this – hopefully sometime tomorrow. Or let me know when is the latest I can push it to?

Ryan Barry
Business Analyst, Provincial Office MCFD
phone (250)387-4361 fax (250)356-2899
Ryan.Barry@gov.bc.ca

From: Stevanovic, Aleksandra MCF:EX
Sent: Wednesday, September 2, 2009 4:56 PM
To: Angel, Lenora MCF:EX
Cc: Hedlund, Marilyn MCF:EX; Barry, Ryan MCF:EX; Leslie, Lisa PAB:EX; Woodman, Lara MCF:EX
Subject: Shaken Baby Contract

Hi Lenora,
The current Shaken Baby Contract ends at the end of the month. We have funds in XLR to extend the contract until

Jennifer Locke

CHILD HEALTH BC

Prevent SBS British Columbia

BC CHILDREN'S HOSPITAL

Understanding Normal Infant Crying and Its Link to Shaken Baby Syndrome

11-12 January 2008

Prevent Shaken Baby Syndrome BC
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ELECTRONIC ARTICLE

Preventing Abusive Head Trauma Among Infants and Young Children: A Hospital-Based, Parent Education Program

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ABSTRACT

Objective. Abusive head injuries among infants (shaken infant or shaken impact syndrome) represent a devastating form of child abuse; an effective prevention program that reduces the incidence of abusive head injuries could save both lives and the costs of caring for victims. We wished to determine whether a comprehensive, regional, hospital-based, parent education program, administered at the time of the child's birth, could be successfully implemented and to examine its impact on the incidence of abusive head injuries among infants <36 months of age.

Methods. All hospitals that provide maternity care in an 8-county region of western New York State participated in a comprehensive regional program of parent education about violent infant shaking. The program was administered to parents of all newborn infants before the infant's discharge from the hospital. The hospitals were asked to provide both parents (mothers and, whenever possible, fathers or father figures) with information describing the dangers of violent infant shaking and providing alternative responses to persistent infant crying and to have both parents sign voluntarily a commitment statement (CS) affirming their receipt and understanding of the materials. Program compliance was assessed by documenting the number of CSs signed by parents and returned by participating hospitals. Follow-up telephone interviews were conducted with a randomized 10% subset of parents, 7 months after the child's birth, to assess parents' recall of the information. Finally, the regional incidence of abusive head injuries among

infants and children <36 months of age during the program (study group) was contrasted with the incidence during the 6 preceding years (historical control group) and with statewide incidence rates for the Commonwealth of Pennsylvania during the control and study periods, using Poisson regression analyses with a type I error rate of 0.05.

Results. During the first 5.5 years of the program, 65 205 CSs were documented, representing 69% of the 94 409 live births in the region during that time; 96% of CSs were signed by mothers and 76% by fathers/father figures. Follow-up telephone surveys 7 months later suggested that >95% of parents remembered having received the information. The incidence of abusive head injuries decreased by 47%, from 41.5 cases per 100 000 live births during the 6-year control period to 22.2 cases per 100000 live births during the 5.5-year study period. No comparable decrease was seen in the Commonwealth of Pennsylvania during the years 1996–2002, which bracketed the control and study periods in western New York State.

Conclusions. A coordinated, hospital-based, parent education program, targeting parents of all newborn infants, can reduce significantly the incidence of abusive head injuries among infants and children <36 months of age.

Key Words: shaken baby syndrome • shaken impact syndrome • nonaccidental head injury • abusive head trauma • child abuse • head trauma • injury prevention

Abbreviations: WCHOB, Women and Children's Hospital of Buffalo • WNY, western New York State • CS, commitment statement

Caffey[1,2] first used the term whiplash-shaken infant syndrome to describe the association of intracranial injuries, retinal hemorrhage, and certain long bone fractures attributable to child abuse among infants (the majority <1 year of age). Other terms for this condition include shaken baby syndrome or shaken infant syndrome, shaken impact syndrome,[3] infant shaken impact syndrome,[4] infant whiplash-shake injury syndrome,[5] abusive head trauma,[6] and inflicted, nonaccidental, or intentional head injury. Shaken infant syndrome is the most widely used and recognized term, although shaking alone may not account for all injuries.[3] Whatever the terminology and pathogenesis, abusive head injuries among infants represent one of the most severe forms of child abuse, with 13 to 30% mortality rates[4,5,7,8] and significant neurologic impairments in at least one half of the survivors.[9]

The economic costs of abusive head injuries are significant; initial inpatient hospitalization costs average $18 000 to $70 000 per child, and average ongoing medical costs can exceed $300 000 per child.[10–12] Many children require long-term medical services, physical, occupational, speech, and educational therapies, and lifelong custodial care. Long-term management costs exceeded $1 million in 1 case.[11] Additional costs associated with loss of societal productivity and occupational revenue and with prosecution and incarceration of a perpetrator are unknown. An effective prevention campaign could potentially save the lives of many children and improve the lives of many

others; the costs of such a campaign could be recovered from the economic savings to society.

Despite the severity of the injuries and enormous societal costs, previous studies suggested that 25 to 50% of people have not received information about this problem.[13–16] In some cases of abuse, the perpetrators admitted to shaking the infant violently but confessed that they were unaware of the dangers of doing so.[17] However, the American Academy of Pediatrics suggested that "the act of shaking leading to shaken baby syndrome is so violent that individuals observing it would recognize it as dangerous and likely to kill the child."[18] Moreover, recent news coverage of individual cases and scattered public awareness campaigns in the past 2 decades might have increased significantly public awareness about this problem. Therefore, the role of prevention might be not to educate the general public but to remind the right people at the right time.

Parents and their partners are responsible for nearly three fourths of cases, with fathers or stepfathers (37% of cases) and boyfriends (21% of cases) accounting for the majority of cases and mothers accounting for an additional 13%.[6] The average age of the victims is 5 to 9 months, and almost all are <36 months of age.[3,9] The temporal proximity to the child's birth, the relatively short period during which infants and children are at risk, and the preponderance of parent perpetrators afford unique opportunities to intervene through a program of hospital-based parent education administered at the time of the infant's birth and to study the impact of such a program on the frequency of these injuries.

In December 1998, a comprehensive, hospital-based, parent education campaign began in an 8-county region of western New York State (WNY) served by the Women and Children's Hospital of Buffalo (WCHOB). The goals of the program were (1) to provide a universal consistent education program to parents of all newborn infants in the region, (2) to assess parents' knowledge about the dangers of violent infant shaking, (3) to track the dissemination of information through the return of commitment statements (CSs) signed by 1 or both parents, and (4) to assess the impact of the program on the regional incidence of abusive head injuries among infants and children <36 months of age. The 8-county region of WNY is well suited to studies of the effectiveness of a prevention campaign because (1) the region is surrounded on 3 sides by state or international borders and therefore is geographically isolated, (2) a review of regional insurance databases and the Statewide Planning and Resource Cooperative Systems database of hospital discharge diagnoses confirmed that essentially all infants with head trauma in this region are referred to a single center, the WCHOB, and (3) the minimal historical incidence of abusive infant head injuries during the preceding 6-year period (December 1992 through November 1998, inclusive) could be calculated from WCHOB admission data and Erie County Medical Examiner's Office records and compared with data collected prospectively during the subsequent study period.

METHODS

In December 1998, a hospital-based, parent education program, provided at the time of the infant's birth, was administered through nurses at all 16 hospitals that provide maternity services in the 8 counties of WNY. In October 1998, the principal investigator (M.S.D.) provided a 1-hour training session for nurse managers from these hospitals during an annual, regional, perinatal outreach conference, emphasizing the dangers of violent infant shaking, discussing the program methods, and providing a short set of written instructions to train the nurses on their units. A few nurse managers who were not in attendance were contacted individually after the conference. All nurse managers were asked to train nurses on their units (both maternity wards and intensive care nurseries) to administer the program to parents. The unit nurses were asked, at a minimum, to disseminate information about violent infant shaking to both parents of newborn infants before the infant's discharge from the hospital and to have both parents sign a CS affirming their receipt and understanding of the materials. Nurses were encouraged to seek actively fathers or father figures for education whenever possible, to provide program information separate from other materials, so as not to detract from the central message, and to answer parents' questions about violent infant shaking and shaken infant syndrome.

The program and its message were intentionally kept very simple, to maximize hospital compliance. Nurses were asked to have parents read a 1-page leaflet (*Prevent Shaken Baby Syndrome*; American Academy of Pediatrics) and view an 11-minute videotape (*Portrait of Promise: Preventing Shaken Baby Syndrome*; Midwest Children's Resource Center, St Paul, MN) that discussed the dangers of violent infant shaking (but not striking, slamming, or other mechanisms of abuse) and suggested ways to handle persistent infant crying. Educational posters (*Never, Never, Never, Never Shake a Infant*; SBS Prevention Plus, Groveport, OH) were displayed on the wards, to provide information for families and visitors. All educational materials were available in both English and Spanish.

Both parents were also asked to sign voluntarily a CS affirming their receipt and understanding of the materials (Fig 1). In the few cases in which the parents chose not to sign, the nurse was instructed to expunge all individually identifying information and return the CS (indicating that the parents had been exposed to the program). The CSs were collected by the nurses and returned monthly to the study coordinators. The CS asked simple demographic questions about the parents' ages, highest educational level, marital status, and type of insurance and the town of the infant's residence, to ensure that

the program reached a broad cross-section of parents. The CS also asked parents whether the information was helpful, whether this was the first time they had heard that shaking an infant was dangerous, and whether they would recommend this information for all new parents. Parents were asked to consent to a brief, follow-up, telephone survey 7 months after the child's birth and to provide their home telephone number. Ten percent of the parents who had consented to the follow-up survey were selected randomly and were contacted 7 months later, to test their recall of the program information. A 7-month follow-up period was chosen because it is in the middle of the range of average ages of victims reported in the literature.

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Fig 1. CS that parents were asked to sign voluntarily, affirming their receipt and understanding of the program materials.

The regional incidence of abusive head injuries among infants and children <36 months of age was tracked prospectively during the 66-month period of the study (December 1998 through May 2004, inclusive) and was contrasted both with the minimal regional incidence during the 60 months immediately preceding the program (December 1992 through November 1998, inclusive) and with incidence rates of substantiated abusive head trauma in the Commonwealth of Pennsylvania (determined through judicial ruling or by the Office of Children and Family Services and obtained from the Child Line Database, Pennsylvania Department of Public Welfare) during the years 1996–2002, inclusive, with Poisson regression analyses with a type I error rate of 0.05. Because the exact mechanisms of abuse (shaking versus impact) might not be known with certainty in individual cases, all infants and children <36 months of age evaluated at WCHOB with either the *International Classification of Diseases, Ninth Revision*, code for shaken infant syndrome (code 995.55) or an *International Classification of Diseases, Ninth Revision*, code for intracranial injury, skull fracture, or retinal hemorrhage with an external cause of injury code for known or suspected homicide or child abuse (codes E960–E968 and E980–E989) were included. One of the authors (P.M.) served on the regional child fatality

team and maintained contact with child protective services workers, law enforcement officials, and medical examiners to identify additional cases. Local television and newspaper coverage was reviewed. Finally, abusive head injury admissions to Strong Memorial Hospital, the tertiary referral center in Rochester, New York, for the adjacent 9-county region of upstate New York, were reviewed, to ensure that cases from the involved counties had not been referred out of the region. Each identified case of abusive head injury in WNY was cross-referenced to the study database, to identify a signed CS.

All suspected cases of abusive head injury during the historical and study periods were reviewed in detail by the same multidisciplinary medical team, which included a dedicated child abuse physician (P.M.) and 2 pediatric neurosurgeons (M.S.D. and V.L.) working with pediatric ophthalmologists, pediatric radiologists, pediatric orthopedists, and pediatric surgeons (when necessary) and New York State Children, Youth, and Family caseworkers, to confirm the nature of the inflicted injuries in all identified cases. A common definition of abusive injury was used throughout both the historical and study periods and included intracranial injuries and/or skull fractures without a history of trauma, a trauma history that was wholly inconsistent with the identified injuries or developmental age of the child, a pattern of intracranial injuries (such as subdural and retinal hemorrhage with diffuse brain hypodensities) that fit a pattern of abusive injury without an adequate explanation, or intracranial injuries associated with other identified abusive injuries (rib or long-bone fractures or abdominal injuries) that fit a pattern of abuse without an adequate explanation. Cases involving only extracranial soft-tissue injuries (scalp swelling or facial bruising), without an accompanying intracranial injury or skull fracture, were not included during either period.

The number of cases per year and the number of cases per 100 000 live births for both the historical control and study periods were compared with a Poisson regression model.[19] In addition, in an attempt to avoid the inevitable lag time for infants born during the control period but abused during the study period, the 2 groups were also analyzed by assigning each infant to the year of birth (rather than the year of abuse) and assessing the incidence of abusive head injuries during the subsequent 36 months. To do this, a correction factor was calculated for infants born during the second half of the third year and during the fourth and fifth years of the study period (who would not have been monitored for the full 36 months). The correction factor was determined on the basis of the number of live births in WNY during the corrected years and the empirical, cumulative, distribution function[20] of age at injury for case subjects born during the control and treatment periods with a full 36-month follow-up period. This correction estimated the number of additional cases expected if these children had been monitored for the full 36 months. The study was approved by the WCHOB institutional review board before implementation.

RESULTS

Of the 16 regional hospitals providing maternity care, 13 participated fully during the entire 66-month study period. One hospital, accounting for 3% of the region's deliveries, and 1 of 2 wards at a second hospital began participating during the third year. The ward at the second hospital cared for mothers of infants in the hospital's intensive care nursery, an unknown number of whom had been transferred from other hospitals where they might have received program materials. Two hospitals, accounting for 19% and 2% of the region's deliveries, provided educational materials throughout the program but began collecting CSs 15 and 24 months into the program, respectively. All hospitals in the region have participated fully since the beginning of the third year.

A total of 65 205 CSs were recorded, representing 69% of the 94 409 live births during the study period. Ninety-seven percent of returned CSs were signed by at least 1 parent. Ninety-six percent of the returned CSs were signed by mothers and 76% by fathers. Although there are no specific regional normative values for new parents against which the demographic features of the study group could be compared statistically, the returned CSs demonstrated a broad demographic representation, in terms of parent age, highest educational level, marital status, type of insurance, and town of the child's residence.

Ninety-three percent of the parents who returned the CS acknowledged having heard previously about the dangers of infant shaking, confirming one of the study hypotheses. Ninety-two percent of the parents thought that the information was helpful; many of the rest commented that the reason they did not was that they already knew about the dangers of violent infant shaking. Ninety-five percent of the parents thought that the information should be provided to all new parents. Approximately 10% of respondents provided positive comments about the program. The few negative comments were of 2 types, ie, parents thought that the subject was either emotionally unsettling or redundant and unnecessary.

A survey of nurse managers undertaken at the end of each year suggested that nurses at all hospitals regularly (75–100% of live births) provided brochures, displayed posters, spoke with parents, and had parents sign the CS. Unfortunately, less than two thirds of the hospitals regularly had parents view the videotape. Follow-up telephone surveys with parents confirmed that they remembered the program but many were not shown the videotape. When asked simply what health and safety topics they remembered receiving information about at the time of their child's birth, 27% of the respondents mentioned shaken infant syndrome or infant shaking by name. Among the remaining 73% of respondents, 94% responded affirmatively when asked specifically whether they remembered receiving information about infant shaking. Among parents who could recall the program information, 98% remembered the written materials, 92% the CS, 89% conversations with the nurse, and 60% viewing the posters; in contrast, only 23% remembered seeing the videotape. Because parents remembered other aspects of the program, the assumption is that they were never shown the videotape.

During the 6 years before the program began, 49 cases of substantiated abusive head injury were identified. This represented an average of 8.2 cases per year (range: 5–11 cases per year) and 41.5 cases per 100 000 live births (Fig 2). During the 66 months of the study period, 21 cases of substantiated abusive head injury were identified. This represented an average of 3.8 cases per year (a 53% reduction) and 22.2 cases per 100 000 live births (a 47% reduction). This 47% reduction in incidence was statistically significant ($P = .0168$). In addition, statewide incidence rates for the Commonwealth of Pennsylvania between 1996 and 2002 (which bracketed the historical and control periods in WNY) did not change significantly during this time (Fig 2B). The incidence in WNY relative to the incidence in Pennsylvania was 1.40 during the years 1996–1998 (before the program began) and 0.67 during the years 1999–2002 (after the program began); this change was also statistically significant ($P = .0305$).

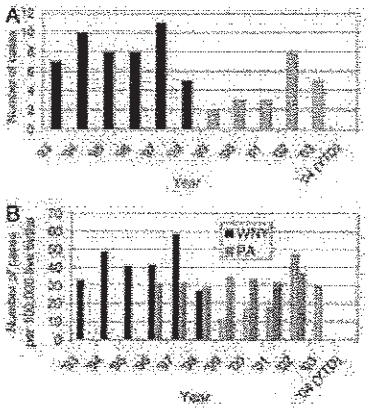

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Fig 2. Annual incidence of abusive head injuries in the 8-county WNY region before (December 1, 1992, through November 30, 1998, inclusive) and during (December 1, 1999, through May 31, 2004, inclusive) the prevention program. A, Number of cases per year; B, incidence per 100000 live births. Pennsylvania (PA) incidence rates for the years 1996–2002 (inclusive) are shown in B for comparison purposes.

Recalculation of the incidence figures according to year of birth rather than year of injury also yielded statistically significant reductions in incidence during the study period (Fig 3). The incidence during the historical control period was 42.3 cases per 100 000 live births (2 children born before but injured during the historical control period were excluded from this analysis because incidence figures for the year preceding the historical control period were not available) and that during the study period was 23.1 cases per 100 000 live births (Fig 3A) with the calculated empirical, cumulative, distribution function correction (Fig 3B). The reduction in incidence remained significant ($P = .0221$). Even after addition of 1 additional case per year for the latter 3 years of the study period (an overly conservative analysis), significant reductions persisted ($P = .0461$).

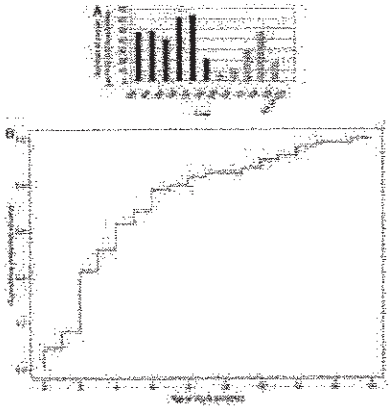

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Fig 3. Annual incidence of abusive head injuries in the 8-county WNY region for infants classified according to the year of birth. A, Comparison of incidence per 100000 live births in WNY for infants born before (December 1, 1992, through November 30, 1998, inclusive) and after (December 1, 1998, through May 31, 2004, inclusive) implementation of the prevention program. B, Cumulative distribution of abused infants as a function of age at injury (used in calculating the empirical cumulative distribution function). All infants were injured before 18 months of age.

A subgroup analysis demonstrated that 7 of the 21 case subjects identified during the program were born to parents who had not been exposed to the program; 2 were born before the program had begun and 5 were born at hospitals that were not yet participating at the time of the infant's birth. Of the 14 remaining infants, the birth hospital was unknown for 1 and 3 were born at participating hospitals but without a returned CS. The remaining 10 infants were born at participating hospitals from which there was a CS signed by the parents; the perpetrator in each of these 10 cases (the father in 9 and the mother in 1) had signed the CS. Excluding the 2 individuals born before the program began and the 1 individual for whom the birth hospital was unknown, the incidence was 35.3 cases per 100 000 live births for cases with no signed CS (and therefore no record of participation in the program) and 15.5 cases per 100 000 live births for cases with a signed CS. The relative risk of sustaining an abusive head injury for infants without a signed CS was therefore 2.3 (95% confidence interval: 0.90–5.77; $P = .0830$).

DISCUSSION

Child abuse prevention efforts are of 3 general types, ie, primary, secondary, and tertiary.[21] Primary prevention efforts, of which this program is an example, address a broad segment of the population (such as all new parents). Secondary prevention efforts, such as the home visitation (or nurse-family partnership) program developed by Olds et al,[22,23] target a specific subset of the population considered to be at higher risk for child maltreatment. Tertiary prevention efforts target perpetrators of child maltreatment and seek primarily to prevent recidivism.

Secondary prevention programs such as home visitation programs have had the greatest demonstrated success in reducing child maltreatment[22,23] but require considerable

resources and are impractical for an entire population. Moreover, their effectiveness in specifically preventing abusive infant head injuries has not been assessed. Primary prevention programs designed to educate the public about the dangers of violent infant shaking have included television and radio public service announcements, billboard advertisements,[24] provision of educational materials to health care providers' offices, schools, and/or community agencies,[25] and hospital-based education programs.[17,26] No published study has yet assessed the impact of any of these programs on the incidence of abusive infant head injuries.

Because they must reach large numbers, primary prevention programs must be neither expensive nor time-consuming to administer. A simple program containing a powerful message, administered at the appropriate moment and requiring very little effort or time on the part of those who deliver the message and those who receive it, has the greatest chance of success. This prevention program meets these criteria and can be successfully implemented on a wide scale.

We chose a hospital-based, primary prevention program targeting parents of newborn infants for several reasons. First, parents are the most common perpetrators of abusive infant head injuries. Second, the period of greatest risk is during the months after the infant's birth. Third, childbirth is a time of almost universal contact between parents and the medical community. Fourth, educated parents might be advocates in disseminating this information to others. Finally, research on adult learning suggests that adults learn best when practical and contextually significant information is provided to help them cope with specific life-changing events, such as marriage, a new job, or the birth of a child. Moreover, the greater the life-changing event, the more likely adults are to seek out information and to learn. Adults are willing to engage in learning before, after, or during such a life-changing event.[27]

This program is unique in several respects. First, it is the only attempt to provide universal, consistent, hospital-based, parent education to an entire region; although not yet universal, the program reached the parents of at least 69% of newborn infants in the region during the study period. Second, it is the only program with demonstrated success in reaching large numbers of parents, particularly fathers and father figures. Third, it is the only program to require active parent participation in the process through the signing of the CS, cementing the central theme of the program and perhaps creating a "social contract" between parents and their community. The signing of the CS may be a very important (perhaps even the most important) component of the program's success. Although there might be many possible reasons for the lower incidence of abusive head injuries among those who signed the CS, the degree of protection was significant, which emphasizes the potential importance of this part of the program. Fourth, this is the only program to track program compliance through the return of CSs. Most importantly, this is the only program with demonstrated effectiveness in reducing the incidence of abusive infant head injuries. The observed reductions are likely a minimum, because cases were more likely to have been missed during the control period (when they were identified retrospectively) than during the study period (when they were identified prospectively).

The data also confirmed that 93% of the parents were already aware of the dangers of violent infant shaking, which suggests that parents need only to be reminded at the appropriate time, ie, the child's birth, and the message needs to be retained only for a short period to be effective. Viewed in this manner, the program may be likened to a vaccination program in which parents, once "inoculated" with information, are "immunized" against violent infant shaking during this critical period. The costs of such a program can therefore be compared with the costs of immunizations. The direct cost of administering this program (including the collection and tracking of CSs) was $177 268 per year, including salaries for nurse coordinators to administer the program and to perform data entry, costs of supplies, travel expenses, postage costs, telephone costs, miscellaneous expenses, and in-kind costs for nurses at participating hospitals (we estimated an average of 15 minutes of the nurse's time per family, which was a generous estimate considering that the nurse need not be present during the 11-minute videotape). The costs were therefore approximately $10 per infant, comparable to the costs of many immunizations. Assuming a 47% reduction in incidence, the costs of the program could be reclaimed if the average costs of caring for victims of injury (including initial costs for new cases and ongoing costs for survivors) exceeded $21 925 per case each year, well within the range currently quoted for medical costs of abusive head injuries.[10–12] These costs would be substantially lower if only "face time" between nurses and parents (more realistically estimated at 5 minutes per family) were included and research costs were excluded.

There are at least 5 potential criticisms of such a study. First, it is difficult for some to believe that such a simple intervention could be this effective in changing human behavior. Many have suggested that a more comprehensive program, providing more materials or incorporating postprogram self-testing to assess parents' understanding of the materials, might be more effective and/or provide additional information. However, our experience suggests that the more time-consuming the program, the less likely it is to be implemented by nurses and accepted by parents. For practical reasons, the program was designed to require <5 minutes of actual contact time between nurses and parents.

Second, a short intervention implemented at a time of increased parental stress might be unlikely to be recalled months later during a period of frustration and rage. However, adult education principles suggest that adults are capable of learning well during periods of life change. Moreover, the follow-up telephone surveys suggested that the majority of parents remembered having received this information for at least 7 months after the child's birth.

Third, although the program was incapable of reaching every male caregiver (such as a mother's subsequent boyfriend), the program was very successful in reaching a significant proportion of fathers and father figures and also emphasized to participating mothers that they should share this information with all care providers. Follow-up telephone surveys with mothers suggested that a significant number of them shared this information with the child's father if he was not initially present. However, the program might be less effective in a setting in which few fathers are available during the perinatal period.

Fourth, there was not an inverse "dose-response" relationship between the increasing number of CSs signed each year and the incidence of abusive head injuries. Although it may be difficult or impossible to identify accurately a dose-response relationship, given the small numbers of annual cases and inherent random variability, the sharp increase in the incidence during 2002 is interesting to note. It is even more interesting that 5 of the 8 cases identified during 2002 occurred during the autumn, at a time when the national economy was in decline. A slight increase was also noted in Pennsylvania during that year (Fig 2), and an inordinate number of abusive head injury cases were reported in Ohio newspapers during that time. We wonder whether the number of cases in WNY might have been even higher during 2002 without the prevention program.

Fifth, this was not a randomized, controlled trial, which raises the possibility that confounding variables had an effect on the outcome. Although it was initially considered, a prospective, randomized trial was impractical. A randomized study would require enrollment of many more families to ensure adequate statistical power, given the relatively low incidence of abusive head injuries in the population. Prospectively randomizing certain hospitals to participate and others not to participate is difficult because of the widely disparate sizes, birth rates, geographic distributions, and demographic features of the hospitals' constituent patient populations. Prospectively randomizing families within each hospital would generate the problem of cross contamination; families randomized not to receive information would likely receive information through conversations with medical staff members or other families, room sharing, or posters on the wards. In addition, families going through the program more than once during the study period could potentially be assigned randomly to different arms of the study with each birth. We thought that a study comparing the incidence during the study period both with historical control rates in the same region during the immediately preceding period and with the state incidence rates for Pennsylvania during both the control and study periods would minimize the effects of confounding variables on the results.

It is possible that the dramatic decline in incidence is attributable to other, unidentified, confounding variables. For example, the celebrated conviction of Louise Woodward (the "Boston nanny"), which generated international attention during 1997, could have affected public perceptions about infant shaking. In addition, regional nurse-family partnership programs (2 of which began in 1 county of WNY in 1996, with a third program beginning in a second county in 2001) could have accounted in part for the decline, although the results of this study were much more widespread. Several features suggested that the reductions were specifically related to the parent education program. First, neither the team of physicians identifying cases of abuse at WCHOB nor the criteria on which they based the diagnosis of abusive head injury changed between the control and study periods, and all cases during both the control and study periods fit a common definition of abusive head injury. Second, there was no corresponding decrease in the number of other types of child abuse in the region during the study period. Third, a query of child abuse specialists on the Special Interest Group on Child Abuse listserve (SIGCA-MD, Cornell University) failed to identify a decline of this magnitude in other areas of the country. Fourth, preliminary results from the 9-county region surrounding Rochester,

New York, where the program began in January 2000, showed a similar 41% reduction in the incidence of abusive head injuries during the first 3 years of the program (M.S.D., K.S., K.D., and M. Silberstein, MD, unpublished data, 2004). Finally and perhaps most importantly, the statewide incidence of substantiated abusive head injuries in the Commonwealth of Pennsylvania did not change significantly during the period 1996–2002 (which bracketed the period of study in WNY).

This study provides the first firm evidence that a comprehensive program of hospital-based, parent education at the time of a child's birth can reduce effectively the incidence of abusive infant head injuries. The success of this pilot program in WNY is currently being tested on a larger scale in the Commonwealth of Pennsylvania, where there is now a statewide mandate to provide this program to parents of all newborn infants. The program began in May 2002 in central Pennsylvania and expanded to the eastern and western regions in 2004. The WNY program has entered a second phase (as of January 2004) in which the hospital-based information is being supplemented with additional information (and another CS) provided to parents at the time of the infant's first visit with the pediatric care provider. It is hoped that a systematic approach to prevention (with appropriate authentication of results), although it will likely not completely eliminate abusive head injury, will at least reduce it to a fraction of its present level.

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FOOTNOTES

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Shaken baby syndrome in Canada: clinical characteristics and outcomes of hospital cases

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Abstract

Background: Shaken baby syndrome is an extremely serious form of abusive head trauma, the extent of which is unknown in Canada. Our objective was to describe, from a national perspective, the clinical characteristics and outcome of children admitted to hospital with shaken baby syndrome.

Methods: We performed a retrospective chart review, for the years 1988–1998, of the cases of shaken baby syndrome that were reported to the child protection teams of 11 pediatric tertiary care hospitals in Canada. Shaken baby syndrome was defined as any case reported at each institution of intracranial, intraocular or cervical spine injury resulting from a substantiated or suspected shaking, with or without impact, in children aged less than 5 years.

Results: The median age of subjects was 4.6 months (range 7 days to 58 months), and 56% were boys. Presenting complaints for the 364 children identified as having shaken baby syndrome were nonspecific (seizure-like episode [45%], decreased level of consciousness [43%] and respiratory difficulty [34%]), though bruising was noted on examination in 46%. A history and/or clinical evidence of previous maltreatment was noted in 220 children (60%), and 80 families (22%) had had previous involvement with child welfare authorities. As a direct result of the shaking, 69 children died (19%) and, of those who survived, 162 (55%) had ongoing neurological injury and 192 (65%) had visual impairment. Only 65 (22%) of those who survived were considered to show no signs of health or developmental impairment at the time of discharge.

Interpretation: Shaken baby syndrome results in an extremely high degree of mortality and morbidity. Ongoing care of these children places a substantial burden on the medical system, caregivers and society.

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Abusive head trauma accounts for 95% of fatal or life-threatening injuries attributed to child abuse.[1,2] Accidental intracranial injury is rare in children aged less than 1 year.[3,4] In a report from the United States, child abuse cases represented 1.4% of admissions and 17% of deaths in a pediatric intensive care unit.[5] All these children had sustained head trauma, had the youngest age (average of 9 months) and had the highest trauma severity index and mortality rate (53%) compared with other children admitted to the intensive care unit who had not been abused. Most life-threatening cases of abusive head trauma in children aged less than 2 years have been reported to be associated with shaken baby syndrome (SBS).[6]

SBS is an extremely serious form of abusive head trauma that occurs when a child is subjected to rapid acceleration, deceleration and rotational forces, with or without impact, resulting in a unique constellation of intracranial, intraocular and cervical spinal cord injuries.[3,7–10] Presenting complaints are often nonspecific, hence, it is important that all health care providers are able to recognize the clinical features that constitute SBS.[9,11] The outcome is often devastating with 15%–27% of children dying as a result of their injury and more than one-third having serious neurological consequences.[12–14] Survivors often require long-term multidisciplinary medical care, specialized education, adaptive housing, vocational training and the involvement of child welfare authorities.[4] The consequences for those infants exposed to SBS who do not come to medical attention are unknown.

Our knowledge of SBS, derived from child welfare and hospital cases, has focused on relatively small populations of injured children in the United States or the United Kingdom. Barlow and Minns estimated an annual SBS incidence of 24.6 per 100 000 children aged less than 1 year.[15] Estimated numbers of cases of SBS, however, represent the "tip of the iceberg" of a much larger group of injured children, because many cases, with less severe forms of injury, may not be identified or brought to medical attention. Our objective was to describe the key characteristics and outcomes of children admitted to hospital with SBS in Canada.

Methods

We evaluated all cases of SBS for the years 1988–1998 that were reported to the child protection teams at 11 tertiary care pediatric hospitals. These hospitals are responsible for a large part of pediatric care in Canada with over 90 000 admissions annually, representing an estimated 85% of tertiary care pediatric beds.[16] The institutional review board of each participating centre approved the research proposal.

SBS is a recognized diagnosis.[8,9] In this study, SBS was defined as any form of intracranial, intraocular or cervical spine injury as a result of a substantiated or suspected shaking, with or without impact, in a child aged less than 5 years. We relied on the diagnosis

assigned by the physician responsible for child protection at each hospital and/or that recorded on the discharge summary. These health care providers are responsible for managing cases of suspected child maltreatment, working in association with community child welfare authorities and the police. The diagnosis of SBS made according to the records at the treating hospital was accepted as noted. ICD-9 codes (1988 to March 1996 — 995.5, E967.0, E967.1, E967.9; April 1996 to 1998 — 995.55, 995.54, E967.0, E967.9) were also examined at each hospital to confirm that we had identified all cases.[17]

We used a structured data collection form developed and piloted at the Children's Hospital of Eastern Ontario (CHEO). From the medical records we reviewed and abstracted the admission history and physical examination, physician and nursing progress notes, child protection team/welfare authority notes, consultation notes and clinical reports (discharge, radiology). Data on patient demographics, clinical presentation, injury characteristics, past medical history, investigations, family composition, perpetrator and outcome were also extracted. Outcome definitions were developed for the health of the child at discharge ("well" meaning no documented health or developmental impairment; "neurological impairment" meaning documented abnormal neurological findings on physical or developmental assessment; "visual impairment" meaning documented proven or suspected visual impairment).

A single research assistant was trained to review and abstract the information from the medical charts (with the exception of data from the Hôpital Sainte-Justine, Montréal, Que., where a second research assistant abstracted the medical information documented in French) and to enter the information in duplicate into the database. Ten randomly selected cases of abusive head trauma at CHEO were reviewed by the research assistant and an independent assessor (W.J.K.) for the diagnosis of SBS, clinical features and outcome ($\kappa = 0.79$). The final data collection form was then revised and the research assistant travelled to each institution to complete the form.

We measured severity of the injury using the modified Pediatric Cerebral Performance Category (PCPC) 6-point scale (from 1 = normal to 6 = brain death).[18] The PCPC scale provides outcomes for functional morbidity and cognitive impairment after critical illness or injury for pediatric intensive care patients when more extensive psychometric testing is not feasible. The scale is reliable and valid and is associated with several measures of morbidity (length of stay in the pediatric intensive care unit, total hospital costs and discharge care needs), severity of injury (pediatric trauma score) and functional outcome at 1-month and 6-month follow-up of pediatric intensive care patients.[19] Ratings on the Glasgow Coma Scale (GCS) on presentation that measures patient performance in 3 areas, eye opening, verbal ability and motor ability, were also collected.[20,21]

Summary statistics were tabulated for the whole group and for each study site. Descriptive statistics are presented for continuous variables, with frequency counts and percentages presented for categorical variables. Subjects' characteristics were compared using the Mann-Whitney test for ordinal or interval scale variables and the χ^2 test for categorical variables for children who died as a result of SBS and in cases in which the certainty of the perpetrator was coded as definite. Using results from the univariate analysis, 2 independent models were developed using backward stepwise logistic regression for the association between children who died and certainty of perpetrator with presenting complaints, injuries, previous maltreatment and outcome.

Results

The 364 children identified with SBS (median age 4.6 months, range 7 days to 58 months), 56% of whom were male, are presented by pediatric centre in Table 1. Clinical features and past medical history (Table 2) revealed nonspecific presenting complaints (seizure-like episode, decreased level of consciousness or respiratory difficulty), and most of the children (95%) did not have an underlying chronic medical or physical problem. The 307 charts containing perinatal information (mean gestation 37 weeks, mean birth weight 2880 g) noted a difficulty with the pregnancy for 16% of the children (88% were born at

Table 1: Cases of SBS by pediatric centre, 1988–1998

Pediatric centre	No. of cases
Janeway Child Health Centre, St. John's	10
IWK Health Centre, Halifax	22
Hôpital Sainte-Justine, Montréal	33
Montreal Children's Hospital, Montréal	22
Children's Hospital of Eastern Ontario, Ottawa	28
Hospital for Sick Children, Toronto	79
McMaster Children's Hospital, Hamilton	28
Children's Hospital, Winnipeg	33
Royal University Hospital, Saskatoon	27
Alberta Children's Hospital, Calgary	41
Children's and Women's Health Centre of British Columbia, Vancouver	41
Total	364

Note: SBS = shaken baby syndrome.

Table 2: Clinical features and past medical history of study subjects

Feature or history	No. (and %) of children	No. of medical records*
Clinical features		
Seizure	164 (45)	364
Decreased consciousness	157 (43)	364
Respiratory difficulty	124 (34)	364
Irritability	91 (25)	364
Lethargy	84 (23)	364
Vomiting	80 (22)	364
Apnea	76 (21)	364
Past medical history		
Previous maltreatment	170 (47)	361
Prematurity†	51 (14)	363
Excessive crying	36 (10)	362
Feeding difficulty	33 (9)	362
Developmental delay	32 (9)	361
Colic	25 (7)	363
Chronic illness	18 (5)	360

*Number of medical records with documentation.
†< 36 weeks' gestation.

< 36 weeks' gestation) and 17% were discharged from hospital after their mother.

Of the 364 children, 86% had subdural effusion, 42% had cerebral edema and 76% had retinal hemorrhages, of which 83% were bilateral (Table 3). Retinal hemorrhage was associated with more severe injury such as death (odds ratio [OR] 2.3, 95% confidence interval [CI] 1.9–2.6), subdural hemorrhage (OR 3.2, 95% CI 2.8–3.5) and neurological injury (OR 1.7, 95% CI 1.3–2.0). Cervical spine injuries were infrequently recorded (4%). The Glasgow Coma Scale on admission was documented for 86 (24%) children (median age 5.2 months, range 14 days to 38.6 months) with a median value of 6 (normal ≥ 13 on a scale of 3–15). Imaging studies performed included CT scanning (96%) and MRI (24%). In 98% of cases, an abnormality was reported: subdural hemorrhage/effusion (CT: 79% of scans, MRI: 87% of images), subarachnoid hemorrhage/effusion (CT 32%, MRI 23%) and/or intracranial hemorrhage (CT 63%, MRI 44%). A skeletal survey, that is, a comprehensive radiographic evaluation, was performed in 301 children (82%) and a bone scan in 105 children (29%), as a result of which in 46% of cases and 51% respectively an abnormality was reported.

The mean household size was 3.4 people, and the mean number of children per family was 1.7. The mean age of the primary caregiver was 23.7 years (range 15–40 years), with 68% of the parents being either married or living as common-law spouses. Incomplete chart documentation did not allow an estimate of socioeconomic status, employment history or level of education. The medical chart documented poverty (undefined) in 87 families (28%), and an unsafe or inappropriate environment was noted in 73 (20%). A past medical history *and/or* clinical evidence of previous maltreatment was noted in 220 children (60%), and 80 families (22%) had had previous involvement with child welfare authorities. The biological father (43%), followed by the biological mother (26%), was most often identified as the responsible caregiver with the child at the time of the injury, even though the primary caregiver was usually the biological mother (67%), followed by "other" (35%: 18% babysitter, 17% unknown) and then the biological father (18%).

The perpetrator was identified in 240 cases (66%), with the biological father being the most common (50%), followed by the stepfather/male partner (20%) and then the biological mother (12%). Overall, the perpetrator was male in 72% of the cases; 15% of perpetrators had a previous charge or suspicion for maltreatment of a child in their care. Although the degree of certainty about the perpetrator was considered definite in 96 (40%) cases (where the perpetrator was seen to shake the child or admitted to the assault), this was not associated with the presenting complaint, injury, previous maltreatment or outcome. In almost two-thirds of cases (64%), there was an ongoing police investigation, 26% of the perpetrators had criminal charges laid and 7% were convicted for the assault.

Sixty-nine children died (19%) as a direct result of the shaking injury. Children who died were slightly older than survivors (median age 7.8 v. 4.3 months), and death was associated with a decreased level of consciousness (OR 3.2, 95% CI 2.4–4.0) or respiratory difficulty (OR 2.5, 95% CI 1.8–3.2) on presentation; bruising (OR 2.3, 95% CI 1.5–3.1) on examination; and cerebral edema (OR 3.9, 95% CI 3.1–4.7) or subdural hematoma (OR 2.5; 95% CI 1.7–3.3) on imaging. Of the 295 survivors, only 65 (22%) were felt to be "well" (absence of health or developmental impairment) at the time of discharge, with 162 (55%) having a persistent neurological deficit and 192 (65%) having visual impairment. The PCPC scale, assessed at both the time of admission and at discharge, revealed that only 21 children (7%) were rated "normal," whereas 143 children (48%) had a moderate or severe degree of disability and 34 (12%) were in a coma or vegetative state. Of the survivors, 251 (85%) required ongoing multidisciplinary care. Review of placement at discharge revealed that 42% of the children were taken into foster care, whereas 43% returned home with their biological parent(s) and a further 14% were placed with a close family member.

Table 3: Injuries of study subjects

Injury	No. (and %) of children	No. of medical records*
Subdural hematoma	313 (86)	364
Retinal hemorrhage	274 (76)	361
Bruising	167 (46)	364
Cerebral edema	152 (42)	363
No sign of external injury	146 (40)	364
Subarachnoid hematoma	135 (37)	364
Fracture		
Skull	95 (26)	364
Extremity†	82 (23)	356
Rib	80 (22)	363
Brain infarct	55 (15)	364
Abrasion	51 (14)	362
Cervical spine injury	14 (4)	350
Abdominal trauma	15 (4)	364
Burn	4 (1)	364
Oral injury	4 (1)	364

*Number of medical records with documentation.
†Extremity fractures: metaphyseal (22%), spiral (11%) and midshaft transverse or oblique (22%).

Interpretation

Our findings are consistent with previously published data on SBS[10–13] in highlighting the young age of the victims, the slight preponderance of boys, the high rate of male perpetration and the extremely high degree of mortality and morbidity. Presenting signs and symptoms are often nonspecific, which means that health care providers must have a high index of suspicion when infants and young chil-

dren present with subtle neurological signs such as lethargy or decreased level of consciousness. Although a significant number of children had evidence of severe trauma with external bruising or fractures, or both, up to 40% of children had no external sign of injury.

Many of these injured children have serious neurological and developmental consequences including profound mental retardation, spastic quadriparesis or severe motor function impairment. These children require long-term involvement of multiple specialists and child welfare authorities. At the time of discharge, the PCPC scale, which is associated with functional outcome at 6-month follow-up,[19,22–25] revealed that 60% of survivors had a moderate or greater degree of disability. This outcome, though already cause for concern, may be an underestimate, because there may be a symptom-free interval of 12–18 months before the development of neurological or developmental difficulties.[26] Further, the long-term outcome, especially with regard to subtle neurological injury, and for those exposed to SBS who do not come to medical attention, is unknown.

Although this study highlights the devastating effects of SBS, there are several limitations that should be noted. First, the SBS cases are a highly selected sample from admissions to tertiary care pediatric hospitals. These results may not reflect the number of shaken children in the community. Therefore, we are not able to estimate the incidence of SBS. Second, the data collection was retrospective and lacked a comparison group, making it difficult to identify factors that may be associated with SBS. Third, SBS was defined and classified at each participating hospital, and we did not perform an independent assessment to confirm the diagnosis. Fourth, the information obtained was limited to the quality of the documentation in the medical record. Many of the children described here were extremely ill when admitted, and certain elements of the admitting history may not have been reviewed in detail or documented, including sociodemographic and perinatal information. Fifth, the data collection occurred during a time period when the recognition and diagnosis of SBS was evolving and it is possible, especially early in the study, that SBS cases were not identified. Finally, while we have probably accounted for most of the more serious injuries, as these were children admitted to hospital in tertiary care pediatric centres, cases that resulted in death before hospital admission may not have been included.

A major challenge for researchers is to develop approaches to measure the incidence and risk factors for SBS, given that the injury and its circumstances are often clouded in secrecy. Our study suggests that a minimum of 40 cases of SBS occur annually in Canada, from which 8 children will die, a further 18 will have permanent neurological injury requiring life-long assistance and 17 will be taken into foster care. We also believe that this represents only the tip of the iceberg and that many other cases are not detected.[14] The magnitude of this injury requires a national strategy, such as that recommended in the recently released Canadian *Joint Statement on Shaken Baby Syndrome*.[27] This strategy should include population-based surveillance to establish the incidence of SBS and address risk factors by comparing SBS cases with carefully chosen controls. Prevention strategies, based on incidence data and vulnerability factors, may then be developed, implemented and assessed at the community level.

In summary, the outcome of SBS is devastating to the child; ongoing care of these children places a substantial burden on the medical system, caregivers and society. Physicians need to be aware of the nonspecific clinical presentation. Further work is required to establish the true incidence of SBS, identify vulnerable children, and to develop and evaluate prevention strategies.

This article has been peer reviewed.

From the Department of Pediatrics and the Children's Hospital of Eastern Ontario Research Institute, University of Ottawa (King and Sirnick) and Plan-it-Safe, Children's Hospital of Eastern Ontario Research Institute (MacKay), Ottawa, Ont. Members of the Canadian Shaken Baby Study Group are listed at the end of the article.

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causes, this pattern is only consistent with the properties of early crying. There are numerous explanations for the lag in the peaks between crying and SBS hospitalizations, including the possibility of repeat shakings prior to hospitalization. The importance of crying as a stimulus to SBS may provide an opportunity for preventive intervention.

Keywords: Crying; Shaken Baby Syndrome; Child abuse; Prevention; Battering

Introduction

Shaken Baby Syndrome (SBS) is a form of intentional injury to infants and children inflicted by violent shaking with or without concomitant contact with a hard surface, resulting in head trauma including subdural hematomas, diffuse axonal injury, and retinal hemorrhages but also often fractures of the long bones or ribs, with little or no external evidence of trauma. Although usually attributed to John Caffey (Caffey, 1972, 1974) the first explicit report of shaking resulting in such lesions was published by the British pediatric neurosurgeon Dr. Norman Guthkelch (Guthkelch, 1971). In one of the case histories in Guthkelch's series and occasionally in Caffey's original reports (Caffey, 1974, 1972), crying as a proximal stimulus for the shaking is explicitly mentioned. In subsequent articles and reviews of Shaken Baby Syndrome, crying is often mentioned as a precipitant (Dykes, 1986; Levitt, Smith, & Alexander, 1996; Ludwig, 1984; Reijneveld, van der Wal, Brugman, Sing, & Verloove-Vanhorick, 2004) usually based on anecdotal reports. This is sometimes supported by the observation that the median age of the cases occurs in the first few months of life when crying is greatest. In the first report of incident factors limited to fatal cases garnered from investigative reports in the United States Air Force, Brewster, Nelson, and Hymel (1998) reported that perpetrators mentioned crying as a stimulus in 58% of the cases. The role of crying as a precipitating stimulus for shaking has also been incorporated in policy statements concerning Shaken Baby Syndrome. In the Policy Statement of the American Academy of Pediatrics on "Shaken Baby Syndrome: Rotational Cranial Injuries" (Committee on Child Abuse and Neglect of the American Academy of Pediatrics, 2001), "crying or irritability" is described as "often" the proximal cause of shaking, and pediatricians are encouraged to ask about "response to the crying infant" as part of anticipatory guidance to prevent Shaken Baby Syndrome. Similarly, in the Canadian "Joint Statement on Shaken Baby Syndrome" (2001) co-signed by eight organizations committed to its prevention, infant demands and "especially crying" are cited as triggers for shaking in exhausted or frustrated caregivers.

Despite the reasonableness and acceptance of the assumption that crying is a trigger for shaking, the objective data supporting its role is limited at best. However, in the last 40 years, increasingly careful investigations of infant crying behavior have demonstrated specific and robust properties of crying that contribute to the frustration that caregivers experience in the first few months of life (Barr, Paterson, MacMartin, Lehtonen, & Young, 2005; Barr, St. James-Roberts, & Keefe, 2001). Furthermore, many of these properties have characteristics that provide an opportunity to acquire indirect convergent evidence of the importance of crying as a stimulus for shaking. The most important of these is a robust age-related pattern of crying. This pattern is manifest as increases in the average daily duration of crying in the first few weeks, a peak sometime in the second month of life, and then decreases to more stable levels by about the fifth month.

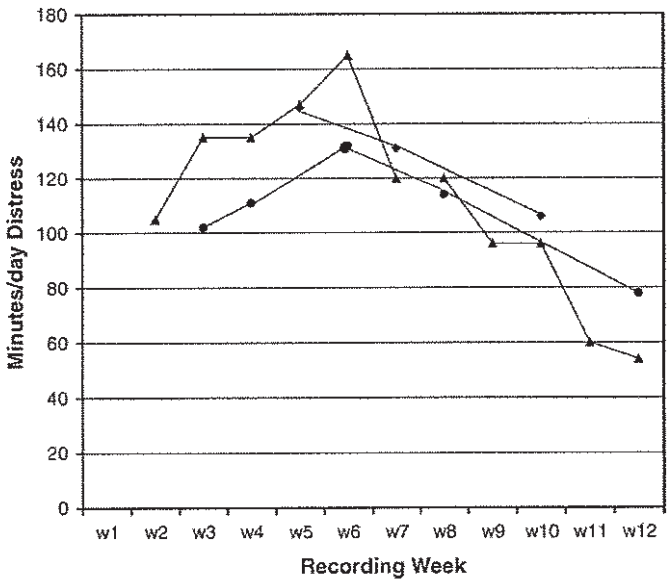

Figure 1. Crying amounts and patterns from three North American studies illustrating absence of secular trend. Triangles: data from Brazelton (1962); circles: data from Hunziker and Barr (1986); diamonds: data from Kramer et al. (2001).

This pattern was first described as typical of normally developing infants by Brazelton in 1962 who asked parents in his Cambridge, MA, practice to keep daily diaries of distress for the first 12 weeks of life (Brazelton, 1962). It has come to be known as the "normal crying curve." Since then, a number of investigators have replicated this pattern (Alvarez & St. James-Roberts, 1996; Hunziker & Barr, 1986; St. James-Roberts & Halil, 1991). The replications have indicated how robust the pattern is, and that there has been very little secular change in either the pattern or the amounts of distress behavior since Brazelton's original report. This is illustrated in Figure 1. The median amounts of distress behavior from Brazelton's 1962 study (Brazelton, 1962) is represented along with the mean amounts of distress (crying and fussing) reported in Hunziker and Barr's Montreal study in 1986 (Hunziker and Barr, 1986), and in a more recent Montreal study in 2001 using the same diary (Kramer et al., 2001). The important features of this pattern are that there is not simply "more" crying in the first weeks of life, nor is it just a generalized, linear decrease in crying from birth to older ages. Importantly, it manifests the properties of an "n-shaped" developmental curve, with a phase of increasing crying, a discernible peak or maximum, and a phase of decreasing crying. Although not illustrated by the data sets in Figure 1, this phase is followed by a period of relatively stable, low level crying throughout the remainder of the first year of life at less than half the overall amounts achieved in the first 3 months (St. James-Roberts & Halil, 1991).

In addition to the "peak" pattern, crying has other properties that are also specific to this age period that contribute to caregiver frustration. Most of these are included in clinical descriptions of "colic syndrome," a syndrome that is now recognized as the upper end of a spectrum of crying phenomenology in otherwise normal infants (Barr, 1989, 1999, 2000; Ghosh & Barr, 2000; St. James-Roberts, 2001; St. James-Roberts, Conroy, & Wilsher, 1995, 1996). These properties include prolonged, unsoothable crying bouts that occur unexpectedly, seemingly unrelated to anything in the environment, during which the infant manifests a

facial grimace, increased motor tone, and curling of its legs up over its abdomen that raise concerns about gastrointestinal pain in many caregivers. These bouts do not occur randomly throughout the day, but tend to cluster in the late afternoon and evening hours. Although the prolonged, unsoothable crying bouts comprise less than 10% of the overall crying of infants with colic, they are specific to the first few months of life, and occur rarely thereafter (Barr et al., 2005).

Consequently, if crying is a stimulus behavior for shaking injuries as the anecdotal evidence and common sense suggests, the prediction would be that both the timing and the shape of the age-specific incidence of Shaken Baby Syndrome should be similar. However, a test of this hypothesis requires a different reporting of childhood injuries than is typical in order to test this hypothesis. In most reports, injury estimates are based on conventional age groupings of 1–4 years of age or 1 year age groupings (Agran et al., 2003). These are clearly too broad and too late to capture a developmentally based stimulant condition such as crying behavior. In a recent study designed to capture developmentally related risks of injury specific to young children, Agran et al. utilized E-codes (external cause of injury codes) that would be reflective of age-related developmental characteristics and 3-month age categories. Their study demonstrated that there was marked variability in both rates and specific causes of injury by 3-month age groupings. Although the leading cause of injury is falls for the 0–3 years age group, battering (E-codes 967.0–967.9) had the highest rates specifically between 0 and 5 months, three to four times higher than any rate following 9 months of age.

While the early "battering" cluster in the Agran study included Shaken Baby Syndrome cases, both the codes and the 3-month age grouping are too broad for a specific indirect test of the hypothesis that the properties of early infant crying could be a stimulus for Shaken Baby Syndrome. In our study, we take advantage of a specific code for Shaken Baby Syndrome introduced into the California version of the ICD-9CM and analyze age-specific incidences of hospitalizations of SBS to determine whether SBS incidence reflects the temporal properties of early infant crying behavior.

Methods

We used data from the California hospital discharges from October 1996 through December 2000 to identify the day of age and cause of injury to California children less than 18 months (78 weeks) of age. A new code for Shaken Baby Syndrome was implemented in California on October 1, 1996. We examined data for 3 and 1/4 years because this produces larger and more stable numbers of hospitalizations per age. Hospital discharge data for California hospitals in 1996–2000 were obtained from the Office of Statewide Heath Planning and Development (OSHPD), California Health and Human Services Agency. By law, each civilian hospital in California must report data to OSHPD on each hospital discharge, including up to 25 diagnosis codes, based on the International Classification of Disease, Ninth Edition, Clinical Modification (1996) for each initial hospitalization for injury. Subsequent hospitalizations for the same injury are excluded. However, hospitalizations that result in the patients dying in the hospital are included. OSHPD edits each discharge report for accuracy. We used the version of the publicly available data that includes age at admission reported in years and days for children up to their fourth birthday. We selected records of California residents who were younger than 18 months and had a diagnosis of 995.55 (Shaken Baby Syndrome). We analyzed the data in 2-week age brackets (0 and 1 week of age, 2 and 3 weeks of age, etc.) to be sure that we could identify the beginning of Shaken Baby Syndrome hospitalizations. However, the data are graphed in 4-week age brackets, as 2–5, 6–9, 10–13 weeks of age, and so on in

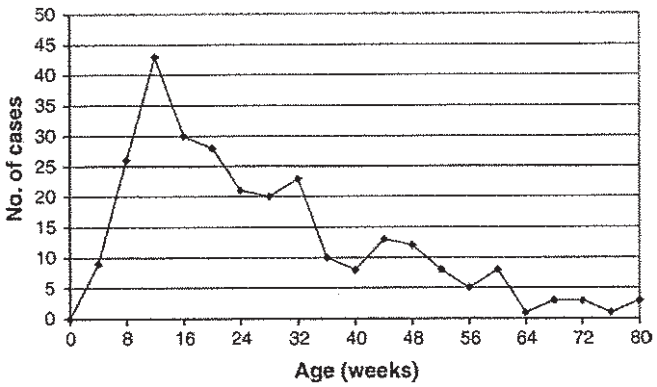

Figure 2. Age-specific number of hospitalized cases of Shaken Baby Syndrome in California hospitals from October 1996 through December 2000, in 4-week brackets.

order to illustrate better the shape of the age-specific incidence curve (Figure 2). To determine whether there was a risk of a "reporting epidemic" with the introduction of the new code, we performed a linear least-squares regression on quarterly reports of cases. Since only two cases were reported during the first quarter (the last quarter of October through December 1996) and this was clearly an outlier, only the subsequent quarters (years 1997 through 2000) are included (see Figure 3). Since all data are from a public use file with no identifiers, no IRB approval was required in order to carry out these analyses.

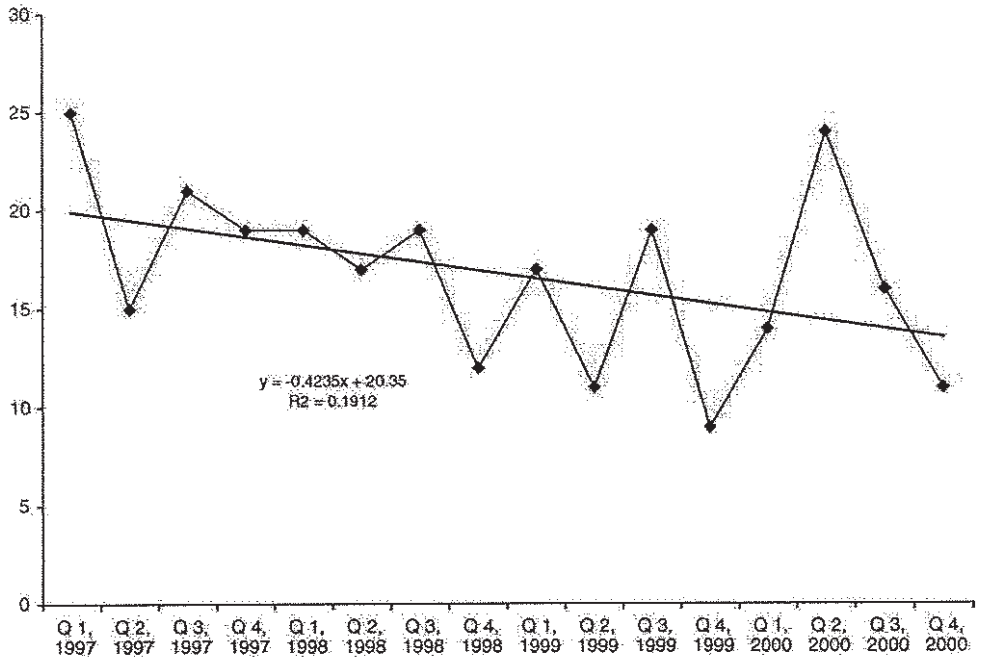

Figure 3. Trend in reported SBS hospitalizations by quarter year, California, 1997–2000.

Results

There were 273 hospitalizations for Shaken Baby Syndrome between October 1, 1996 and December 31, 2000. The youngest cases ($n = 3$) are reported for infants of 2–3 weeks of age. After that, the number of cases rises rapidly, reaching a peak at 10–13 weeks of age, and then shows a more gradual decline (Figure 2). At about 36 weeks of age, the number of cases remains around 10 per 4-week period for the remainder of the first year, and then consistently less than 10 after the first year.

To determine whether there was evidence for a "reporting epidemic" or a secular trend in the reporting of SBS hospitalizations, the data were reanalyzed to reflect the number of cases of infants under 18 months of age who were reported in successive 3-month quartiles from January 1, 1997 through December 31, 2000 (Figure 3). The regression is significant ($r = .44$, $p < .05$) and shows a consistent downward trend in the face of considerable quarter to quarter variability.

Discussion

Although it is widely assumed that crying is a trigger for Shaken Baby Syndrome, the objective data supporting its role is limited at best. Indeed, in Brewster et al.'s 1998 report on 32 maltreatment deaths in the armed forces, they note that there were no previous studies at that time that examined factors surrounding the final, fatal incident. It is understandable that systematic evidence implicating crying (or any other behavior) as the stimulus is rare for a number of reasons. First, the syndrome itself, although all too common, remains a relatively infrequent diagnosis, and therefore difficult to study. In perhaps the best incidence study to date, Shaken Baby Syndrome was reported to occur in 24.6 per 100,000 children (95% confidence interval 14.9–38.5) under 1 year of age in and around Edinburgh, Scotland (Barlow & Minns, 2000). In a study of inflicted traumatic brain injury in North Carolina, the incidence in infants under 1 year of age was 29.7 per 100,000 person years (95% confidence intervals 22.9–36.7) (Keenan et al., 2003). Second, the incidents of shaking themselves are rarely witnessed by a third party. Third, records are often missing or incomplete. In Brewster et al.'s 1998 study, most of the records were missing for 8 of 40 (20%) substantiated cases. Fourth, perpetrators are usually not forthcoming about the actual incidents surrounding the shaking. When they do offer a description, it may not be an accurate one. A probable reason for the lack of an accurate description is that shaking an infant simply because it was crying would be unlikely to be accepted as a legal defense. Fifth, it is extremely difficult to know whether a history of crying or colic obtained at the time of diagnosis reflects crying secondary to the trauma inflicted by the shaking (including broken bones) or a cause of the shaking. The cause-effect relationship is especially difficult if there have been repeated episodes of shaking prior to the one that results in the diagnosis (Alexander, Crabbe, Sato, Smith, & Bennett, 1990; Brewster et al., 1998; Ewing-Cobbs et al., 1998; Jenny, Hymel, Ritzen, Reinert, & Hay, 1999). For these reasons, it is unlikely that there will ever be an accurate direct accounting of the role of crying as a stimulus for Shaken Baby Syndrome.

However, the very specific age-related "normal" crying pattern that is associated with prolonged and inconsolable crying bouts provides an opportunity to test indirectly the hypothesis that crying is a trigger for some cases of Shaken Baby Syndrome. As predicted, the age-specific incidence curve for hospitalized cases of Shaken Baby Syndrome in California hospitals has a number of similar, but not in all cases identical, properties compared with the "normal crying curve." The first is that the curve begins its ascent when infants are 2–3 weeks of age. Although none of the published studies of diary recorded crying

includes data before the second week of age, most of the clinical descriptions of colic indicate that the syndrome begins to be expressed at about 2 weeks of age (Barr, 1991; Wessel, Cobb, Jackson, Harris, & Detwiler, 1954). The second is that the number of cases rises rapidly thereafter. The third is that there is a recognizable peak or maximum that occurs in the region of 10–13 weeks of age. Fourth, following the peak, there is an almost linear decline until about 36 weeks of age, after which the rate remains at about 10 cases per 4-week age block until the end of the first year of life. After 1 year, the age-specific incidence remains very low, if not nonexistent. In short, the age-specific incidence curve in hospitalized Shaken Baby Syndrome cases has a similar starting point and a similar shape to the normal crying curve.

The main difference between the two curves is the relatively later appearance of the maximum incidence for Shaken Baby Syndrome hospitalizations (10–13 weeks of age) compared to the peak of the crying curve (5–6 weeks of age). There are a number of possible explanations for this lag. One is, of course, that we have no indication in this data set as to what stimulated the shaking in these cases. Consequently, many of these violent acts may have other triggers or no triggers at all. A second is that there is some other developmental influence that is determining of SBS hospitalization incidence. Possible candidates could be difficulties with feeding or sleeping, two other early regulatory behaviors that can be of significant concern to caregivers. There are, however, no obvious reasons why this peak pattern should relate to feeding or sleeping. Concerns for these behaviors are not related to the crying pattern (Wolke, Meyer, Ohrt, & Riegel, 1995). Feeding problems are likely to occur earlier, and sleep usually tends to get better at 3–4 months, when "sleeping through the night" begins to be established (Anders, 1979; Anders, Halpern, & Hua, 1992). Third, there are a number of plausible reasons for the lag that are consistent with crying being the stimulus behavior. For example, there is increasing evidence that a significant number of diagnosed cases have suffered previous episodes of shaking and/or abuse (Alexander et al., 1990; Brewster et al., 1998; Ewing-Cobbs et al., 1998; Jenny et al., 1999). Jenny et al. (1999) reported that 31% of 173 cases were "missed" when presenting the first time to emergency services. In the series reported by Alexander et al. (1990), 50% of victims of shaking that resulted in intracranial injury had evidence of coexisting direct external trauma, and 71% had evidence of prior abuse, neglect, or both. In the series by Ewing-Cobbs et al. (1998), 45% of the children with inflicted head injury had signs of pre-existing brain injury. In short, the shaking episode that brings the child to the emergency room may only be the last in a series of shaking episodes that began days to weeks earlier. Another factor that may contribute to the later peak for SBS hospitalizations is the increasing recognition that there are a small number of infants who continue to have persistently high crying levels after the 2-month peak (sometimes referred to as "persistent caregiver-infant distress syndrome" [Barr, 1995, 2000; Papousek & von Hofacker, 1995]). There is also a small number of infants without prior colic at the typical time who become high criers later (Barr, 2002; Clifford, Campbell, Speechley, & Gorodzinsky, 2002). Both of these groups may provide cases of crying-stimulated shaking that contribute to the delay in the peak incidence of Shaken Baby Syndrome cases. While some or all of these factors may contribute to the time lag in the peak of the Shaken Baby Syndrome hospitalizations, there is no independent evidence within the study to assess their relative contribution.

The remarkably similar onsets and shapes, including the distinct peak patterns in the early months of life, of the age-related hospitalizations and crying serve as indirect evidence convergent with common sense and the anecdotal reports that early crying is a likely stimulus for Shaken Baby Syndrome. Indeed, in light of the early clustering of all forms of "battering" in the first 5 months of life (Agran et al., 2003), crying may have wider significance as a stimulus for other forms of abuse as well.

If crying is a stimulus for shaking and other forms of abuse, there are a number of implications for increasing the effectiveness of primary prevention programs for Shaken Baby Syndrome. An important one is that improving the understanding by caregivers of the unique properties of early crying and its ability to frustrate them (Donovan, Leavitt, & Walsh, 1997; Leavitt, 2001) should contribute to reducing the likelihood of shaking in response to crying. Unfortunately, parent advice about crying generally focuses on strategies for calming excessively crying infants or infants with colic. It rarely acknowledges that the prolonged unsoothable crying bouts and a peak pattern of crying are likely to occur regardless of soothing methods used and whether or not an infant has "colic."

To address this need, prevention programs are being developed that are not limited to admonitions simply to "Never shake or hurt your infant." Rather, Shaken Baby Syndrome is described as a serious negative consequence that occurs when frustrated caregivers lose control and shake their infants. In some of these programs, the frustrating properties of crying in normal infants are emphasized so that caregivers will be able to recognize them and be less frustrated by them. To illustrate, the National Center on Shaken Baby Syndrome has developed an educational program called the "Period of PURPLE Crying" to transmit this information in an effective, brief and memorable way (www.dontshake.com). The letters of the word "purple" each refer to one of six properties contributing to caregiver anxiety and frustration (P for the peak pattern, U for the unexpected timing of prolonged crying bouts, R for resistance to soothing, P for the pain-like grimace even though the infants are not in pain, L for the long crying bouts, and E for the later afternoon and evening clustering). Although the effectiveness of this or other interventions remains to be demonstrated, the likely relationship between the properties of early crying and shaking abuse incidents may provide improved opportunities for successful prevention efforts.

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Résumé

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CRYING BEHAVIOUR

Crying Behaviour and Its Importance for Psychosocial Development in Children

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Topic
Crying behaviour

Introduction

For generations, parents have experienced the stress and frustration of increased, inconsolable crying in their infants in the first three to five months of life. In its most extreme manifestations, this increased crying has been considered a clinical problem, often referred to as "colic."[1] The most extreme and dangerous consequence for the infant is abuse or neglect, and especially the specific form of abuse referred to as "shaken baby syndrome."[2] Many of the properties of crying are unique to the first few months,[3] and therefore generate their own particular problems. Later in the first year of life, the amount of crying is much reduced. However, more stable individual differences between infants appear. Those infants who tend to be more reactive and to respond negatively (by crying) can be completely normal, but they are often thought of clinically as having a "difficult temperament." If the crying is associated with difficulties feeding and sleeping, they are often thought of in clinical terms as having behavioural regulation problems ("regulatory disorder").[4] While the vast majority of these crying behaviours are not associated with disease or pathology, the meaning of the crying behaviour for the infants' caregivers ("perceptual set")[5] is usually a determinant of its psychosocial consequences for the infant. Although many questions remain, research findings have changed our understanding of the nature and significance of this early behaviour.

Zeskind[5] has focused on the normal and abnormal acoustic properties of cries, and Stifter[6] has focused on the differences between "colic" and "difficult temperament." In this paper, I will focus on our new understanding of normal infant crying (including colic) in the first few months of life.

Subject

There are six properties of crying that have been shown to be typical of, and probably unique to, the first months of life in otherwise normal infants.[3,7-9]

1. The overall amount of crying per day (fussing, crying and inconsolable crying combined) tends to increase week by week, peaking some time during the second

month, and then receding to more stable and lower levels by the fourth or fifth month of age.[9-11] This is sometimes referred to as the "normal crying curve."[12]
2. Many of the crying bouts are unexpected and unpredictable, starting and stopping for no apparent reason, unrelated to feeding or wet diapers, and unrelated to anything that is going on in the environment.
3. These crying bouts are resistant to soothing, or inconsolable.
4. The infant appears to be in pain, even when it is not.
5. The crying bouts are longer at this age than at any other time, lasting 35 to 40 minutes on average, and sometimes lasting one to two hours.
6. The crying tends to cluster in the late afternoon and evening.[7,10,11]

Each of these properties separately, but especially all together, can be remarkably frustrating for any caregiver.

The properties of crying prior to five months are probably more a reflection of the infant's behavioural state than of any purposive signalling that the infant is doing.[13,14] After the first five months, crying becomes more "intentional" in the sense that it is more context-specific, more incorporated with other signalling systems (such as gazing and pointing),[15] and more "reactive" in nature.[12] However, there are a few infants whose high early crying never wanes,[16-18] as well as those who have lower amounts of crying during the early "peak" period, but cry at levels after five months of age equivalent to those of infants who have "colic" earlier.[19,20] In those infants in whom the amount or the rate of crying is high ("difficult infants"), the crying can be a very negative signal, and very unsatisfying and frustrating to caregivers.[6]

Problem

The clinical significance of crying is largely a function of how the crying behaviour is perceived and responded to by the caregiver. While the meaning of crying can vary on the basis of cultural belief systems, a number of findings are relevant to how crying is generally understood by caregivers. The challenge is to transmit these findings to caregivers in intelligible ways to prevent negative consequences due to crying behaviour.

Research Context

While clinical studies remain important, crying research has moved beyond unidisciplinary studies to embrace findings from developmental psychology, biological and cultural anthropology, psychobiology, and neurobiology (among others), and to include both experimental and naturalistic observational studies in ecologically valid settings to provide a more complete understanding of the nature and function of early crying behaviour.[13,21-23] Furthermore, the parallel study of both the clinical manifestations and the normative properties of early crying has led to a reconceptualization of the significance of early increased "excessive" crying and "colic." The argument is that early increased crying (including most cases of so-called "colic") is a manifestation of normal behavioural development rather than indicative of abnormalities (or "something wrong") in either the infants or their caregivers.[7] There are also a small number of infants who may have abnormal cries or who are also sick or have something wrong. However, the vast majority (over 95%) of infants with increased crying and colic are normal infants with normal behavioural development.

Key Research Questions

The key research questions are directed at the following quandary: if early increased crying in the first few months of life is not indicative of something wrong, how does one account for the primary properties of crying that are so frustrating to parents without invoking abnormal processes? Answers to this question have required the integration of empirical evidence from a number of usually disparate disciplines. The following is a brief summary of an expanding literature.[7,22,23]

Recent Research Results

Although variable, most clinical definitions of colic incorporate three primary qualitative dimensions:[8] (1) there is an age-dependent crying pattern, such that the overall amount of fussing and crying per day tends to increase from the second week of life, peaks during the second month of life, and then decreases to lower more constant amounts by the fourth or fifth month of life; (2) there are a number of associated behaviours, the most common and notable of which are that some of the bouts of crying are very prolonged and unsoothable, and that the infant looks as if it is in pain (has a "pain facies"); and (3) the crying bouts are "paroxysmal," meaning that they start and stop without warning and with no clear relationship to anything (including caregiver soothing efforts) that goes on in the environment. The most common quantitative definition is "Wessel's rule of 3s," which states that infants can be considered to have colic if they cry or fuss for more than three hours a day for more than three days a week for more than three weeks.[7,24] Critical to understanding early infant crying is that there is (a) a very large variability from infant to infant in the amounts of crying, with about 25% of infants crying more than 3.5 hours/day and 25% crying less than 1.75 hours at the peak,[10,11] and (b) a continuous spectrum of amounts of crying from a little to a lot, with no specific "border" between normal and abnormal (or "colicky") amounts of crying.

A number of lines of interdisciplinary research have contributed to the evidence that the primary properties of early increased crying, including "colic," are manifestations of normal behavioural development. With regard to the "crying curve," some of this evidence is the following:

1. The basic pattern of increased peaking and then decreasing crying has been replicated in almost all Western societies in which it has been studied, with few variations.[9-11, 24-30] Furthermore, there has been little change within societies over the last 30 years, indicating a lack of secular trends.[10,11,31,32]
2. There is a similar pattern and timing of crying in a number of cultures with radically different caretaking styles.[25,33,34] The most well documented is the crying pattern in the !Kung San hunter-gatherers, who are in constant contact with their infants, breastfeed four times an hour, and respond to virtually all frets and whimpers. Although they do everything that should be soothing, the pattern of early increasing and then decreasing crying is strongly present in these infants as well.[33]
3. Similar "distress curves" have been found in all mammalian species in whom it has been looked for, including guinea pigs,[35] rat pups,[36] chimpanzees,[37] and Rhesus macaques,[38] suggesting that this distress pattern is not unique to human infants.

4. In infants born prematurely by about eight weeks, the distress curve is at six weeks corrected age, indicating that this pattern is not due to postnatal experience, but rather a maturational developmental phenomenon.[39]

Furthermore, it is now clear that all kinds of crying (i.e. fussing, crying and inconsolable crying) is prolonged, that this prolongation occurs only in the first few months, and that inconsolable crying is almost unique to the first few months of life.[3,40] The "unpredictability" of the crying, and of the caregiver's ability or inability to soothe the infant is most likely due to the facts that (1) the infant cry in the first few months is a reflection of the organization of its behavioural states (crying, awake alert, sleeping), rather than an intentional "signal,"[14] (2) that behavioural state changes occur in "steps" rather than due to increases or decreases in arousal[7,41] and (3) infants are resistant to behavioural state change unless they are in a transitional phase in which they are "ready" to change state.[7] Finally, there is now good evidence that the proportion of infants that have evidence of organic disease to explain their crying is less than 5%.[8,42,43] In the absence of other compromise, infants with "colic" have as good an outcome as infants without "colic."[44]

While the evidence that early increased crying and colic is part of normal infant development is reasonably compelling, it remains a challenge to understand why it is normal behaviour, given its ability to frustrate caregivers. This has resulted in interesting work on the positive (or "survival") value of early increased crying in terms of the evolutionary history of humans, and possibly other species. This includes evidence for its role in ensuring sufficient nutrition, closeness to primary caregivers as protection against predators, and the early formation of attachment relationships.[22,45,46] As with most evolutionarily influenced behaviours, whether a particular behaviour functions to provide positive or negative outcomes for an individual depends on the context in which it is expressed. Increasing isolation due to short maternity leaves, nuclear rather than extended families, and separated living arrangements increases the stress on mothers.

Conclusions

In the last 30 years, the accumulation of new interdisciplinary evidence about the properties, time course, and outcome of early crying, including the clinical manifestations of "colic," has changed our understanding of this increased crying from a behaviour that was considered abnormal or indicative of disease or dysfunction in the infant, its parents, or both to a behaviour that is part and parcel of normal human infant development. This also implies that the socio-emotional consequences of this crying are largely a function of how caregivers interpret and respond to the crying. These responses may have longer-term effects both in terms of how they treat the infant, on the one hand, and whether they consider that they are poor parents if they cannot soothe their infant or handle the crying, on the other.[5,6,40,47-54] However, in the absence of other compromises in the infant or its environment, the outcome for infants with early increased crying or colic is good.

Implications

A previously underappreciated consequence of understanding the properties of early crying, that they are a normal part of infant behavioural development in all infants, and the potential they have for frustrating caregivers, whether or not their infants have

"colic," is that these properties of crying can be the trigger for a tragically serious consequence referred to variously as Shaken Baby Syndrome (SBS), abusive head trauma, or inflicted childhood neurotrauma.[2] SBS is a form of non-accidental head injury with or without impact, resulting from violent shaking, that presents with a (probably) unique set of injuries, including acute encephalopathy with subdural hemorrhages, cerebral edema, retinal hemorrhages and fractures. About 25% of clinically diagnosed cases die, and about 80% of survivors have lifelong neurological damage, including blindness, cerebral palsy, learning disabilities and behavioural problems.[55]

New evidence has shown that the age-specific incidence curve of Shaken Baby Syndrome has the same onset and shape as the normal crying curve, while the peak incidence occurs at about 12 weeks of age rather than at six weeks, when crying is at its peak.[32] This apparent "delay" in peak incidence may be because 35 to 50% of diagnosed shaken baby cases have evidence for prior shaking or abuse, implying that the shaking episode that brings them to clinical attention is simply the last in a series of such incidents.[32,56,57]

On the positive side, the increasing appreciation of the crying-Shaken Baby Syndrome relationship has opened the possibility that Shaken Baby Syndrome may be reduced by universal educational programs delivered early to new parents to increase understanding about the normality of crying, its ability to frustrate caregivers, and the fact that shaking in response to crying causes serious brain injury and death.[58] To this end, the National Center on Shaken Baby Syndrome has created intervention booklets and DVD/videos designed to encourage the widest distribution possible to health-care facilities and the general public, called ***The Period of PURPLE Crying.***™ Each letter in the word PURPLE refers to one of the six properties of normal crying that are typical in the first few months of life (**P** for crying peak; **U** for the unexpected timing of prolonged crying bouts; **R** for resistance to soothing; **P** for a pain-like face even when they are not in pain; **L** for long crying bouts, and **E** for evening clustering of crying). Caregivers are encouraged to take three action steps to reduce the likelihood of shaking their infants: (1) increase their contact, carry, walk and talk responses that will help reduce crying, although not stop it altogether; (2) if the crying becomes too frustrating, it's OK to walk away, put their baby in a crib for a few minutes, and calm themselves; and (3) never shake or hurt their baby. In short, the intervention takes advantage of new knowledge about early infant crying, and applies it in the service of reducing the incidence of a catastrophic but preventable outcome. Randomized controlled trials of the efficacy of such interventions in changing knowledge, attitudes and behaviour of new parents are currently in progress, in anticipation of the possible incorporation of such materials in prevention programs across the country if they are demonstrated to be useful.

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Abusive head trauma

Since the future safety of a child subjected to abusive head trauma may hinge on your vigilance, community health care providers should learn to recognize some of the more subtle signs and symptoms of shaking and impact-type injuries.

ABSTRACT: Head trauma has long been recognized as a serious complication of child maltreatment, yet many aspects of its recognition and diagnosis have been hotly debated in the medical literature. Fortunately, significant strides have been made in addressing many of these controversies. This article reviews aspects of history-taking, physical examination, investigation, and treatment that may help health care practitioners recognize and manage children with abusive head trauma.

Head trauma is the leading cause of traumatic death in children. Abusive head trauma is implicated in 80% of fatal head injuries in children younger than 2 years of age.[1] "Shaken baby syndrome" is a term used in the medical literature to describe children who have suffered an extremely serious form of child maltreatment that results in a specific constellation of clinical findings and injuries. The mechanism of shaking and the resultant injuries were originally described by Caffey in 1972 and later termed the "whiplash shaken baby syndrome."[2] The injuries included subdural and/or subarachnoid hemorrhage, retinal hemorrhages, and metaphysial chip fractures. Caffey also made note of the absence of external physical findings in children who had sustained these injuries.

Since that time, much debate has arisen over the suspected mechanism of injury in abusive head trauma, as well as the types of injuries that affected children exhibit. Many injured children will present with evidence of blunt trauma to the head (e.g., skull fracture), while other injured children will not, even though the rapid rotational acceleration/deceleration forces caused by severe shaking alone can result in significant intracranial injury or death.[3-5]

Shaken baby syndrome occurs primarily in children younger than 3 years of age, with most cases presenting from birth to 1 year. It should be noted, however, that all that is needed to produce this constellation of symptoms is a brain subjected to severe enough rotational force—something that has been documented in the adult population as well.[6]

A recent Canadian study suggests that a minimum of 40 cases of shaken baby syndrome occur in Canada annually, with a mortality rate of almost 20%.[7] Unfortunately, many cases of abusive head trauma often go unrecognized, resulting in further maltreatment and, in some cases, death.[8] Several aspects of medical assessment can help physicians recognize and manage affected children.

History-taking

As might be expected, when infants and children present with abusive head trauma, the initial history provided by the caregiver is often inaccurate. The details offered may be vague or may change with repeated questioning. At times, the caregiver may suggest a mechanism of injury that would not be possible based on the child's developmental ability.

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Symptoms may seem quite mild or nonspecific in nature, including poor feeding, lethargy, or irritability. Such symptoms are seen frequently with a number of other more common and less severe pediatric illnesses, which may be partly why more than 30% of cases of abusive head trauma are initially misdiagnosed and the patient is discharged.[8]

Historical risk factors for abusive injury include an unstable family situation, young parents, prematurity, and physical or mental disability. Caregivers often cite crying as a provoking factor for anger and aggression toward the child.[9] The physician should routinely enquire about the child's demeanor before the onset of the presenting symptoms.

Physical examination

Children who present with evidence of respiratory compromise, seizures, or coma are more likely to be accurately diagnosed with shaken baby syndrome. Careful attention should be given to the emergency management of airway, breathing, circulation, and neurological disability. Early communication with pediatric intensive care specialists, neurosurgeons, and radiologists is advised for more severely injured children in order to expedite transfer to tertiary medical care. Although surgical intervention is not always necessary, making predictions about future needs is not easy in the early stages of presentation.

In children who present with less severe symptoms, careful attention must be given to completing a full head-to-toe examination. The head circumference should be measured and the fontanel palpated. Neurological examination should include careful handling of the child, observation for visual following, response to pain, grasp, and suck. Attempts to view the fundi are often facilitated by the fact that the child's level of consciousness may be suppressed. The child should be completely undressed to permit full skin examination. Any bruises to the head and face should be noted and considered highly suspicious in children younger than 6 months of age.[8] Gentle handling of the child and careful range of motion movements in all limbs may assist in detecting more subtle musculoskeletal injury. If abusive head trauma is suspected, consideration should also be given to the possibility of occult abdominal trauma.

Although the primary care physician might carry out the initial fundoscopic examination, further assessment should be conducted by an ophthalmologist familiar with the ocular complications that result from shaking. Retinal hemorrhages are present in up to 80% of patients with abusive head trauma.[10,11] These hemorrhages are usually extensive, bilateral, and extend out to the periphery of the retina (**Figure 1**). There may also be evidence of retinal detachment or retinoschisis, the latter considered pathognomonic for shaking injury.

Differential diagnosis

Following the initial assessment, the differential diagnosis for abusive head trauma will vary greatly depending on the severity of the clinical presentation. Children who require immediate intervention and stabilization may be thought to be suffering from meningitis/encephalitis, sepsis, acute life-threatening event (ALTE), accidental toxic ingestion, metabolic abnormality (i.e.,

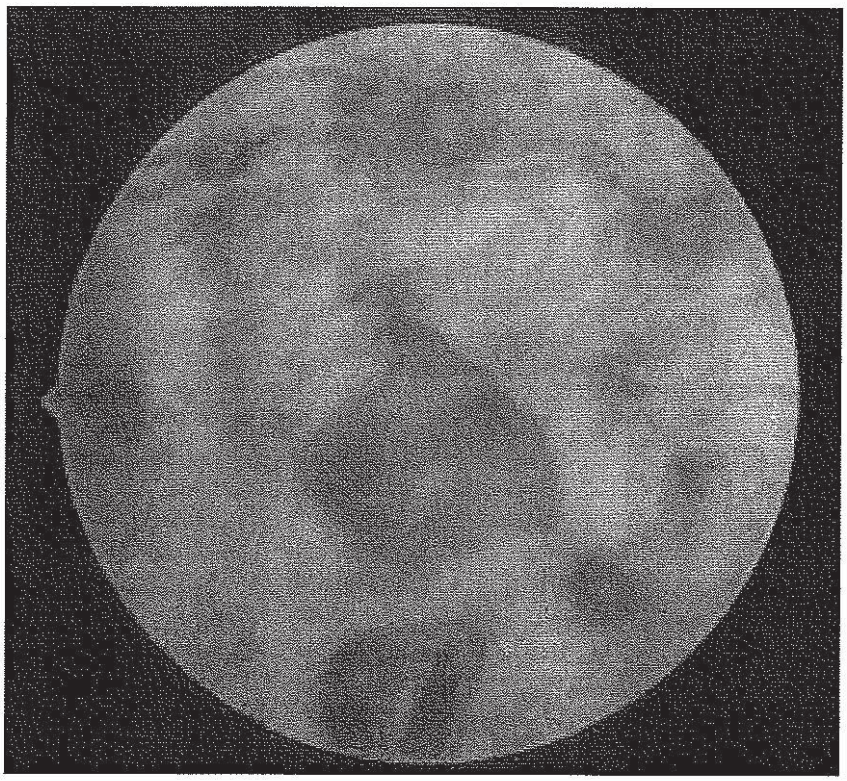

Figure 1. Multiple retinal hemorrhages typical of those generally seen following shaking injury.

glutaric aciduria type 1), or intracranial hemorrhage from a congenital arteriovascular malformation or other source.

Because up to 30% of young children with abusive head trauma may present with a history of minor head trauma, accidental head injury is one of the more common misdiagnoses.[8,12] In children with no history of trauma and more subtle signs and symptoms, the most frequent misdiagnoses are viral infection and gastroenteritis.[8]

Abusive head trauma *must* be included in the differential diagnosis for young children presenting with nonspecific complaints.

Investigations

The critically ill child is more likely to have the detailed complex of serological, biochemical, and radiological investigations that assist in the diagnosis of abusive head trauma. The child who is less severely ill at presentation may not immediately undergo all of the necessary investigative procedures; however, if after careful physical examination, abusive head trauma is included on the differential diagnosis, further workup is more likely to be initiated.

Computed tomography (CT) of the head is the mainstay of the diagnosis of abusive head trauma. Interpretation of these scans should be carried out by a radiologist familiar with pediatric imaging techniques. CT findings may include subdural hemorrhage (both acute and chronic), interhemispheric falx hemorrhage, diffuse axonal injury, and cerebral edema (**Figure 2**). Magnetic resonance imaging (MRI) may be helpful in interpreting equivocal CT findings or in differentiating between subarachnoid and subdural hemorrhage. Recent data indicate that MRI may also play an important role in the dating of intracranial hemorrhage.[13]

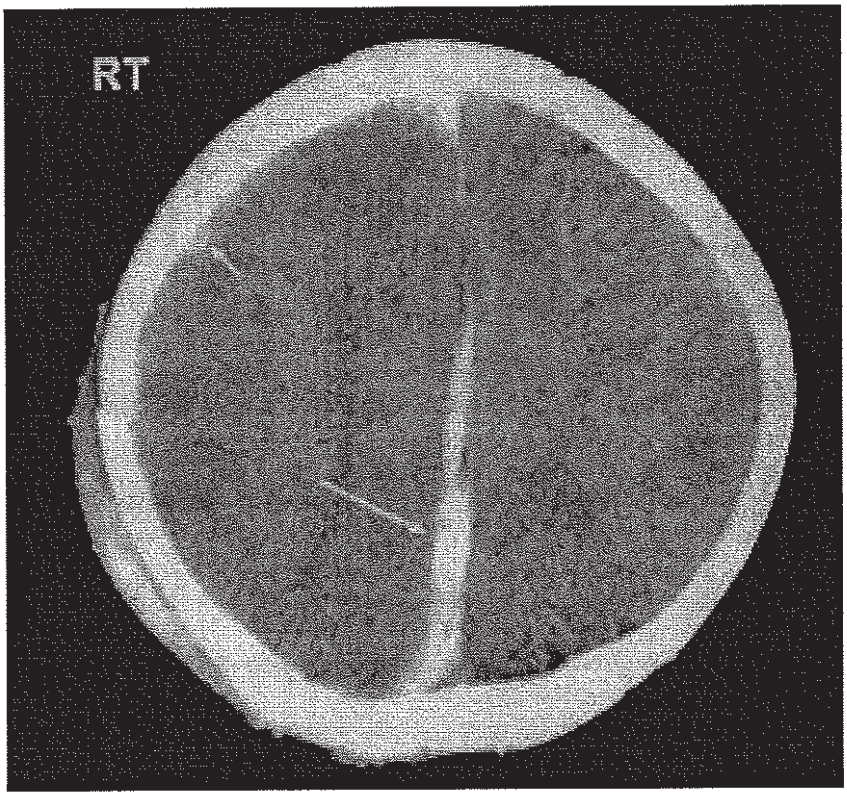

Figure 2. Axial CT scan.

Axial CT scan without intravenous contrast shows high attenuation material along the right side of the falx, typical of acute parafalcine subdural hematoma (long arrow). Small amounts of acute subdural hemorrhage are also shown over the right hemisphere (short arrow). There is soft tissue swelling in the scalp of this patient, who also had a right parietal skull fracture.

All children suspected of sustaining an injury caused by abusive shaking or impact should undergo a full skeletal survey. Radiology technicians should be versed in the appropriate technique for this study, and radiologists should be familiar with the interpretation of pediatric trauma indicating abuse. Fractures associated with abuse include rib, long bone, and skull fractures. More than 80% of abusive rib fractures are posterior rather than anterior or lateral.[14] While these injuries may not be apparent on initial chest radiographs, repeat studies performed 2 weeks postinjury may show the fractures more clearly. Long bone fractures are characterized by metaphysial chip fractures.[2] Skull fractures are often seen more clearly on plain films than on CT scans.

Serological investigation should include complete blood count and coagulation profile. Anemia or coagulopathy may arise from intracranial hemorrhage or parenchymal brain injury itself. If the possibility of associated occult abdominal trauma exists, consideration should be given to performing liver function tests and serum amylase.

Lumbar puncture may be included in the initial evaluation of a child thought to be septic or suffering from meningitis. A bloody tap must not be interpreted as physician error, as it

may be the first clue to the possibility of intracranial hemorrhage.

Metabolic studies should include a quantitative analysis of organic acids in the urine to identify those patients with glutaric aciduria type 1. Children with this rare but life-threatening condition share many of the same neurological complications as children who have sustained shaking injuries.

Current research is focusing on establishing serological markers for head trauma in children.[15] These may soon serve as screening tools to identify children who should undergo further diagnostic tests such as CT scan and ophthalmological examination.

Management

Initial management must focus on treating the devastating complications of abusive head trauma, which can include seizures, increased intracranial pressure, and cardiorespiratory arrest.

All potential victims of shaking/impact injury should be hospitalized in order to closely monitor their neurological status, to ensure a complete diagnostic workup is performed, and to allow for initiation of the investigative process by both police and social workers. In cases of abusive head trauma, hospital social workers and physicians need to work closely with the community services responsible for both the criminal and child protection investigations, as well as the occupational services that may be necessary upon the child's discharge from hospital.

Reporting

By law, any suspicion of abusive trauma must be reported to the Ministry of Children and Family Development (MCFD). The safety of the patient and of any other child in the home must be determined.

A clear, concise medical report should be completed with the understanding that it will likely be subpoenaed for legal purposes at some time in the future. The report should detail the initial history provided to the physician and state clearly who provided the history. The full physical examination should be documented and the results of all investigations should be included. If the physician is relying on assistance from other specialists to interpret the investigative findings, direct communication with these specialists is strongly recommended. The report should clearly state whether the injuries the child has sustained are consistent with the history provided and whether abusive head trauma is suspected.

Outcome

The outcome for children sustaining abusive head trauma may range from no apparent effects to permanent disability, developmental delay, seizures, paralysis, blindness, and death.[12] A recent Canadian study that looked at 364 children diagnosed with shaken baby syndrome revealed that 19% died, 59% had neurological deficits or other health problems, and only 22% appeared well at discharge.[7] Other data indicate that some children may have a symptom-free interval of 12 to 18 months before manifesting signs of neurological or developmental abnormality.[16] These numbers likely do not accurately reflect the true outcome, as clearly there are a number of children who are misdiagnosed and possibly some who never receive medical attention. Caffey speculated that a significant number of older children with learning disabilities or neuropsychological problems may have sustained shaking injuries as young infants or toddlers.[2]

In children with no history of trauma and more subtle signs and symptoms, the most frequent misdiagnoses are viral infection and gastroenteritis.

Many children will need long-term assistance from health care and social service personnel. Ongoing support may involve infant development specialists, speech and language therapists, occupational therapists, special education teachers, psychologists, neurologists, neurosurgeons, pediatricians, family doctors, respite caregivers, and adapted or residential housing programs. Although the burden placed on the health care system and society is significant, it is far less than the frequently devastating impact upon these children and their families.

Summary

Current areas of research into pediatric abusive head trauma include the biomechanics of shaking and impact-type injuries, the utility of diagnostic serological markers, the long-term consequences for survivors, and the development of effective prevention strategies. Health Canada recently published a statement on shaken baby syndrome, which many hope will serve as a framework for developing multidisciplinary guidelines.[17] In the meantime, health care providers must educate themselves about making an accurate diagnosis of abusive head trauma. Everyone involved must maintain a healthy index of suspicion, learn to recognize the more subtle signs and symptoms, seek adequate diagnostic services, and communicate clearly with other health care professionals and investigative personnel. The future safety of a child subjected to abusive head trauma may ultimately hinge on the vigilance and actions of our community health care providers.

Competing interests

None declared.

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Joint Statement on Shaken Baby Syndrome

Background Paper

Developed by the Saskatchewan Institute
on Prevention of Handicaps, 2001

Funded by Health Canada, 2001

Shaking a baby is dangerous and can result in Shaken Baby Syndrome, a preventable tragedy. Shaken Baby Syndrome can occur at any age but is most commonly found in infants less than one year of age. It is a condition that occurs when an infant or young child is shaken violently, with or without associated impact trauma to the head, usually by a parent or a caregiver. Violently shaking a baby or child is assault – a form of child abuse and a criminal offence. Each year in Canada at least six infants are killed (Statistics Canada, 1999) and many more are permanently injured (King & MacKay, 2000) by this tragic form of child abuse.

Terminology

Shaken Baby Syndrome is a serious and clearly defined form of child abuse (American Academy of Pediatrics, 2001). It refers to a group of clinical findings in infants and young children that are a consequence of violent shaking (Lancon et al., 1998). Injuries that characterize Shaken Baby Syndrome are intracranial haemorrhage (bleeding in and around the brain); retina haemorrhage (bleeding in the retina of the eye); and fractures at the ends of the long bones and/or ribs (David, 1999). Impact trauma may produce additional injuries such as bruises, lacerations or fractures. There may be no external evidence of cranial trauma (American Academy of Pediatrics, 1993; Haviland & Russell, 1997; Atwal et al., 1998; Lancon et al., 1998). Studies confirm that most, but not all, shaken babies have evidence of impact injuries as well (Gilliland, 1998; David, 1999).

First identified by Caffey (1972) as whiplash Shaken Baby Syndrome, the condition is also referred to as shaken impact syndrome (Bruce & Zimmerman, 1989), abusive head trauma (Starling et al., 1995), whiplash shaken infant syndrome (Bonnier et al., 1995), shaking-impact syndrome (Duhaime et al., 1998), non-accidental head trauma (Giles & Nelson, 1998), and non-accidental head injury (Barlow & Minns, 1999). There is some controversy about the necessity for the infant's head to strike a surface in order to produce the severe brain injuries (Duhaime et al., 1987; Krous & Byard, 1999). However, it is accepted by most researchers that shaking alone can cause the brain damage (Carty & Ratcliffe, 1995; Gilliland & Folberg, 1996; Atwal et al., 1998; Barlow et al., 1999).

Mechanism of Injury

Shaken Baby Syndrome involves a mechanism of violent shaking of an infant by an abuser (usually an adult). Studies suggest that the actual shaking event can be quite brief. It may occur only once, with almost immediate fatal consequences, or occur in a pattern of repetitive abuse spanning several days, weeks or months (Lancon et al., 1998).

Violent shaking may be combined with impact of the child's head against a stationary object or with the impact of a moving object against the child's head. The infant's head also undergoes rotational, acceleration and deceleration forces as well as whiplashing during shaking (Carty & Ratcliffe, 1995; Massagli et al., 1996; David, 1999). In some cases, whiplash injury to the upper spine may occur. Other secondary injuries such as violent twisting or pulling of the extremities, intentional burns or beating may be inflicted by an abuser in conjunction with a shaking event (Lancon et al., 1998).

The severity of the shaking force required to produce Shaken Baby Syndrome is such that it cannot occur in any normal activity such as play or the activities of daily living, or in a resuscitation attempt. The act of shaking that results in injury to the child is so violent that untrained observers would recognize it as dangerous to the child (American Academy of Pediatrics, 1993; Carty & Ratcliffe, 1995).

Causes of Injury

When an infant is shaken, the person doing the shaking usually grabs the infant around the chest, arms or shoulders and shakes back-and-forth, causing the infant's head to whip forcibly backward and forward. Infants are especially vulnerable to brain injuries because of their relatively large heads and weak neck muscles (Swenson & Levitt, 1997).

During a shaking episode, the infant's brain rotates inside the skull. The bridging veins, which drain blood and are the only attachments between the brain and skull around the brain, are stretched and may become torn. Blood then flows to create a subdural haematoma, which is a signpost that shaking has occurred. Nerves in the brain may be damaged or destroyed leading to brain dysfunction that can be manifested in a number of ways. Seizures can occur, there may be brain swelling within hours of the injury, and the results are permanent brain damage or brain death within days (Swenson & Levitt, 1997; Reese & Kirshner, 1998; Driver, 1999).

The cause of the eye injuries is unclear, but likely involves violent movement of the orbital contents during the shaking (Levin, 2000). Similarly, violent shaking with twisting and pulling of the long bones of the limbs results in fractures of their endplates. Ribs are fractured as the chest is squeezed and moved back and forth during the shaking.

Characteristics of the Syndrome

Infants affected by Shaken Baby Syndrome present with a broad range of symptoms, including apnea, vomiting, irritability, listlessness, lethargy, seizures and poor feeding. Subtle bruises, swelling of the brain, anemia, hypothermia, and rib or long bone fractures may also be present. Infants who have been shaken may have symptoms ranging from those similar to a viral illness, such as irritability or lethargy and vomiting, to seizures, unconsciousness with interrupted breathing or death. Attending physicians rarely know whether the child has a history of being shaken. Lack of external evidence of trauma increases the difficulty of diagnosis (Swenson & Levitt, 1997).

The signs of Shaken Baby Syndrome include (Chiocca, 1995):

1. retinal haemorrhages
2. new or healing fractures of the long bones and/or ribs
3. intracranial haemorrhages found by brain imaging.

There may or not be external signs of trauma, depending on the severity of impact injury, if any.

Babies who are shaken may be brought to medical attention with no history of injury or a vague or incompatible account provided by the caregiver that is not consistent with the physical findings.

Diagnostic tools include computed tomography (CT), magnetic resonance imaging (MRI) and a skeletal survey. The eyes should be assessed for retinal haemorrhages (American Academy of Pediatrics, 1993; Swenson & Levitt, 1997; Lancon et al., 1998).

Multidisciplinary Approach

The medical evaluation of an infant with suspected Shaken Baby Syndrome requires a multidisciplinary team approach incorporating expertise in Shaken Baby Syndrome within the specialties of critical care, neurosurgery, neurology, ophthalmology, orthopaedics, pathology, radiology and other allied health professions. Not all of these professionals may be needed in any one particular case.

Professionals involved in handling infant deaths should be trained and cooperate in a multidisciplinary approach so that deaths from Shaken Baby Syndrome can be distinguished from sudden infant death syndrome (American Academy of Pediatrics, 1994). There is evidence that some cases of Shaken Baby Syndrome have been mistakenly designated as sudden infant death syndrome (Bass et al., 1986; Byard & Krous, 1999).

The identification, evaluation, investigation, management and prevention of Shaken Baby Syndrome require a multidisciplinary approach that respects the jurisdictional responsibilities of each discipline. There is a need for a shared commitment that includes professionals from the disciplines associated with health, child welfare, police and social services, courts and education as well as the community at large (Ludwig, 1981; Kovitz et al., 1984; Hochstadt & Harwicke, 1985).

The legal implications of Shaken Baby Syndrome involve child welfare and criminal investigations. These investigations will determine whether or not it is safe for children to remain in their caregivers' care and if an individual is charged with assault or homicide (Brown & Minns, 1993; Luerssen et al., 1993; Lancon et al., 1998).

Outcomes

Overall, the severity of injury and outcomes from abusive head trauma in infants are worse than in any other type of childhood head injury (Goldstein et al., 1993; DiScala et al., 2000). The outcome for infants who are shaken violently can range from no apparent effects to permanent disabling brain damage, including developmental delay, seizures and/or paralysis, blindness and even death. Survivors may have significant delayed effects of neurological injury, resulting in a range of impairments seen over the course of the child's life, including cognitive deficits and behavioural problems (Chiocca, 1995).

Recent Canadian data on children hospitalized for Shaken Baby Syndrome show that 19% died, 22% were well at discharge, and 59% had neurological or visual impairment and/or other health effects (King & MacKay, 2000).

Ongoing evaluation of survivors of Shaken Baby Syndrome is important. Significant neurological disability may be detected several years after the injury. A follow-up study of 14 children who were hospitalized due to shaking found that seven were severely disabled, two were moderately disabled, and three had repeated grades in school, required tutoring or had behavioural problems (Duhaime et al., 1998). In another series of 13 children, one died and six remained severely and permanently disabled from the time of the shaking. The six other children apparently recovered fully after the shaking. However, all but one of these children became disabled six months to five years later. Delayed effects included psychomotor delays, especially in language, adaptability and social behaviour (Bonnier et al., 1995).

Effects on Community

It is likely that most survivors of Shaken Baby Syndrome will require special services for the duration of their lives. These services may include health and mental health care, speech and language, infant stimulation, and rehabilitation. Additional services may be needed such as residential placement, special education and employment advocacy (Zeneah & Larrieu, 1998). Long-term effects are experienced by birth, adoptive and foster families of children affected by Shaken Baby Syndrome. Non-abusing parents may require additional support from health, social and legal services (D'Lugoff & Baker, 1998).

Current Knowledge

Number of Children Affected by Shaken Baby Syndrome

At the present time, there is no definitive answer to the question of how many babies are affected by Shaken Baby Syndrome in Canada. A recent report from the Canadian Collaborative Study on Shaken Impact Syndrome indicates that, from 1988 to 1998, 364 children under five years of age were hospitalized for Shaken Baby Syndrome (King & MacKay, 2000). The data consist of the most severe cases of Shaken Baby Syndrome, those that are seen in paediatric hospitals, but many minor cases are unrecorded in the data (Driver, 1999).

The incidence of Shaken Baby Syndrome may be severely underestimated due to missed diagnosis and underreporting. A recent study in the United States revealed that the diagnosis of Shaken Baby Syndrome was missed in over 30% of the cases of abusive head trauma in infants (Jenny et al., 1999).

Factors Associated with Shaken Baby Syndrome

Why are babies shaken? At times, a person may react violently and shake a baby impulsively when exhausted or frustrated by the baby's crying. Other situations that trigger a shaking incident are toileting and feeding difficulties. In some cases, there is evidence of careless disregard for the child's safety and repeated shaking episodes and other non-accidental injuries suggesting an intent by the caregiver to severely injure, if not kill the infant (American Academy of Pediatrics, 1993).

It is believed that Shaken Baby Syndrome occurs in all cultures and socio-economic groups (Brown & Minns, 1993; Kivlin, 1999). Some risk factors associated with child abuse, including Shaken Baby Syndrome, are (Swenson & Levitt, 1997):

1. parental isolation
2. violence in the home
3. substance abuse
4. psychiatric difficulties
5. inadequate knowledge of child development
6. lack of attachment to the child

Shaken Baby Syndrome may also occur in families with no apparent risk factors.

The Canadian Collaborative Study reports that infants who have been shaken are most often males (56%) and have a median age of 4.6 months (range: 7 days to 58 months) (King & MacKay, 2000). In 34% of the cases, the person responsible was not identified in the medical record. For the 64% where the person was known, biological fathers (52%), male partners of biological mothers (20%), female babysitters (15%) and biological mothers (12.5%) were identified or suspected as responsible for the abuse (King & MacKay, 2000).

Prevention

As a form of child abuse, Shaken Baby Syndrome is a complex issue, requiring intersectoral approaches to prevention and intervention. Communities can develop programs to educate parents, prospective parents and caregivers about the developmental stages and needs of infants. Interventions with families at risk involve the participation of multiple agencies and groups, including those from health, social services, education and community-based organizations. Where families have been affected by Shaken Baby Syndrome, services must be provided to assist them with the ongoing needs of the injured child and for protection of other children in the family.

Primary prevention begins with teaching all new parents, potential parents, caregivers and the general public about strategies to cope with crying in babies and difficult behaviour in toddlers. Parents and caregivers must be educated about normal child development and the dangers of shaking babies (Butler, 1995). Educational resources should provide information on Shaken Baby Syndrome.

Secondary prevention interventions should be provided to families considered to be at risk for abuse because of unrealistic expectations of their children or lack of knowledge regarding normal child development (Showers, 1991; Butler, 1995). Programs providing home visits by nurses have been shown to be effective in reducing child abuse in high-risk families (American Academy of Pediatrics, 1993; Olds et al., 1997; MacMillan, 1998; Olds et al., 1997, 1999). Child care providers should receive appropriate training in the care of young infants and should be regularly supervised and evaluated.

The Message: Never Shake a Baby

Strategies must be put in place to educate the entire population, including adults and youth, about the dangers of losing control when caring for an infant. Key messages should explain that the most common trigger causing an individual to shake a baby is the baby's crying; that physical discipline should have no place in caring for babies properly (Bruce & Zimmerman, 1989); that there are alternative strategies for dealing with exhaustion and feelings of frustration toward a baby; and that caution must be taken in selecting alternate caregivers. Targeted approaches to prevention interventions should be provided to families considered to be at risk for abuse. The focus of prevention messages must be that it is dangerous to shake a baby. Messages must emphasize: Never shake a baby.

These messages can be delivered through professional organizations, public education campaigns, parenting education programs, parent support networks, school curricula and other methods such as public service announcements.

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ORIGINAL CONTRIBUTION

Analysis of Missed Cases of Abusive Head Trauma

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Context Abusive head trauma (AHT) is a dangerous form of child abuse that can be difficult to diagnose in young children.

Objectives To determine how frequently AHT was previously missed by physicians in a group of abused children with head injuries and to determine factors associated with the unrecognized diagnosis.

Design Retrospective chart review of cases of head trauma presenting between January 1, 1990, and December 31, 1995.

Setting Academic children's hospital.

Patients One hundred seventy-three children younger than 3 years with head injuries caused by abuse.

Main Outcome Measures Characteristics of head-injured children in whom diagnosis of AHT was unrecognized and the consequences of the missed diagnoses.

Results Fifty-four (31.2%) of 173 abused children with head injuries had been seen by physicians after AHT and the diagnosis was not recognized. The mean time to correct diagnosis among these children was 7 days (range, 0-189 days). Abusive head trauma was more likely to be unrecognized in very young white children from intact families and in children without respiratory compromise or seizures. In 7 of the children with unrecognized AHT, misinterpretation of radiological studies contributed to the delay in diagnosis. Fifteen children (27.8%) were reinjured after the missed diagnosis. Twenty-two (40.7%) experienced medical complications related to the missed diagnosis. Four of 5 deaths in the group with unrecognized AHT might have been prevented by earlier recognition of abuse.

Conclusion Although diagnosing head trauma can be difficult in the absence of a history, it is important to consider inflicted head trauma in infants and young children presenting with nonspecific clinical signs.

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ABUSIVE HEAD TRAUMA (AHT) IS a dangerous form of child abuse. More child abuse deaths occur from head injuries than any other type of injury.[1] Infants and toddlers who survive AHT often have serious neurologic sequelae.[2,3]

Head injury in infants and toddlers can be difficult to diagnose because symptoms are often nonspecific. Vomiting, fever, irritability, and lethargy are common symptoms of a variety of conditions seen in children, including head trauma. When caretakers do not give a history of injury and the victim is preverbal, an abusive head injury can be mistakenly diagnosed as a less-serious condition.

In March 1995, we evaluated a 14-month-old child who had sustained an abusive head injury 4 months previously. Shortly after his initial injury, he had been examined by his physician and his new-onset seizures were attributed to his history of prematurity. During the next 4 months, the child had 7 physician visits and 2 cranial imaging studies. At each visit, the diagnosis of AHT was not recognized. When we examined him 4 months later, he had multiple old and new fractures and healing brain injuries, including extensive brain atrophy and healing brain infarctions. This case encouraged us to review our experience with AHT cases to determine if the appropriate diagnosis had been previously missed. We also examined factors that may have contributed to the unrecognized diagnosis of AHT.

For editorial comment see p 657.

METHODS

We studied cases of AHT in children younger than 3 years evaluated at the Children's Hospital, Denver, Colo, from January 1, 1990, through December 31, 1995. The Children's Hospital is an academic medical center affiliated with the University of Colorado School of Medicine. It is a referral center for Colorado, Wyoming, Montana, and western Nebraska.

The children in this study were evaluated by the hospital's Child Advocacy and Protection Team (CAP Team). The CAP Team is a multidisciplinary group that consults on cases of suspected child abuse and neglect. The team is led by pediatricians whose clinical focus is child abuse. Social workers, nurses, psychologists, child psychiatrists, and attorneys also participate. The team routinely interviews caretakers

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Table 1. Types of Injuries Sustained by Study Population

Types of Injury	No. (%)
Head injuries	173 (100)
Subdural hematoma	150 (86.7)
Diffuse parenchymal brain injury	77 (44.5)
Localized brain contusions or shearing injuries	64 (37.0)
Skull fracture	55 (31.8)
Epidural hemorrhages	4 (2.3)
Retinal hemorrhages	114 (65.9)
Facial or scalp trauma	98 (56.6)
Trauma to parts of body other than head or face	63 (36.4)
Fractures other than skull fractures	60 (34.7)

to document medical history and the history of the acute injury, review previous medical and social service records, review prior radiological studies, perform a careful physical examination, and order appropriate new diagnostic studies. In all cases, organic illnesses that mimic AHT are ruled out. Confirmation that head trauma was inflicted requires multidisciplinary team consensus.

Head trauma cases were identified from the log records of the CAP Team and charts were reviewed in depth. To ensure concurrence, study cases were reviewed by at least 2 of the authors (including C.J.) and radiological imaging studies were reviewed by a pediatric radiologist (T.C.H.). Permission for the anonymous chart review was granted by the hospital's human subjects committee. Information gathered included demographics, social and family data, details of the children's injuries, presenting complaints, clinical course, and details of previous medical visits related to head trauma, if applicable.

We limited the study to children with head injuries who were younger than 3 years for 2 reasons. First, children older than 3 years are not as likely to sustain severe injury when struck in the head or shaken. Second, children older than 3 years are more likely to be able to articulate their experiences. Hence, AHT is much less likely to be missed as the appropriate diagnosis.

Abusive head trauma was defined as *inflicted cranial injury*. Researchers debate whether shaking alone or shaking and impact cause the signs and symptoms commonly referred to as *shaken baby syndrome*.[4-6] The mechanism of injury cannot always be accurately determined in child abuse cases. Because shaking, impact to the head, or both are all potentially harmful to infants and toddlers, we grouped all head injuries caused by abuse into the single category of AHT.

Factors considered by the multidisciplinary team in reaching the diagnosis of AHT (rather than nonintentional head injury) included (1) confession of intentional injury by an adult caretaker; (2) inconsistent or inadequate histories given by caretakers (the history given did not explain the nature and severity of the injuries); (3) associated unexplained injuries, such as fractures or intra-abdominal injuries; and (4) delay in seeking care.

Cases of AHT were defined as *missed* if review of medical records and radiological studies confirmed the following predefined criteria: (1) Prior to the diagnosis of AHT, a physician evaluated the child (on ≥1 occasions) for nonspecific clinical sign(s) compatible with head trauma (ie, recurrent vomiting, irritability, facial and/or scalp injury, altered mental status, abnormal respiratory status, and/or seizures). (2) The medical evaluation(s) for these nonspecific clinical sign(s) did not result in a diagnosis of AHT. (3) Thereafter, 1 or more of the following scenarios occurred: (*a*) The child improved clinically, later experienced (repeat) acute trauma confirmed as abusive, and underwent diagnostic imaging that revealed old cranial injuries and other new injuries. (*b*) The child remained symptomatic or experienced worsening clinical signs until head trauma was recognized, verified by cranial imaging studies, and confirmed as abusive. (*c*) The person who injured the child later admitted to abusing the child shortly before the onset of the child's nonspecific clinical sign(s). In all cases, the estimated age of the cranial injuries documented by imaging studies was consistent with the prior time of onset of the child's nonspecific clinical sign(s).

All remaining cases of AHT evaluated during the study period were considered *recognized*. Children who sustained any new inflicted injuries during the period of diagnostic delay were classified as *reinjured*. Study patients whose medical records after their inflicted head trauma revealed abnormal head growth, recurrent seizures, psychomotor delays, chronic anemia, vomiting, weight loss, and/or sensory deficits were classified as having *medical complications* of AHT.

We examined data to determine what factors were associated with a missed vs recognized diagnosis. We used χ^2 testing to assess the independence of 10 variables on the outcome variable of a correct diagnosis of head trauma. Variables resulting in χ^2 $P \leq .25$ or less were entered into an initial multivariate logistic regression model. We then used Wald and likelihood ratio testing to iteratively remove noncontributory variables from the model.[7] Analysis was performed using Stata software, Version 5.0 (Stata Corp, College Station, Tex).

RESULTS

A total of 232 children with suspected head injuries were evaluated by the CAP Team from January 1990 through December 1995. Fifty-nine children did not meet study criteria. Of these, 8 were eliminated because they were aged 3 years or older. It was determined that 38 were not abused. The medical records of 13 children could not be located. The remaining study sample included 173 abused children with head injuries.

The mean age of the 173 children was 247 days (range, 10 days to 2.9 years). Ninety-five (55%) of the children were male and 78 (45%) were female. The boys' ages at the time they were first seen for symptoms of AHT were not significantly different than the girls' ages. In our study sample, minorities were overrepresented (33.5% minority) compared with the racial distribution of the Denver metropolitan area (19.7% minority).[8]

The types of injuries noted in the children are shown in TABLE 1. Many of the children sustained more than 1 type of injury. Eighty-nine children (51.4%) were covered by Medicaid-funded insurance programs. Twenty-seven children (15.6%) were uninsured. The remainder had private health insurance.

Missed vs Recognized AHT

In the 173 children with AHT, 54 cases (31.2%) were classified as missed. For children with missed AHT, the mean number of physician visits before the trauma was recognized was 2.8 (range, 2-9 visits).

For children in whom the diagnosis of AHT was missed, the mean length of time to diagnosis of head trauma from the day of the first visit was 7 days (range, 0-189 days). In 5 cases, the children were seen twice in the same day and the diagnosis was made on the second visit; hence, the designation of 0 days until diagnosis in some cases of missed AHT.

When missed cases were compared with recognized cases, several factors were found to be significantly different.

Age

Children with missed AHT were much younger than those in whom the diagnosis was recognized on the first physician visit. The mean age of missed AHT cases at the time of their first medical visit for head injury symptoms was 180 days (95% confidence interval [CI], 125-236). The mean age of the recognized cases was 278 days (95% CI, 228-328). The mean ages of children with missed and recognized AHT were significantly different (independent samples t test, $P = .02$).

Race

Abusive head trauma was missed significantly more often in white children than children of minority races. In white children, 43 (37.4%) of 115 cases of AHT were missed and in minority children, 11 (19%) of 58 were missed (Pearson χ^2, $P = .01$).

Family Composition

Abusive head trauma was more likely to be missed in families in which both parents lived with the child. Thirty-seven (40.2%) of 92 cases were missed in intact families. In families in which the mother and father of the child were not living together, 14 (18.7%) of 75 cases were missed (Pearson χ^2, $P = .003$).

Severity of Symptoms at Initial Visit

Not surprisingly, the more severely symptomatic children were more likely to be recognized as having head trauma at first visit to the physician. TABLE 2 summarizes the number and percentage of children who were missed and recognized as having AHT compared with their symptoms and signs. At the first visit, children who were comatose, whose breathing was compromised, who were having seizures, or who had facial bruising were more likely to be accurately diagnosed. Conversely, children who presented with irritability or vomiting at the first visit were less likely to be identified as having AHT.

Factors Not Significantly Different

Several factors were found not to differ between children with missed vs recognized AHT. These included whether the parents were employed, whether the parents had private insurance coverage, the sex of the child, the birth weight of the child, and whether the child had been born prematurely (<37 weeks' gestation).

Factors Associated With Missed Diagnosis of AHT

Nine variables were found to be significantly associated with missing the diagnosis of AHT by univariate analysis. These were transformed to dichotomous variables and entered into a logistic regression model. They included age younger than 6 months, minority race, parents not living together, and 6 signs and symptoms noted at the first visit, including facial injury, seizures, decreased mental status, abnormal respiratory status, vomiting, and irritability. Of these 9 variables, 4 were retained in the multivariate logistic model. These 4 independent variables predicting the correct diagnosis of AHT at the first visit included (1) abnormal respiratory status (odds ratio [OR], 7.23; 95% CI, 2.4-21.3; $P<.001$); (2) seizures present (OR, 6.67; 95% CI, 2.5-17.3; $P<.001$); (3) facial and/or scalp injury present (OR, 4.81; 95% CI, 2.1-11.0; $P<.001$); and (4) parents not living together (OR, 2.49; 95% CI, 1.1-5.7; $P = .03$).

Applying the logistic regression model constructed from the data, we found that if none of these 4 factors were present, the probability that a physician would make the correct diagnosis of AHT was $P = .20$. That is, if a child had normal respirations, had no seizures, had no facial or scalp injury, and came from an intact family, the probability that AHT would be recognized was less than 1 in 5.

Table 2. Missed and Recognized Abusive Head Trauma Cases: Severity of Presenting Symptoms

Symptoms	No. (%) Recognized	No. (%) Missed	χ^2 Test	P Value
Facial and/or scalp injuries	78/119 (65.5)	20/54 (37.0)	12.293	<.001
Other bodily trauma (not head or face trauma)	53/118 (44.9)	10/54 (18.9)	10.664	.001
Mental status				
Awake and alert	35/119 (29.4)	35/54 (64.8)	31.397	<.001
Sleepy and/or lethargic	31/119 (26.1)	17/54 (31.5)		
Comatose and responsive to pain	21/119 (17.6)	1/54 (1.9)		
Comatose and unresponsive to pain	32/119 (26.9)	1/54 (1.9)		
Mental status by group				
Awake and alert	35/119 (29.4)	35/54 (64.8)	19.326	<.001
Depressed or comatose	84/119 (70.6)	19/54 (35.2)		
Respiratory status				
Normal breathing	45/119 (37.8)	44/54 (81.5)	33.778	<.001
Compromised	20/119 (16.8)	8/54 (14.8)		
Requiring resuscitation or ventilation	54/119 (45.4)	2/54 (3.7)		
Respiratory status by group				
Normal	45/119 (37.8)	44/54 (81.5)	28.354	<.001
Abnormal (compromised or requiring resuscitation or ventilation)	74/119 (62.2)	10/54 (18.5)		
Seizures at first visit	55/119 (46.2)	8/54 (14.8)	15.820	<.001
Vomiting at first visit	42/111 (37.8)	30/54 (55.6)	4.637	.03
Irritable at first visit	53/111 (47.7)	34/52 (65.4)	4.426	.04

Misdiagnoses Applied to Children With AHT

The 54 children with missed AHT received 98 diagnoses other than AHT during their 98 patient visits. TABLE 3 lists the diagnoses applied to the children with missed AHT. The most common diagnoses made were for viral gastroenteritis and accidental head injury. In some cases, the diagnoses were correct, even though coexistent head trauma was not recognized. For example, in 1 case an infant was accurately assessed to have a retropharyngeal abscess, but the accompanying subdural hematoma, retinal hemorrhages, and skull fracture were not recognized. In other cases, the symptoms of head trauma were attributed to conditions other than AHT. In 10 cases, the wrong diagnosis was applied more than once to the same child. We did not count these repeated diagnoses on our frequency table.

Outcome and Consequences

Twenty-five (14.5%) of the 173 children died as a result of their head injuries. Of the recognized AHT cases, 20 (16.8%) of 119 children died. In the missed AHT cases, 5 (9.3%) of 54 children died. The percentage of children in the missed AHT group who died was not statistically different than in the recognized AHT group ($\chi^2 = 1.712$; $P = .19$). In our estimation, 4 of the 5 deaths in the missed AHT group might have been prevented by earlier recognition of abuse (TABLE 4).

Of the missed AHT cases, 15 (27.8%) of the 54 children were known to have been reinjured because of the delay in diagnosis. Twenty-two children (40.7%) had medical complications related to the delay in diagnosis. These conditions included seizure disorders, chronic vomiting, and increasing head size because of increasing untreated subdural hematomas.

Radiological Misdiagnosis

In 7 of the children whose diagnosis of AHT was missed, radiological errors contributed to the delay. These 7 children had 8 studies in which trauma was missed, including 6 computed tomography scans of the head, 1 skeletal survey, and 1 long-bone radiograph of the arm. The 2 longest delays in diagnosis (141 days and 174 days) and 6 of 25 cases in which the diagnosis of AHT was missed for longer than 7 days involved radiological misreadings. TABLE 5 summarizes the nature of the errors made and

Table 3. Frequent Erroneous Diagnoses Made in Cases of Missed Abusive Head Trauma*

Diagnosis	No. of Times Diagnosis Made
Viral gastroenteritis or influenza	14
Accidental head injury	10
Rule out sepsis	9
Increasing head size	6
Nonaccidental trauma (not head injury)	4
Otitis media	5
Seizure disorder	5
Reflux	3
Apnea	3
Upper respiratory tract infection	2
Urinary tract infection or pyelonephritis	2
Bruising of unknown origin	2
Hydrocephalus	2
Meningitis	2

*Incorrect diagnoses made only once included anxiety, bronchiolitis, colic, complications of prematurity, constipation, failure to thrive, fever of unknown cause, hemiparesis, milk allergy, myositis, pneumonia, postmeningitic subdural effusion, retropharyngeal abscess, rule out osteomyelitis, sudden infant death syndrome, torticollis, urticaria, viral encephalitis, and vomiting of unknown cause.

Table 4. Clinical Presentations of 4 Potentially Preventable Deaths With Missed AHT*

Patient Age, mo	Time Between Visits	Documented Clinical Signs	Evaluation Results	Diagnosis
18	First visit	Vomiting, sleepy, normal respirations, facial bruising	None	Influenza
	7 Days after first visit	Vomiting, alert and responsive, normal respiration, new bruising	None	Otitis media
	11 Days after first visit	Vomiting, coma, unresponsive to pain, respiratory arrest	Retinal hemorrhages, subdural hemorrhage, focal brain injury, diffuse brain injury, noncranial trauma	AHT
2	First visit	Failure to thrive, vomiting, alert and responsive, normal respiration, bruising to face and chest	Normal computed tomography result with missed subdural hemorrhage and brain shearing tears	Apnea
7	141 Days after first visit	Seizures, coma, unresponsive to pain, respiratory arrest	Retinal hemorrhages, skull fracture, subdural hemorrhage, diffuse brain injury, noncranial trauma, old cranial trauma	AHT
5	First visit	Vomiting, irritability, sleepiness, normal respiration, "went limp"	None	Anxiety secondary to new day care
	6 Days after first visit	Vomiting, diarrhea, irritability, alert and responsive, normal respiration	None	Acute gastroenteritis
	9 Days after first visit	Vomiting, irritability, coma, unresponsive to pain, seizures, cardiorespiratory arrest	Retinal hemorrhages, subdural hemorrhages, diffuse brain injury	AHT
3	First visit	Vomiting, irritability, alert and responsive, normal respiration, dehydration	None	Acute gastroenteritis
	8 Days after first visit	Coma, unresponsive to pain	Retinal hemorrhage, subdural hemorrhage, diffuse brain injury, old brain injury, old cranial trauma	AHT

*In all cases of missed abusive head trauma (AHT), the estimated age of cranial injuries documented by imaging studies was consistent with the time of onset of the child's nonspecific clinical sign(s) before his/her first physician visit.

the time in delay of diagnosis attributed to the radiological misreading.

COMMENT

It is difficult to study the cases of child abuse that clinicians do not recognize. In 1972, Jackson[9] reviewed traumatic injuries in children at King's College Hospital in London, England, and found 18 of 100 cases to have been missed cases of child abuse. O'Neill et al[10] reported a series of 110 battered children in 1973. Eighty percent of those children had signs of prior injury. Alexander et al[11] found physical evidence of previous head trauma in 8 of 24 children evaluated for head injury due to shaking. Ewing-Cobbs et al[12] discovered signs of preexisting brain injury in 45% of children with inflicted traumatic brain injury compared with none in children with accidental traumatic brain injury.

Incidental cases of missed child abuse have been published.[13] In their study of abusive head injuries, Benzel and Hadden mention that 9 of 23 abused children with head injuries ". . . were known to have been seen by other physicians because of similar problems or other injuries consistent with child abuse."[14] Since then, an increased awareness of child abuse has occurred, but similar studies have not been reported.

We do not know how many cases of AHT are never detected. Surely, the injuries occurring from impact or shaking represent a range of severity, from no injuries to mild concussion or small subdural hemorrhage, severe brain damage, extensive intracranial bleeding, and cerebral edema. Caffey[15] speculated in 1972 that many children who are found to have mild neurologic abnormalities and learning disabilities may have been victims of AHT.

Parents who confess to shaking or hitting the heads of their children frequently report doing the same thing previously. In 1 study case, an infant was hospitalized 3 times before someone witnessed the child being shaken violently. On 1 occasion, he was evaluated and treated for possible sepsis. The other 2 hospitalizations were for apnea and reflux, respectively. The child's father admitted to multiple episodes of shaking that led to the infant's various illnesses.

In the current study, we found that 31.2% of children who were clinically symptomatic after AHT were misdiagnosed as having other conditions. Infants have few ways to demonstrate illness or injury. Nonspecific signs, such as vomiting, fever, and irritability, are seen in a myriad of conditions, including many benign, self-limited illnesses. The difficulty, then, is to be able to discern when these signs and symptoms indicate potentially serious or fatal pathology.

The possibility exists that in some of the visits we classified as missed, the child had not yet been injured. However, in another study by our group, we found that patients became symptomatic immediately after their injuries in 37 cases in which perpetrators admitted to causing head injuries in infants.[16] To guard against misclassification, we examined the medical records extremely carefully to correlate clinical and radiological findings.

Not surprisingly, the infants and toddlers in our study whose head injuries were misdiagnosed were overall less ill than those whose head injuries were recognized. The fact that they were not as ill made the diagnosis of AHT difficult. Also, the children whose AHT was missed were, as a group, younger. The difficulty of diagnosing serious illness or injury in young infants is complicated by the limited range of their normal behavior. With less-sophisticated behavioral and neurologic signs to assess, the changes in young infants with head injuries are more difficult to detect.

Striking differences were seen in the race and family composition of infants with missed and recognized injuries. Infants with recognized AHT were more likely to be minority children or children whose mothers and fathers were not living together. We speculate that this may represent a subtle bias in decision making based on the physician's assessment of risk. A physician examining a white child from an intact family may be less likely to think about the possibility of child abuse. Another hypothesis is that perhaps minority and single-parent families were more likely to obtain care from public clinics or hospital emergency departments, where physicians may be more attuned to abuse issues. In the current study, the children of intact, 2-parent households were much

Table 5. Radiological Errors in Cases of Missed Abusive Head Trauma*

Case No.	Visit No. in Which Radiological Error Was Made	Nature of Misdiagnosis	Length of Delay in Diagnosis Due to Radiological Error, d
1	First visit of 2	Result of CT of head read as normal; CT showed subdural hemorrhage and shearing tears of the parenchyma	141
2	Third visit of 4	Result of CT of head read as consistent with internal hydrocephalus; CT showed subdural hemorrhage	1
3	Second visit of 3	Result of CT of head read as normal; CT showed subdural hemorrhage	4
4	First visit of 2	Result of skeletal survey read as normal; child had a metaphyseal fracture of the tibia and unilateral periosteal elevation of the same bone	11
5	Second visit of 3	Result of CT of head read as normal; CT showed subdural hemorrhage	4
6	First visit of 2	Result of CT of head read as normal; CT showed subdural hemorrhage	51
7	Second visit of 9	Result of CT of head read as normal; CT showed subdural hemorrhage and shearing tears of the parenchyma	174
	Fifth visit of 9	Long-bone radiographs of both arms read as consisent with myositis; x-ray film showed extensive periosteal reaction of both humeri and metaphyseal fractures of proximal humeri bilaterally	74

*CT indicates computed tomography.

more likely to have private insurance (Pearson χ^2, 23.953; $P<.001$). In addition, white families were much more likely to have private insurance than minority families (Pearson χ^2, 5.148; $P = .02$). However, we did not collect data on the practice setting in which missed and recognized diagnoses were made.

Are missed cases of AHT inevitable? If a child's caretakers cannot or will not give an accurate history, making the correct diagnosis is extremely difficult. Physicians cannot obtain cranial computed tomographic scans for every infant and toddler who presents with vomiting, irritability, and fever. Based on this study and on our experience with these cases, we make the following suggestions to facilitate the diagnosis of AHT.

1. Be alert for bruises or abrasions on the faces or heads of children presenting with nonspecific symptoms. In 20 of 54 missed AHT cases in this study, facial or head bruising was attributed to accidental injury unrelated to the presenting illness symptoms. One study of bruising in healthy, nonabused children found no bruises on children who were not yet strong enough to pull to standing.[17] The presence of bruises in infants raises the possibility of inflicted injury.

2. When evaluating infants and toddlers with nonspecific symptoms, such as vomiting, fever, or irritability, consider head trauma in the differential diagnosis. Perform a head-to-toe physical examination, palpate the fontanelles, measure the head circumference, and be alert for signs of trauma.

3. When collecting spinal fluid in cases of suspected infantile sepsis, examine any bloody cerebrospinal fluid for xanthochromia. A supernatant of a spinal fluid contaminated by blood secondary to a traumatic procedure should be clear in color if the specimen is examined shortly after it is collected. Xanthochromic spinal fluid can represent old blood in the cerebrospinal fluid from previous trauma, although it is not specific for an intracranial bleed.[18-20]

4. Pediatrically trained radiologists should be consulted to interpret x-ray film and computed tomographic images in cases of suspected child abuse.

In addition to these suggestions, other as yet unvalidated strategies to detect occult abuse could be considered. Dilated retinal examinations in infants and children with nonspecific symptoms of illness could increase the recognition of retinal hemorrhages. Retinal hemorrhages have been reported in the majority of children who are victims of AHT.[21] Other possibilities need further research. Some markers of brain trauma are known to cross the blood-brain barrier, such as the BB fraction of creatine kinase. If rapid tests were available for such markers, a simple blood test possibly could be done to detect occult trauma. In a recent study by Hymel and colleagues,[22] children with traumatic parenchymal brain injury were frequently noted to have prolonged prothrombin and partial thromboplastin times. These tests are generally available and inexpensive to run. Their sensitivity and specificity as screening tests for head trauma in infants are not known.

There are other ways for AHT to present clinically that we did not see in this group of patients. The list of signs and symptoms we examined is not universally inclusive. Another limitation of our method is that the study was done retrospectively through record review. However, this seems to be the only option we currently have for examining diagnostic errors. Finally, information concerning the training, experience, or practice setting of the physicians evaluating these patients was not obtained.

Although it is difficult to detect all serious AHT in the clinical setting, an awareness of the nonspecific nature of the signs and symptoms of AHT, particularly in less-serious cases, could increase the likelihood that more cases will be detected.

Disclaimer: The opinions and conclusions in this article are those of the authors and are not intended to represent the official positions of the US Air Force, US Department of Defense, or any other governmental agency.

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Table. Transaminase Values of Patients at Discharge*

Enzyme	Patients With Normal Transaminase Levels at Admission: Normal	≤1.25-Fold Elevation	1.26- to 2-Fold Elevation	>2-Fold Elevation
ALT (n = 1330)	1249 (93.9)	42 (3.1)	26 (2.0)	13 (1.0)
AST (n = 1413)	1392 (98.5)	10 (0.7)	11 (0.8)	0
γ-GT (n = 1248)	1210 (96.9)	17 (1.4)	21 (1.7)	0

	Patients With Elevated Transaminase Levels at Admission: ≤Admission	≤1.25-Fold of Admission	1.26- to 2-Fold of Admission	>2-Fold of Admission
ALT (n = 120)	89 (74.1)	14 (11.6)	16 (13.2)	1 (1.1)
AST (n = 37)	28 (75.7)	4 (10.8)	4 (10.8)	1 (2.7)
γ-GT (n = 202)	168 (83.1)	20 (9.9)	11 (5.5)	3 (1.5)

*ALT indicates alanine aminotransferase; AST, aspartate aminotransferase; and γ-GT, γ-glutamyltransferase. All data are presented as number (percentage) of patients.

of the 1507 patients consuming Chinese herbs. Two of the 14 patients also had temporary clinical symptoms (nausea and vomiting in 1 patient, itching in the second patient). Based on assessments by 2 independent physicians reviewing the records, a causal relationship of elevated ALT levels with Chinese drug therapy seemed possible in 13 patients and likely in 1. All patients were also receiving non–Chinese drug treatment, and, for some of the drugs used (for example, minocycline, mesalazine, and diclofenac), liver enzyme elevations are listed as possible adverse effects.[4] Thirteen patients had started these treatments with non–Chinese drugs before their hospital stays, and the dosages had been kept constant or diminished.

Follow-up values of ALT obtained within 8 weeks of hospital discharge were normal in 11 patients (6 of them had continued to take traditional Chinese drugs) and nearly normal in the remaining 3. In 5 patients there were indications of previous liver function abnormalities. The 14 patients with increased ALT levels had received a total of 115 different traditional Chinese drugs. When the frequency of drugs used in these cases was compared with the frequency in patients who had normal liver enzyme values, an increased risk was observed for formulas containing *Glycyrrhizae radix* and *Atractylodis macrocephalae rhizoma.*

Comment. In the population and setting studied, clinically relevant liver enzyme elevations occurred in about 1 in 100 patients treated with traditional Chinese drugs who also were receiving non–Chinese drug treatments. Based on these findings, we recommend that liver function be monitored in patients receiving traditional Chinese drugs, especially in patients with possible previous liver disease or risk of decreased liver function.

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Disclosure: Dr Hager is the chief physician at Hospital for Traditional Chinese Medicine, where the study was performed. Dr Melchart of Technische Universitat, and Dr Bauer of Heinrich-Heine-University, are members of the scientific advisory board.

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CORRECTIONS

Incorrect Description: In the Editorial entitled "Understanding Parkinson Disease" published in the January 27, 1999, issue of THE JOURNAL (1999;281:376-378), selegiline was identified as an MAO type A inhibitor rather than a type B inhibitor. On page 377, the sentence should have read, "Selegiline is a monoamine oxidase type B inhibitor that limits the formation of free radicals derived from oxidation of dopamine, and application of this agent in clinical trials suggests an effect on disease progression consistent with a neuroprotective action.[23-25]"

Incorrect Byline and Affiliation: In the Original Contribution entitled "Analysis of Missed Cases of Abusive Head Trauma," published in the February 17, 1999, issue of THE JOURNAL (1999;281:621-626), the third author's name was misspelled in the byline on page 621. It should have read "Arlene Ritzen, MD, JD." Additionally, in the author affiliations on the same page, Dr Ritzen's affiliation should have read "Department of Pediatrics, Oregon Health Sciences University, Portland."

Author Omitted: In the Reply Letter entitled "Talking With Patients About Screening for Prostate Cancer" published in the January 13, 1999, issue of THE JOURNAL (1999;281:133), the first author was inadvertently omitted. Scott Stern, MD, should have been listed above Wendy Levinson, MD. Both authors are affiliated with the University of Chicago.

The Period of PURPLE® Crying: A New Way to Understand Your Baby's Crying
Training and Implementation Schedule
2008

	Hospital	Scheduled/ Completed	Public Health Unit	Scheduled/ Completed	In Attendance
Dec	**FRASER HEALTH AUTHORITY**				
	Peace Arch Hospital	COMPLETED December 17, 2007	White Rock South Surrey Health Unit	COMPLETED December 17, 2007	maternity nurses, public health nurses, social workers
January -- February	**FRASER HEALTH AUTHORITY**				
			Fraser Health Authority Public Health Nurse Training Workshop	Scheduled Jan 25	All Fraser Health Authority public health nurses
	Peace Arch Hospital	Extra training for absentee nurses: Jan 08			
	Surrey Memorial Hospital	Scheduled Jan 30 -- Feb 7: daily training sessions			maternity nurses, NICU nurses, pediatric nurses
	Surrey Memorial Hospital	Scheduled Feb 04 -- Feb15: alternate days training sessions			ER personnel
	Royal Columbian Hospital	Feb 11 -- 27th: alternate days training sessions			maternity nurses, NICU nurses, pediatric nurses, ER personnel
	MSA General Hospital	Tentatively scheduled last week of Jan - first 2 weeks of Feb: alternate days training sessions			maternity nurses, NICU nurses, pediatric nurses, social workers
	To Be Scheduled				
	Langley Memorial Hospital				maternity nurses, ER personnel
	VANCOUVER ISLAND HEALTH AUTHORITY				
			Public Health Nursing Supervisors and Coordinators Group Planning Session	Scheduled Feb 14	
	St. Joseph's General Hospital	Jan 28 -- Feb 1	Acute CNE will coordinate public health nurses		maternity nurses, public health nurses, midwives, ER personnel
	West Coast Regional Hospital	Jan 28 -- Feb 1			maternity nurses. (To be confirmed -- social workers, ER personnel)
	Nanaimo Regional Hospital	Feb 1 -- Feb 7			maternity nurses. (To be confirmed -- ER personnel)
	Victoria General Hospital	Feb 11 -- Feb 22			maternity nurses. (To be confirmed -- pediatric nurses, ER personnel)
	To Be Scheduled				
	Cowichan District				
	Campbell River				
	Lady Minto Gulf Island				
March	**FRASER HEALTH AUTHORITY**				
	To Be Scheduled				
	Burnaby Hospital				maternity nurses, ER personnel
	Eagle Ridge Hospital				ER personnel
	Delta Hospital				ER personnel
	Ridge Meadows				maternity nurses, ER personnel
	VANCOUVER ISLAND HEALTH AUTHORITY				
	To Be Scheduled				
	Campbell River				
	Pt. Alice, Pt. McNeill, Pt. Hardy				
	Royal Jubilee				
	Tofino				

The Period of PURPLE® Crying: A New Way to Understand Your Baby's Crying
Training and Implementation Schedule
2008

	Hospital	Scheduled/ Completed	Public Health Unit	Scheduled/ Completed	In Attendance
April -- May	**FRASER HEALTH AUTHORITY**				
	To Be Scheduled				
	Mission Memorial Hospital				ER personnel
	Chilliwack Hospital				maternity nurses, ER personnel
	Fraser Canyon Hospital				ER personnel
	VANCOUVER COASTAL HEALTH AUTHORITY				
	BC Women's Hospital, St. Paul's, Lion's Gate, Richmond, Squamish	April 15 -- May 31 tentative	Vancouver, Richmond, North Shore, Squamish	April 15 -- May 31 tentative	maternity nurses, public health nurses, ER personnel, midwives, social workers
June -- July	**VANCOUVER COASTAL HEALTH AUTHORITY**				
	Powell River, St. Mary's (Sechelt), Bella Coola	Jun 1 -- Jul 15 tentative	Powell River, Gibsons, Sechelt, Bella Bella, Bella Coola	Jun 1 -- Jul 15 tentative	maternity nurses, public health nurses, ER personnel, midwives, social workers
	INTERIOR HEALTH AUTHORITY				
	To Be Scheduled				
	NORTHERN HEALTH AUTHORITY				
	To Be Scheduled				
Aug -- Sept	**INTERIOR HEALTH AUTHORITY**				
	To Be Scheduled				
	NORTHERN HEALTH AUTHORITY				
	To Be Scheduled				
Oct -- Dec	**7th North American Conference on Shaken Baby Syndrome, Oct 5-7, 2008, Vancouver**				
	INTERIOR HEALTH AUTHORITY				
	To Be Scheduled				
	NORTHERN HEALTH AUTHORITY				
	To Be Scheduled				

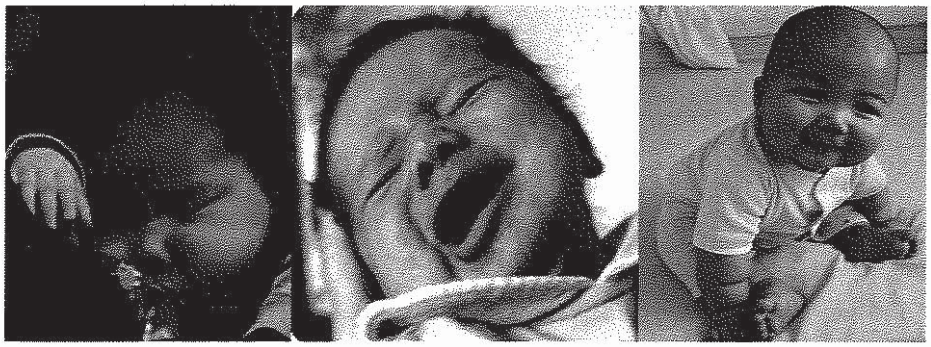
CHILD HEALTH BC

INTERPROFESSIONAL WORKSHOP SERIES
IMPLEMENTING BEST PRACTICES

Understanding Normal Infant Crying and its Link to Shaken Baby Syndrome

11—12 January 2008

Program



at the Granville Island Hotel
1253 Johnston Street, Vancouver, BC

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Website: www.dontshake.ca

BCPHP

Prevent SBS British Columbia

BC CHILDREN'S HOSPITAL

ORGANISED BY:

Child Health BC
2H2—4480 Oak Street,
Vancouver, BC, V6H 3V4
FAX: (604) 875-2074
PHONE: (604) 875-2345 ex. 5305
www.childhealthbc.ca

in partnership with

BC Perinatal Health Program

and

Prevent SBS British Columbia,
BC Children's Hospital

471
CFD-2011-00442
Phase 3

INTRODUCTION

BACKGROUND

This Child Health BC workshop on the province-wide implementation of the *Period of PURPLE Crying®*, a Shaken Baby Syndrome prevention program, is presented in partnership with the BC Perinatal Health Program and Prevent SBS British Columbia. The workshop will provide an opportunity to build regional interprofessional team capacity for the planning and implementation of a province-wide prevention program addressing normal infant crying and shaken baby syndrome (SBS). The purpose of this workshop is to present the research and the program materials, and to discuss the implementation plan within the Health Authorities in British Columbia.

WORKSHOP THEMES

1. Early infant crying and its importance for the prevention of shaken baby syndrome;
2. Effective professional and parent education; and
3. Importance of an evidence-based program.

KEY OBJECTIVES

1. To present the evidence base on outcomes of shaken baby syndrome, early infant crying, and the relationship of infant crying to SBS;
2. To present the implementation plan and perceived challenges for the program;
3. To provide an opportunity for the interprofessional participants to identify challenges and gaps in implementation and identify suggestions and strategies to fill the gaps; and
4. To contribute to building regional interprofessional team capacity by initiating or contributing to knowledge translation initiatives within health authorities after returning home.

DISCUSSION ISSUES

The implementation and institutionalization of the *PURPLE* prevention program within the following groups:

1. Hospital maternity wards/family birthing units both in a rural and urban environment, and midwives and doulas;
2. Public and Community Health Units, PHN Home Visitors;
3. Second level groups in the health support sector and family support sector (for example, emergency room nurses and physicians, family physicians, and family centres);
4. Reaching First Nations families and communities; and
5. Special populations (for example, at-risk parents, teen parents and hard-to-reach parents).

CHILD HEALTH BC

SHAKEN BABY SYNDROME
11—12 JANUARY 2008

PRELIMINARY AGENDA

DAY 1: Friday, January 11th, 2008

8:30 – 9:30 am	**Registration and Breakfast**	
9:30 – 9:45 am	**Opening Remarks** by Bob Peterson	
9:45 – 10:00 am	**Introductions**	
10:00 – 10:20 am	**Evidence-Based Presentations**	**Overview of Day and Introduction of Program**
10:20 – 10:45 am		**A Case Example:** Leslie Francis, Parent of a Crier
10:45 – 11:00 pm	**Break**	
11:00 – 12:30 pm	**Evidence-Based Presentations**	**Evidence Lines For Shaken Baby Syndrome and Why Crying is Normal,** presented by Dr. Ronald G. Barr
		***Period of PURPLE Crying* Prevention Program,** Program Rationale, RCT and Results, Presented by Dr. Ronald G. Barr
12:30 – 1:30 pm	**LUNCH**	
1:30 – 3:20 pm	**Implementation Presentations**	**Implementation Details: Dose 1, 2, and 3,** Presented by Marilyn Barr and Jocelyn Conway
3:20 – 3:30 pm	**BREAK**	
3:40 – 5:00 pm	**Open Discussion** (Open microphone with presenter panel and opportunity for participants to ask questions and discuss issues).	
6:00 – 8:30 pm	**Reception and Dinner**	

DAY 2: Saturday, January 12th, 2008

8:00 – 9:00 am	**BREAKFAST**	
9:00 – 9:15 am	**Opening Remarks and Introduction,** by Bob Peterson and Marilyn Barr	
9:00 – 9:45 am	**Group Discussions**	**Perspectives: Emergency Room Personnel,** presented by Sharron Lyons, RN
9:45 – 10:45 am		Group Discussions (By Health Authority)
10:45 – 11:45 am		Report on Group Questions
11:30 – 12:00 pm	**Closing Remarks**	

WORKSHOP DETAILS

FRIDAY 11th January

Registration will begin at 8:30 am outside of the workshop room. A continental breakfast with coffee and tea will be available inside the workshop room.

Lunch will be served in the Dockside Restaurant (located in the Granville Island Hotel). The evening reception and buffet dinner will also take place in a sectioned off area of the Dockside Restaurant. Guests may purchase their own alcoholic drinks at the restaurant bar.

SATURDAY 12th January

A hot buffet breakfast will be served starting at 8:00 am through to 9:00 am in the workshop room.

The workshop ends at 12:00 pm on Saturday.

CHECK OUT TIME

Please be aware that check out time is 12:00 pm. If requested, Granville Island Hotel may be able to extend your check out time to 12:30 pm. If you would like to extend your check out time please speak to hotel staff when you check in.

EXPENSES

Reasonable travel expenses to participate in the workshop can be reimbursed. Please use the attached Expense form and send it along with your original receipts to Child Health BC. There is an expectation that those who attend the workshop will be available for knowledge translation activities in their community and/or Health Authority.

IMPORTANT NOTICE ABOUT PARKING ON GRANVILLE ISLAND:

Please note that parking on the island is limited to 3 hours unless you have a parking pass on your car. Parking passes are available for workshop participants staying at the hotel and for workshop participants. **Please ask for a parking pass at the hotel's registration desk and place it visibly in your car.** This pass will allow you to park on the island longer than three hours without being towed.

CHILD HEALTH BC

Building Capacity For Infant, Child and Youth Health Services

Child Health BC is a network of the province's five geographic health authorities, the Provincial Health Services Authority, Ministry of Health, MCFD, health professionals and care facilities dedicated to excellence in the care of infants, children and youth in British Columbia. A collaborative approach to child health ensures a quality of care beyond what any one agency can provide alone.

Child Health BC is working to ensure children receive the right service at the right time, in the right place, by the right provider.

Through cooperative partnerships; regional subspecialty programs; education and dissemination; research; monitoring quality and performance; and developing standards, protocols and guidelines, Child Health BC is creating an integrated, standardized and accessible system of care available to all children in British Columbia.

WORKSHOP PRESENTERS

Dr. Robert Peterson

Robert Peterson, MD PhD, MPH received a M.D. degree and a Ph.D in Pharmacology from Yale University in 1974, having completed the National Institutes of Public Health sponsored Medical Scientist Training Program at that university. He was a resident in paediatrics at the Yale-New Haven Hospital until 1976 at which time he became a post-doctoral fellow in Clinical Pharmacology and Neonatology at the University of Colorado.

Dr. Peterson subsequently joined the Department of Pediatrics at the University of Colorado as Assistant Professor, where he was Director of the Section of Paediatric Clinical Pharmacology. In 1983, he joined the Departments of Paediatrics and Pharmacology at the University of Ottawa, Faculty of Medicine as Associate Professor and Medical Director of the Ontario Provincial Poison Information Centre at the Children's Hospital of Eastern Ontario. In 1987 he became Director of the Children's Hospital Research Institute. He became Professor of Paediatrics and Pharmacology in 1989, and in 1990, Chairman of the Department of Paediatrics and Paediatrician-in-chief. He has authored numerous papers/chapters in paediatric clinical pharmacology/toxicology.

Dr. Peterson completed a Master's of Public Health in the Department of Health Policy and Health Care Management at Harvard University School of Public Health in 1996. He joined the Therapeutic Products Program, Health Canada as Associate Director General in January 1999 and in July 2000, became the Director General of the Therapeutic Products Directorate. He left this post in March, 2005 to become Clinical Professor of Paediatrics at the University of British Columbia and Director of Child Health BC.

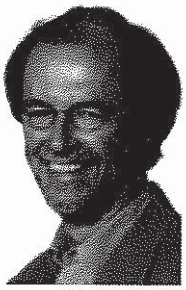
Marilyn Barr

Marilyn has worked in the field of child abuse prevention since 1978 and has degrees in Social Work and Communications. She developed one of the first prevention programs on shaken baby syndrome and directed four national conferences and four international conferences on shaken baby syndrome, as well as fifteen state and national conferences on child abuse and neglect.

Marilyn was the Founder and Chief Executive Officer of the Child Abuse Prevention Center of Utah (1981-2003), as well as the Founder and President of the Board of Directors, Utah Chapter of the National Committee for the Prevention of Child Abuse (1983-1987). Marilyn won the Commissioner's award for Outstanding Leadership and Service in the Prevention of Child Abuse and Neglect (1998, U.S. Department of Health and Human Services), and was the National Victims Rights Advocate of the Year in 1998 (United States Justice Department). She was also a psycho-education instructor for adult male sex offenders.

Marilyn currently serves as the Director of Prevent SBS British Columbia in Vancouver, B.C. on a consultancy basis and is also the Founder and Executive Director for the National Center on Shaken Baby Syndrome in Utah, USA.

Ronald G. Barr



Ronald Barr MA, MDCM, FRCP(C) is the Canada Research Chair in Community Child Health Research at the University of British Columbia, Professor of Pediatrics in the Faculty of Medicine at UBC, and Director of the Centre for Community Child Health Research at the Child and Family Research Institute of the BC Children's Hospital. In addition, he is the Director of the "Experience-based Brain and Biological Development" Program of the Canadian Institute for Advanced Research. Both his clinical work and research have focused on the needs of infants and young children. He is well-known for his studies on the biological and behavioral determinants of behavior, including pain, behavioral state and crying, cognition and memory, as well as for the outcomes of early clinical manifestations of these behaviors for later development (temperament, reactivity). In addition, his current interests include primary community prevention of Shaken Baby Syndrome. His research has been funded by the Canadian Institutes for Health Research, the Hospital for Sick Children's Foundation, the Howard Webster Fund, the WT Grant Foundation, and the Doris Duke Charitable Foundation. He was a Fellow of the Center for the Advanced Study of Behavioral Sciences at Stanford in 2000-2001. He was Associate Editor of the leading journal Child Development and serves on the editorial boards of more than a dozen pediatric, child development and anthropology journals. He was past President of the Society for Developmental and Behavioral Pediatrics. He is chair of the "Developmental Committee" of the Canadian Centre of Excellence Network focused on dissemination of our understanding of current knowledge on early child development.

Sharron Lyons

Sharron Lyons, RN, is the President of the Emergency Nurses Group of BC and also an instructor trainer for the Emergency Nursing Pediatric Course in BC. Her 32 year nursing career has involved work on medical, isolation, surgical and cardiac wards, however for the last 20 years she has worked in emergency departments. She is the BC representative on National Emergency Nurses Affiliation and a member of the Critical Incident Stress Management Team at BC Children's Hospital. She is the mother of two and has five grandchildren.

Jocelyn Conway

Jocelyn Conway is the Provincial Coordinator for Prevent Shaken Baby Syndrome British Columbia. She completed her undergraduate degree in psychology at Simon Fraser University (SFU) in British Columbia. Her previous research work was for the Forensic Psychiatric Services Commission, Riverview Hospital, and the Mental Health, Law and Policy Institute at SFU. She serves on the Board of Directors for Sunny Hill Health Centre for Children Auxiliary.

Leslie Francis

Leslie Francis has a B.A. in Communications and a B.S. in Psychology. She is currently enrolled in a Masters of Counseling program and upon completion, will be a licensed counselor. Leslie has worked in social services and non-profit organizations for ten years. She feels especially drawn to educate people about crying and shaken baby syndrome because she had a baby that was a high crier and she understands the frustration that comes from hours of crying. Leslie believes the *Period of PURPLE Crying* information would have reduced her frustration and feelings of inadequacy, and now she hopes to help other parents as they prepare to care for their infants.

PARTICIPANTS AND PRESENTERS

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Prevent SBS British Columbia

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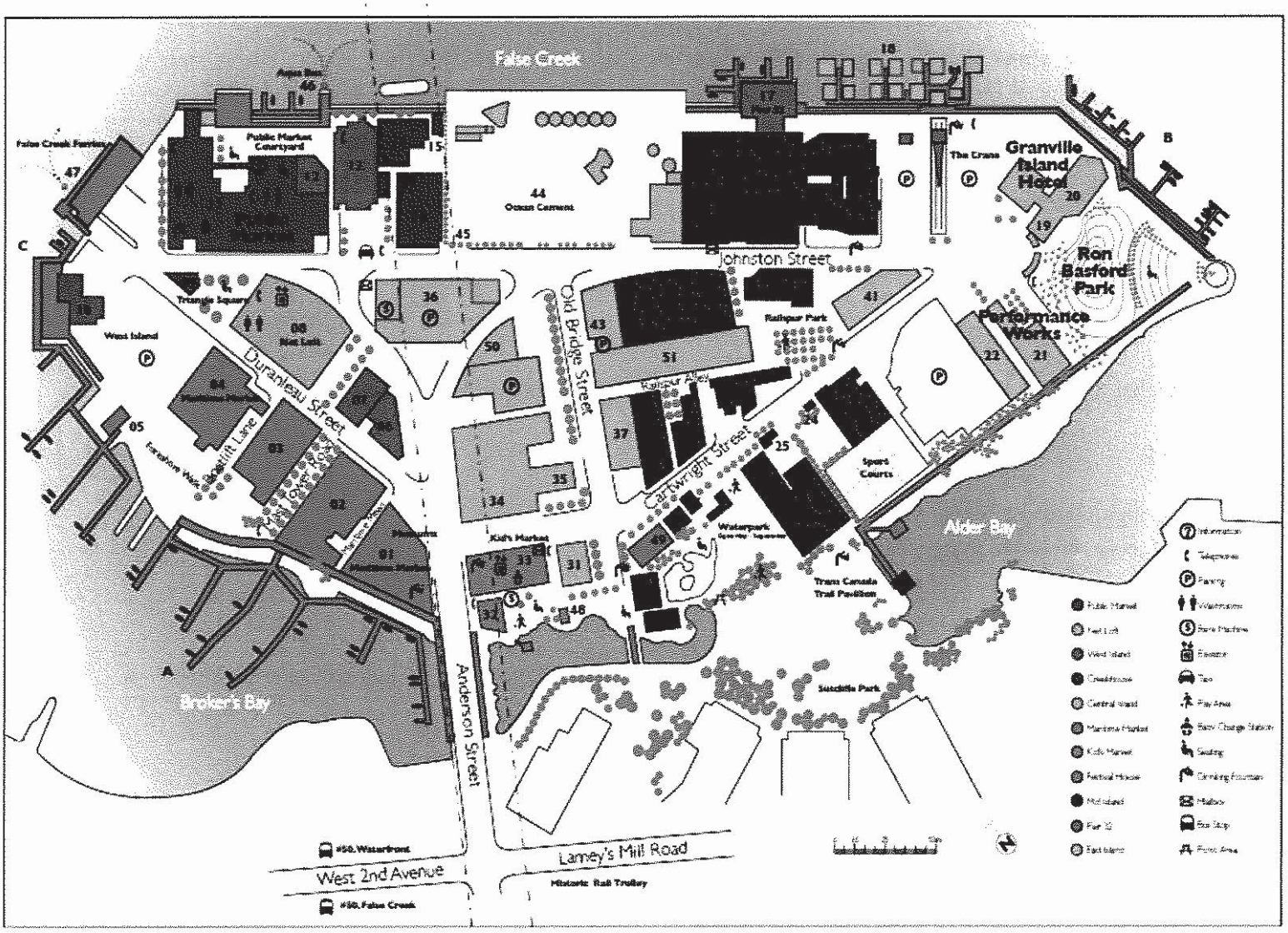
GRANVILLE ISLAND

The Granville Island Hotel is located in the middle of Vancouver's False Creek, within easy walking distance of the Public Market and numerous shops and cultural activities.

Granville Island Hotel:

TELEPHONE: 1-800-663-1840 or (604) 683-7373
WEBSITE: www.granvilleislandhotel.com



DIRECTIONS TO THE HOTEL:

The Hotel is located on the north east end of the island. Once you enter the Island the road will automatically make you turn right onto Cartwright Street at the Kids Market. Follow Cartwright Street to the very end (the hotel is located on the northeast tip of Granville Island where Cartwright meets Johnston Street.

The building is white with red trim and a fluorescent red sign that reads "The Granville Island Hotel".

Granville Island Directory

Public Market
11 À La Mode
11 Armando's Finest Quality Meats
9 La Baguette et L'Échalote
11 Blue Parrot Espresso Bar
11 Candy Kitchen
11 Celine's Fish & Chips
11 Duso's Spice Shop
11 Dussa's Ham & Cheese
11 Edible British Columbia
11 Four Seasons Farms
11 Fraser Valley Juice & Salad Bar
11 Gaia Garden Herbal
11 Gourmet Wok
11 Grainry
11 Granville Island Florist
11 Granville Island Produce
11 Granville Island Tea Co.
11 JJ Bean
11 Kaiserdeck Delicatessen
11 Laurelle's Fine Foods
11 Lee's Donuts
11 Longliner Seafoods
11 Market Grill
11 Milkman
11 Muffin Granny
11 Non's Drinks to Go
11 Olde World Fudge
11 Omi Japan
11 Organic Connection
11 Oyama Sausage
11 The Perogy Place
11 Petit Ami Coffee
11 Phoenix Fast Food
11 Pizza Pizzaz
11 Poultryland
11 Rubina Kitchen
11 Salmon Shop
11 Seafood City
11 Siegel's Bagels
11 The Smoke Shop
11 South China Seas
11 Spud The Organic Store
11 Stock Market
11 Stuart's Bakery
11 Sunlight Farms
11 Tenderland Meats
11 Terra Breads
11 La Tortilleria
11 Turkey Stop
11 V&J Plants
11 Zara's Pasta Nest

Net Loft
8 Amity Design Studio
8 Barbara-Jo's Books to Cooks
8 Beadworks
8 Blackberry Books
8 CMHC Granville Island Administration Offices
8 Circle Craft Co-op
8 Dundarave Print Workshop
8 Edie Hats
8 Fibre Art Studio
8 Geza Burghardt Luthiery
8 Gigi B
8 Granville Eyeland
8 Halfmoon
8 John Nutter Glass Studio
8 Kingsmill Pottery Studio
8 Kroma Artist Acrylics
8 Liberty Wine Merchants
8 Maiwa Handprints/Supply
8 The Market Kitchen
8 Mesa Contemporary Folk Art
8 Paper-Ya
8 The Postcard Place
8 Sevasty's Coffee Bar & Grill
8 Wickaninnish Gallery

Creekhouse
13 Boardwalk Gallery
14 Crash
14 Creekhouse Gallery
14 Dragonspace
13 GI Gelato & Coffee House
13 Hollyfields
14 Object Design
14 Rhinoceros
14 Roger's Chocolates
14 Sustainable Building Centre
14 StoneAge Art Company
14 The Tarot Room

Kids Market
33 Adventure Zone
33 Aunt Em's
33 Beanstalk Bistro
33 Camelot
33 Circuit Circus
33 Clownin' Around Magic
48 Crystal Ark
33 Funky Little Shop
33 The Granville Island Toy Co.
33 The Hairloft/Princess Spa
33 Half Time Sports Gear
33 Humpty Dumpty Books&Music
33 I'm Impressed
33 Kaboodles
33 Kites & Puppets
33 Knotty Toys
33 Little Treasures
32 Pedro's Organic Coffee House
33 Post Office
33 Ribbit's Candy Corner
33 Scallywags
33 Stay Tooned
33 Toybox Studio
32 Umbrella Shop
33 Woolies & Meowz

Maritime Market
C Accent Cruises
3 Aquarius Yachts
1 Blackfish Marine
4 Blue Ocean Yacht Services
2 Blue Pacific Yacht Charters
A Boat Rental Jerry's
5 Bonnie Lee Charters
2 Chef & Co/Ingrid DeHaan
3 Cooper Boating
2 False Creek Yacht Services
3 Fraser Yacht Sales
4 Freedom Marine
4 Frozen Ocean
4 Ecomarine Ocean Kayak Centre
1 Granville Island Museums
C Granville Island Boat Rentals
2 Granville Island Organix
4 Granville Island Publishing
3 Granville Island Smokery
1 Granville Island Treasures
4 The Hang Out Place
4 Justin Stitches
2 K&D Marine
1 Lifestyle West
3 Lobsterman
5 Maritime Market Office
4 Mount Seymour Yacht Sales
2 Ocean Floor
2 Olympic Boat Centers
2 Psychic Studio
4 Quarterdeck
2 QuickNAV Boating School
2 Red Sky at Night
C Rosella Yacht Charters
3 Rocon Marine Electronics
1 Rowand's Reef Scuba Shop
3 S.C Marine
3 Sandpiper's Studio
3 Specialties West
5 Specialty Yacht Sales
2 Travel Cuts
4 Tuulos Boat Works
1 Walrus & The Carpenter
2 Wild Whales Vancouver
4 Yacht Expert Repairs
2 Yacht Sales West

Maritime Market Studios
4 Anne Marie Harvey
1 Atelier Istanbul
2 Eagle Spirit Gallery
4 Jeanne Krabbendam
2 The Raven & The Bear
3 Michael Dean Jewellery Design
3 Stephanie Carter Illustration

Cartwright St. Studios
41 Ainsworth Custom Design
41 Alder Bay Boat Company
41 Black Stone Press
28 Crafthouse
35 Daniel Materna Ceramics
41 Federation of Canadian Artists Gallery
25 Forge & Form
38 Gallery of BC Ceramics
27 New Leaf Editions
41 Origins Coffee Co.

Old Bridge St. Studios
37 Granville Island Gallery
37 Hammered & Pickled
43 New-Small Sterling Glass Studio
43 Ken Rice Master Shoemaker
43 Per W. Madsen Fine Jewelry
43 Textile Context Studio

Railspur Alley
50 Aurum-Argentum Goldsmith
50 Daniel Stickel Luthier
50 Funk Shui
50 Hartman Leather
50 Hilary Morris
50 i.e. Creative Artwork
50 In the Alley Gallery
50 Janis Dean Johnson
50 Jane McDougall
50 Michael den Hertog
50 Northwest Bungalow Furniture
50 Peter Kiss
50 Railspur Alley Bistro & Café
50 Sadryna Design
50 Ukuoja Designs

Restaurants & Cafes
12 Backstage Lounge
33 Beanstalk Bistro
10 Bridges Restaurant/Pub
29 The Cat's Meow Restaurant
19 Dockside Brewing Company
13 GI Gelato & Coffee House
6 The Keg Restaurant
11 Public Market Food Vendors
32 Pedro's Organic Coffee House
51 Railspur Alley Bistro & Café
1 Sammy J Peppers
13 The Sandbar Restaurant
8 Sevasty's Coffee Bar & Grill
1 Tony's Fish & Oyster Café

Theatres, Theatre Companies & Festivals
12 Arts Club New Revue Stage
12 Arts Club Theatre
36 Axis Theatre Company
35 Carousel Theatre Co.
49 G.I. Cultural Society
49 New Play Festival
21 Performance Works
49 Playwrights Theatre Co.
36 Professional Theatre Alliance
49 Ruby Slippers Production Co.
31 Waterfront Theatre
43 Wooden Boat Festival
49 Writers Festival

Industry
7 B&B Scale Models
22 Feathercraft Kayak
2 Granville Island Upholstery
37 Granville Island Woodworks
22 Joel Berman Glass Studio
36 Kiwi Creations
40 Micon Products
44 Ocean Construction Supplies

Services
1, 32, 36 Bank Machines
36 Currency Exchange
26 False Creek Community Centre
49 Festival Box Office
49 Granville Island Buskers Office
2 Granville Island Package Service
8 Lost & Found
17 Semperviva Yoga Centre

Building Legend
14 Maritime Market/ Boatyard
5 Yacht Charters & Cruises
6 The Keg Restaurant
7 Malaspina Print Makers/Island Studios
8 Net Loft
9 La Baguette et L'Echalote
10 Bridges Restaurant/Bar
11 Public Market
12 Arts Club Theatre/ New Revue Stage
13 Creekhouse
14 Creekhouse
15 Diana Sanderson Studio
16 Emily Carr Institute of Art & Design & Charles H. Scott Gallery
17 Pier 32
18 Sea Village
19 Dockside Brewing Company
20 Granville Island Hotel
21 Performance Works
22 Feathercraft Kayak/ Joel Berman Glass Studio
23 Arts Umbrella
24 Railspur Park Playground
26 False Creek Community Centre
27 New Leaf Editions
28 Crafthouse
29 Cat's Meow Restaurant
30 Picnic Area
31 Waterfront Theatre
32 Pedro's Organic Coffee House /Umbrella Shop
33 Kids Market
34 Granville Island Brewing Co.
35 Carousel Theatre Company/ Daniel Materna Ceramics
36 BC Wood Co-op
37 Old Bridge Studios
38 Arts Club Production Centre
39 Gallery of B.C. Ceramics
40 Micon Products Supplies
41 Cartwright Studios
42 Opus Framing & Art Supplies
43 Old Bridge Studios
44 Ocean Construction Supplies
45 Ocean Art Works
46 Aquabus Ferry Dock
47 False Creek Ferries Dock
48 Crystal Ark
49 Festival House
50 Railspur Alley Studios

Contact Us
CMHC Granville Island
1661 Duranleau Street, 2nd floor
Vancouver, BC, V6H 3S3
Tel: (604) 666-5784
www.granvilleisland.com
info@granvilleisland.com

Hours
Public Market
Open 7 days a week
9am–7pm

Net Loft
Open 7 days a week
10am–7pm

EXPENSE POLICY

Child Health BC will reimburse participants for reasonable expenses. The reimbursement of expenses is in accordance with policies set out by the Provincial Health Services Authority. An excerpt of key relevant policies are listed below:

Policy Principles — 2.1 All expenses must be: i) appropriate, in reference to the nature and context of the expense; Ii) reasonable, in reference to the economy of the expense amount; and Iii) necessary for business purposes or supporting the mission of the PHSA.

3.**General Policy** — 3.1 Sound business judgment must be exercised in determining travel. The travel decision must consider the following factors: i) most economical cost; ii) the duration of the travel; Iii) a reasonable level of comfort, convenience, and practicality; iv) personal safety; and v) the most sensible route and mode of travel consistent with the purposes and context of the trip.

3.4 **Gratuities** — Where customary, the maximum gratuity that should be given is 15% of the cost before taxes.

4.1.1 Original invoices, receipts or ticket stubs must be submitted with an explanation of the business purpose as supporting documentation for all individual expenses over $5.00

4.1.2 Credit card vouchers and statements are not adequate supporting documentation for an expense report.

4.2 Expense Report Submission

4.2.2 Expense reports are to be promptly completed and submitted for approval within 1 month of incurrence of the expenses.

6.0 Use of Personal Motor Vehicle

6.1.4 When a personal motor vehicle is used and there is a choice between air travel and use of a personal motor vehicle, the claimant must restrict the value of the claim to the lesser of the lowest economy airfare(s) OR the mileage amount.

6.2.3 Business related parking costs at locations other than the normal place of work will be reimbursed.

6.2.4 Traffic and/or parking and towing charges do not qualify for reimbursement.

7.0 Other Forms of Transportation — 7.1.1 Business related transportation such as buses, taxis, car rentals, ferry and parking expenses are eligible for reimbursement.

7.1.2 Claimants are encouraged to use low cost services and public transportation whenever possible. Where such options are not reasonable or available, other reasonable alternatives may be chosen.

7.3. Ferry—The full cost of ferry travel will be reimbursed including the cost of the Reservation System or Assured Loading Tickets ("ALT") when necessary.

10.**Meals and Incidentals** — 10.1.1 The lower of the actual meal and incidental costs that are considered to be reasonable, or the per diem allowance should be claimed.

10.2 Allowance for Out of Town Travel with Overnight Stays — A per diem allowance is provided to cover meals and incidental expenses, such as reasonable customary gratuities, laundry and personal telephone calls. Receipts are not required to support the per diem allowance claim and can be allocated in a reasonable manner as determined by the claimant. Note: In the case of this workshop, claimable per diem amounts are listed on the expense form. Daily meals throughout the duration of the workshop are provided to participants.

12.**Air Travel** —12.2 The most economical air fare should be chosen regardless of frequent flyer program memberships. However, if this is not permissible given schedules, air traffic conditions and the terms and conditions, a reasonable alternative can be chosen with advance approval from the expense report approver.

12.5 Claimants will not be reimbursed or otherwise compensated if they elect to use mileage points to travel on business.

12.7 12.9 The traveler is responsible for additional costs related to modification to a ticket for personal reasons.

13.**Combining Business and Personal Travel** — 13.1 Travel that combines business and personal travel is reimbursed at the lesser of: i) actual transportation expenses; or ii) the expenses that would have been incurred if the personal travel had not taken place, applying reasonable estimates where necessary.

13.2 Where a business trip is extended for personal reasons, the claimant is responsible for all additional costs incurred. Where a claimant can demonstrate, with documentation, that airfare savings resulting from extending the trip, exceed the additional costs claimed for reimbursement, the claim for additional costs is allowable.

13.3 Additional costs that arise when a claimant's spouse, other family member or friend accompanies the claimant on travel are not eligible for reimbursement.

CHILD HEALTH BC

WORKSHOP EXPENSE FORM

SHAKEN BABY WORKSHOP, JANUARY 11-12TH 2008

Name: _____

Telephone: E-mail: _____

Address: _____

_____

_____

SIGNATURE: _____

Mileage (put # km):	Km x .50	$
Airfare:		$
Taxi:		$
Meal Per Diem:	THURSDAY DINNER (if travelling before 6:00 pm you may claim $21.00))	$
	FRIDAY DINNER $21.00	$ 21.00
Other:		$
		$
	Total	$

Please send this form with your original receipts to:

Heather Chisholm
Child Health BC
Room 2H2—4480 Oak Street
Vancouver, BC V6H 3V4

Child Health BC
Room 2H2—4480 Oak Street
Vancouver, BC, V6H 3V4

With Special Thanks To Our
Lead Benefactor.

Room 2H2—4480 Oak Street
Vancouver, BC, V6H 3V4
Phone: (604) 875-2345 ex. 5305
Fax: (604) 875-2074

The Period of PURPLE Crying®:
A New Way to Understand Your Baby's Crying

A Program offered by the *Prevent Shaken Baby Syndrome BC*

Program Development, Training and Implementation Team

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Vancouver Coastal, Vancouver Island and Northern Health Authorities

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The Period of PURPLE Crying®:
A New Way to Understand Your Baby's Crying

A Program offered by Prevent Shaken Baby Syndrome BC

Implementation Frequently Asked Questions

1. How will you coordinate the training of the hospitals and health units?

We had planned to train birthing hospitals and the surrounding public health units within the same time frame -- that is our planned approach for all health authorities. Implementation at each hospital will not begin until all the maternity and public health nurses are trained in that area (local health area).

2. What is the difference between implementation and training?

It is easier to understand the roll out in two phases. Phase 1 is the **Training Phase** and refers to that period of time when the maternity and public health nurses will be trained. Following this, in Phase 2, the **Implementation Phase**, is when the DVD and booklet are distributed to parents by maternity nurses and includes subsequent follow up by public health nurses who will confirm that the parents got the materials and reinforce the message.

3. What are the documentation and data collections expectations from hospitals and health units?

Data collection from hospitals

We do not require any data collection from maternity services. We will be keeping track of supplies (DVD + booklet) delivered to each hospital and health unit and will be checking in with a contact person from time to time so we can replenish their supplies accordingly.

Data collection from health units

For program process evaluation purposes, Public Health Units will be provided with a ½ page sheet checklist for each mom. We will make arrangements for pick up or mailing of these sheets back to our program. Our office will provide reports to the evaluation team.

4. What are the evaluation questions the PHN will ask?

There are two basic questions, "**Did you receive *the Period of PURPLE Crying* ® package?**" and if so, "**Where did you receive it from?**" The nurse then checks off the appropriate boxes on the checklist.

This checklist also provides a reminder for the nurse to reinforce the script or provide it to the parent as education if it was missed at the hospital

5. Does this initiative include midwifery and home births?

Midwives are an important part of the delivery to new parents. Their role is similar to public health nurses when the delivery is hospital based as the mom will receive the materials there. When the birth is at home, midwives will be asked to educate moms on the program and supply materials.

Dr. Ron Barr has trained the Year 3 and 4 students at the School of Midwifery at UBC. Year 2 students will be trained in February. The BC Midwives Association will be approached to set up training for working midwives.

6. What about new moms who are not visited by public health? Is mailing the DVD an acceptable alternative?

The DVDs can be mailed to the new moms if the public health nurses are not making a home visit and the mom didn't already receive it from maternity services. If all goes well, we anticipate this will not be a large number per health unit. In these cases, the public health nurse will educate the mom about the program over the phone.

7. What is the sustainability plan for ongoing staff education? Are Health Authorities expected to take this on with their existing educators as part of new staff orientation?

We will provide training for the first 4 years. As this is a change of practice, we will be working with hospitals and health units in year 3 and 4 to establish an ongoing method by which they can be trained by internal methods and the online training will continue to be available.

8. What does the training session entail?

Preliminary education sessions will include the parent teaching content as well as information about implementation procedures. Each training session consists of:

1. A 20 minute presentation to go over the background, rationale and the parent teaching content.
2. Viewing of the 10 min DVD and booklet.
3. Explanation of the implementation procedures.
4. Time for questions.

9. Will family doctors know about this program?

Family physicians, pediatricians, social workers, emergency personnel and relevant community groups will be contacted and educated about the program in order for them to provide support to new parents.

10. What other languages does the program come in?

The booklet is available in English, Punjabi, Korean, Japanese, Vietnamese and Cantonese. The DVD also contains all these languages. Portuguese and French will be available at the end of 2008.

The translation process is a very comprehensive process. It includes two focus groups and a back translation to insure accuracy of program information.

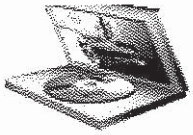
11. How will the public know about this program?

In order to make a cultural shift in society's understanding of early increased crying and the dangers of shaking associated with this crying, a professionally developed media campaign will be launched once all the hospitals and health units have started implementing the program. This campaign is expected to begin in late 2009 and will use both broadcast and print media.

FOR PUBLIC HEALTH NURSES

The Period of PURPLE Crying®: A New Way to Understand Your Baby's Crying

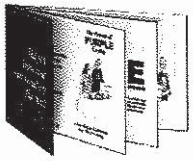
A Program offered by Prevent Shaken Baby Syndrome BC



Please fill out this form for each mom (Keep with mom's file)

Today's date _____

Q.1. "Do you remember receiving the Period of PURPLE Crying® package?"



☐ Yes **Q.2. Where did you receive it from?** _____
(hospital name/ midwife /other/can't remember)

Delivered script: ☐ Yes ☐ No ☐ Other _____

☐ No Delivered script : ☐ Yes ☐ No ☐ Other _____

PURPLE materials delivered by Public Health: ☐ Home visit ☐ Mail

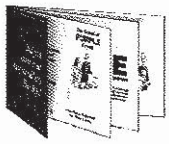
Language of PURPLE materials: ☐ English ☐ Cantonese ☐ Japanese

☐ Korean ☐ Punjabi ☐ Spanish ☐ Vietnamese

Prevent Shaken Baby Syndrome BC
604.875.2000 x 5100, info@dontshake.ca
www.dontshake.ca

Thank you for your help with this project!

FOR PUBLIC HEALTH NURSES



The Period of PURPLE Crying® Program: Public Health Nurse Talking Points

Did you look at the booklet and DVD? If not, please be sure to. IT IS VERY IMPORTANT INFORMATION."

Let me review a couple of points with you:

1. Normal infant crying

- Remember, crying increases at about 2 weeks, peaks at 2-3 months, declines by 5 months.
- Some cry as long as 5 hours a day or more, others cry for only 20 mins or less each day. This is still normal --this early crying time is what we call ***the Period of PURPLE Crying***®.
- Be sure to watch the DVD and read the booklet.

If concerned **have your doctor examine your baby**. However, if baby is growing, is not sick or has no fever or other symptoms, then they are very likely going though *the Period of PURPLE Crying*®.

2. Shaking is the most dangerous thing anyone can do to a baby.

Even mild shaking can cause brain damage and hard shaking can be deadly.

3. Make sure you tell others about *the Period of PURPLE Crying*®.

- Do not leave your baby with someone who gets frustrated easily.
- Show everyone the booklet and DVD before they care for your baby
- Don't be embarrassed to tell them. It can save your baby's life.

Thank you for helping us with this project!

Prevent Shaken Baby Syndrome BC • 604.875.2000 x 5100 • info@dontshake.ca • www.dontshake.ca

The Period of PURPLE Crying®:
A New Way to Understand Your Baby's Crying

A program of the
National Center on Shaken Baby Syndrome, USA
Offered by
Prevent SBS British Columbia, a program of BC Children's Hospital

5 Minute Script

Equipment recommended:
- Demonstration doll
- DVD player

1. Welcome and congratulations

A. There is something I am going to talk to you about today that is very important. It is called The *Period of PURPLE Crying®* and is a new way to understand your baby's crying.

B. At the end of this presentation I am going to give you a DVD and booklet to take home with you that contains information about this program. I strongly recommend you look at the video and read the book at home many times. Make sure that anyone who cares for your baby does the same. Again, this is very important and is why we are giving you your own set of the materials.

2. What is normal infant crying?

A. Studies have shown that all babies start to cry at about two weeks, cry more each week with the peak of crying coming at two to three months, and then the crying usually declines until about five months of age. Each baby expresses this crying pattern differently. Some can cry as long as five hours a day or more and still be considered normal; while those at the low end may cry 20 minutes or less each day. This early crying time is what we now call ***The Period of PURPLE Crying®***.

B. This higher level of crying was what has been previously referred to as "colic."

C. Since there is no way to tell how much your baby will cry during *The Period of PURPLE Crying®*, you are receiving this booklet and DVD to take home with you. We encourage you to read the booklet and watch the DVD. These materials explain that the letters in the word *PURPLE* stand for all the things about normal crying that are frustrating for parents and caregivers.

D. If you are concerned about your baby's crying, **it is important to have your doctor examine your baby** to be sure he/she is OK. However, if he/she is growing, not sick, has no fever, or does not display other problematic symptoms, then he/she is very likely going though *The Period of PURPLE Crying®*, that will come to an end in about four to five months.

3. Remember that shaking is the most dangerous thing anyone can do to a baby.

A. Even mild shaking can cause brain damage and hard shaking can be deadly. It is shaking a baby like this (demonstrate a violent shake – use demonstration doll if available) that causes the damage. We are not talking about tossing a baby in the air (although dangerous and not recommended), jogging with the baby in a stroller, or hitting hard bumps while driving.

4. **Make sure you tell others about *The Period of PURPLE Crying*®.**
   A. Do not leave your baby with someone who gets frustrated easily.
   B. Show everyone the booklet and DVD we are giving you today.
   C. Don't be embarrassed to tell them. It can save your baby's life.
   D. Be sure you only have people you think can stay calm in the midst of an infant crying spell take care of your baby. This is how you can keep your baby safe.

5. **If able to show the DVD, do so now and leave the booklet with the parents.**

6. **Any questions?**

Seventh North American Conference on Shaken Baby Syndrome (Abusive Head Trauma)

October 5 – 7, 2008 Vancouver, B.C. Canada

Save the Date

The National Center on Shaken Baby Syndrome invites you to participate in the Seventh North American Conference on Shaken Baby Syndrome (Abusive Head Trauma), October 5-8, 2008 at the Westin Bayshore Hotel, on the oceanfront of Coal Harbour in scenic Vancouver, BC, Canada.

The conference program is designed for medical, law enforcement, social work, legal professions, family members and victim advocates.

Plan ahead. Remember, U.S. Customs now requires travelers to have a passport to return to the United States.

Call for Abstracts/Presenters

Interested presenters are invited to submit abstracts online at *www.dontshake.org*. Detailed instructions and guidelines are provided. The deadline for submissions is November 21, 2007.

For more information, please contact Danielle Vazquez, Conference Coordinator, 1-801-627-3399 *dvazquez@dontshake.org* or visit us online at www.dontshake.org

National Center on
Shaken Baby Syndrome
www.dontshake.org

Keynote Presenters

- **Sir Roy Meadow,** *MD*
  Preserving Reason in the Debate about Inflicted Injuries

- **Alex Levin, MD,** *MHSc, FAAP, FAAO, FRCSC*
- **Ronald Barr,** *MDCM, FRCPC*
- **Rachel, Berger,** *MD, MPH*
- **Robert Block,** *MD*
- **Susan Margulies,** *PHD*
- **Cindy Christian,** *MD*
- **Carole Jenny**, *MD, MBA*
- **Ann-Christine Duhaime,** *MD*
- **Captain Barbara Craig,** *MD, FAAP*
- **Major Shelly Martin,** *MD, USAF, MC*
- **Kenneth Palmer,** *HM3, Father of SBS/AHT Victim*
- **Mark Dias,** *MD, FAAP*

Behrens, Jackqueline MCF:EX

From: Travers, Annemarie G MCF:EX
Sent: Friday, March 19, 2010 9:44 AM
To: Behrens, Jackqueline MCF:EX
Subject: FW: Period of Purple Crying & other Online Training

Categories: Red Category

As discussed

Annemarie Travers
Director
Learning Education and Development (LEAD)
Organizational Development
Ministry of Children and Family Development
2nd Flr, 765 Broughton
Victoria, B. C.
Ph: (250)387-7665
email: Annemarie.Travers@gov.bc.ca

Life Is About Learning

From: Milne, Lorne D MCF:EX
Sent: Thursday, March 18, 2010 11:15 AM
To: Travers, Annemarie G MCF:EX; Ramanujan, Shamini MCF:EX
Subject: RE: Period of Purple Crying & other Online Training

Hi folks! This a great idea to have the Period of Purple Crying training available to our staff. Unfortunately the MCFD firewall limits us out from having a live system that automatically 'links' into the TP2003 or TP2009. However I think we've got 2 options for managing Online Training events like this (which is something we've been recently thinking of & I did hear about at the Geometrix Users Expo):

1.) Set up Catalog Courses (with the start date of the course availability) that employees apply to.
Issues:
- Training Administrators still have to get the 'Completed Attendances; from whoever is managing the online system (& the Training Administrators still have to update it);
- We have to ensure that we LMS Report on the 'Duration' of the course (I believe it's only 1 hour) rather the 'Length' of the course (which will reflect when the course offering was started & finished) which will be enormous with some people completing a year or more later

2.) Set up an information folder in the LMS Catalog entitled 'Online Training Courses' or 'Free Online E-Learning Sites' (separate from the regional folders) to list useful courses like this;
Issues:
- We have to clearly advise that this is not a 'live' application site,...that employees have to copy out the site address & paste it outside of the LMS (because our firewall does not allow us live links) to register with the hosts;
- Then staff have to LMS Non-Catalog Register the course application; This is superior to our present situation because staff can copy/paste the title from this list rather than data entering in their own version (which makes a huge difference in our LMS Maintenance actions & LMS Report capactiy).

- TP2009 will have a significant improvement in Non-Catalog Course management over TP2003. With TP2009 the employee will be able to go in to 'Employee Self Cancel' or to update the status to 'Completed'. As Courtnay can advise you regarding the Pacific Leaders Scholarships, this will really help out the Training Administrators. Presently they rarely get e-mails from the field that the courses have been completed.

Microsoft talked about this 'Online Learning' management issue at the Geometrix User Expo. Their staff access an enormous amount of online training & Microsoft was concerned about losing track of how much they were accessing, how much time was invested in them accessing the online info, what sites they were accessing, & whether they were sites that Microsoft sanctioned (in terms of their standards, etc.); They also had embarked on something like this 2nd recommendation to stay on top of what was going on.

I've compiled a roughed out list of other Online Courses in a 'hidden' folder under Fraser for storing information like this. My list is not in a presentable state (nor are they vetted as to whether we'd like to use them) . The list is presently only accessible from the LMS CORE,...but it's something we should be think more about once TP2009 is operational.

Period of Purple Crying LMS Reports:
I just created a Catalog Report & a Non-Catalog Report for the Key Word 'Purple':
- CATALOG : 163 'Period of Purple Crying' completed attendances;
- NONCATALOG: 17 'Period of Purple Crying' completed attendances;

PS. Here's the info that Vancouver Island entered in the LMS Catalog when they offered the course:

LEARNING EVENT: ECD : Period of Purple Crying - Shaken Baby Syndrome Webinar (Van Isle)

Overview of Project:

The Period of PURPLE Crying® prevention program is unique among shaken baby syndrome (SBS) prevention efforts in several important ways:
(1) it approaches prevention through educating parents and the community about normal infant development, specifically, crying in normal infants, rather than being limited to warnings of the negative consequences of shaking;
(2) it uses highly attractive, positive messages for caregivers rather than negative warnings about bad consequences;
(3) it aims to bring about a cultural change in our understanding of infant crying in caregivers and the community generally; and
(4) it is designed to increase "penetration rates" to caregivers and be widely acceptable to health care professionals and groups disseminating the intervention.

Prevent Shaken Baby Syndrome BC (the Program) has been allocated funding by the MCFD and others to implement the Period of PURPLE Crying program within BC over a four-year period which began on October 1, 2007. The goals will be to create a cultural change in parents' understanding and response to infant crying and a 50% decrease in the number of cases of traumatic brain injury (shaken baby syndrome).

It provides a "triple dose" of education about crying and the dangers of shaking an infant. Parents will receive the information in three ways:
(1) in hospital maternity wards after the birth of their baby,
(2) by home visitor public health nurses, and
(3) through a public education campaign. In addition, other key health centers, physicians (including family practice, pediatricians and emergency room doctors), early child health specialists, and First Nations, minority and at risk populations will be specifically targeted and informed about the program. Other support health care providers such as BC NurseLine nurses, emergency room nurses and pregnancy outreach workers have also been targeted.

LEARNING EVENT: ECD : Period of Purple Crying - Shaken Baby Syndrome Webinar (Van Isle)

Training for maternity nurses and public health nurses has been completed and all parents are now receiving the PURPLE materials in BC.

The Program's mandate includes training Ministry personnel in the PURPLE Program in order for them understand and be able to reinforce the message that parents are now receiving from maternity and public health nursing staff.

Method of Training – Vancouver Island Region:
Vancouver Island offices will be trained utilizing the GoTo Meetings (webinar) option. These sessions will be provided on a regular basis by the Program and Teams will sign up with the session that fits their schedule. The presentation is about 45 minutes and will leave 10 minutes or so for any questions.

Regards, Lorne Milne, Learning Manager, (MCFD Organizational Development) Fraser Region ; ph: 604-586-5612

From: Travers, Annemarie G MCF:EX **Sent:**Thursday, March 18, 2010 10:06 AM **To:**Ramanujan, Shamini MCF:EX; Milne, Lorne D MCF:EX
Subject:FW: Period of Purple Crying

Hi Shamini and Lorne
The idea here is to load a fully developed e-learning curriculum onto the LMS. Social workers would then access it at their convenience, and the system would track completions. Is that doable with the upgrade?

Annemarie Travers

From: Behrens, Jackqueline MCF:EX **Sent:** Monday, March 15, 2010 12:26 PM **To:** Travers, Annemarie G MCF:EX **Cc:** Cowell, Jane MCF:EX **Subject:** Period of Purple Crying

Hi Annemarie,
As discussed, we are transitioning the Period Of Purple Crying to the LMS –so we can take advantage of this system tracking but more importantly get social workers and MCFD practitioners trained. Over the past few years we have had (personnel) support from the non-profit society that created this curriculum and this person literally was available to MCFD social workers/teams to deliver a LIVE Meeting training program—which we believe reached about 750 social workers. The non-profit society is interested in a continued partnership in working with us to get all social workers trained so it is our hope that LMS will take over for some of this work.

What do you need from us Annemarie? I have the curriculum, and information sheets on how to access things on line. I am meeting with the non-profit society this week by phone and can link you up or get from them what you need. Just let me know.

Cheers Jackie

Jackie Behrens
Project Manager Regional Council Support Team Ministry of Children & Family Development
Phone (250) 356-2896 Fax (250) 387-7756 Cell
Email Jackqueline.Behrens@gov.bc.ca
Office Location 2nd Floor, 765 Broughton Street Victoria BC
Mailing Address: PO Box 9767 Stn Prov Govt Victoria BC V9W 9S5

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Woodman, Lara MCF:EX

From: Behrens, Jackqueline MCF:EX
Sent: Wednesday, April 28, 2010 12:30 PM
To: 'Mammen, Anoo'; 'Barr, Marilyn'
Cc: Woodman, Lara MCF:EX; Stevanovic, Aleksandra MCF:EX
Subject: Period of Purple Crying Transition

Hi Anoo and Marilyn,

As discussed, we are in the process of working the Learning Management System links for the Period of Purple Crying so this is in process. I will let Aleks and Lara know more about this so she can follow this up.
The links to the Foster Parent Associations you have and I understand you will continue to support and chat with them. The contracted sector is very large and we have a great diversity in the "support workers" across the province. In working with Jocelyn I did see that a great number of our agencies for ECD are already trained in this program.
Here are the links and information to the two organizations that you may want to speak with regarding their members:

Federation of Community Social Services of BC (formerly the Federation of Child and Family Services of BC)
Second Floor, 526 Michigan St. | Victoria, BC | V8V 1S2
http://www.fcssbc.ca/our-staff.php

BC Association for Child Development and Intervention
http://www.bcacdi.org/

As this program transition back to the Early Years Division I believe Chuck Eamer ADM, will be responsible for it, but you confirm this with Aleks.

Thank you very much Anoo and Marilyn for the update and sharing with the planned changes ahead. If you need to get in touch me –regarding any historical questions regarding our work together this is always just fine.

In Kindness--Jackie

Jackie Behrens
Project Manager
Provincial Services
Ministry of Children & Family Development

Phone (250) 356-2896
Fax (250) 387-7756
Cell

Email *Jackqueline.Behrens@gov.bc.ca*

Office Location
2nd Floor, 765 Broughton Street Victoria BC

Mailing Address:
PO Box 9767 Stn Prov Govt
Victoria BC V9W 9S5

BRITISH COLUMBIA

Ref: 187821

SEP 16 2009

Dear Foster Parents:

Re: Foster Parent Training ***Period of PURPLE Crying®***

Enclosed you will find some information on a foster parent training opportunity that is currently offered through the Prevent Shaken Baby Syndrome (SBS) Society, within Children's Hospital of BC.

The ***Period of PURPLE Crying®*** is an evidence-based shaken baby syndrome prevention program currently being implemented in the province. The program materials (a 10-minute DVD and 11-page booklet) are provided to all new parents by hospital maternity nurses. The ministry, in partnership with SBS, is enclosing this same information and materials to you so you can benefit from this new program.

Please refer to the "*Training for Foster Parents Information Sheet*" enclosed to determine how you can access this training through your Foster Parent Support Association in your community. There is a step by step guide on how to access this training as well as a contact phone number should you have any questions about the process.

The ministry is also offering the ***Period of PURPLE Crying®*** to all social workers in the province over the next year.

Thank you for your continued support as a foster parent as well as your time and consideration to this valuable new training program.

Sincerely,

Mark Sieben
Chief Operating Officer

Ministry of Children and Family Development

Office of the Chief Operating Officer

PO Box 9721 Stn Prov Govt
Victoria, BC V8W 9S2

4th fl, 765 Broughton St
Victoria, BC V8W 1E2

Telephone: 250-387-3006
Facsimile: 250-356-6534
Web:
http://www.gov.bc.ca/mcf

BC CHILDREN'S HOSPITAL
An agency of the Provincial Health Services Authority

Training for Foster Parents
Offered by BC Children's Hospital
September 2009
Information Sheet

The Period of PURPLE Crying® program is about infant crying that is part of normal infant development. This program is based on over 25 years of research, by many medical doctors and other scientists, who specialize in child development and specifically infant crying. We strongly recommend that you take the time with your family to watch the video and read the accompanying booklet. Make sure that anyone who cares for your foster child does the same. This is very important and is why you are receiving your own set of the materials.

Here are some points about the program that we would like you to know right away.

1. **Infant crying is normal,** especially in the first 4-5 months of life.
   - Remember, crying increases at about 2 weeks, peaks at 2-3 months, declines by 5 months.
   - Some babies cry as long as 5 hours a day or more, others cry for only 20 mins or less each day. This is still normal -- this early crying time is what we call *The Period of PURPLE Crying®*.

2. **If you are concerned,** always have your doctor examine your baby. However, if baby is growing, is not sick or has no fever or other symptoms, then they are very likely going through *The Period of PURPLE Crying.*

3. Some parents say they get so frustrated with the crying they could just shake the baby.
   - Remember, shaking is the most dangerous thing anyone can do to a baby.
   - Even mild shaking can cause brain damage and hard shaking can be deadly.

4. **Make sure you tell others about** *The Period of PURPLE Crying* and the dangers of shaking a baby.
   - Do not leave your baby with someone who gets frustrated easily.
   - Show everyone the booklet and DVD before they care for your baby.
   - Don't be embarrassed to tell them. It can save your baby's life.

5. **Considerations for high risk babies.** Babies who are preterm but otherwise normal will have crying patterns as described in PURPLE when adjusted for corrected age. However, babies who:
   - Are from drug exposed mothers
   - Have known central nervous system insults
   - Are cardiac patients, and
   - Are preterms with complications

   are likely to have additional, or different, crying patterns from otherwise normal infants. If your baby has any of these problems make sure to get advice from your discharge nurse concerning the likely crying differences parents will experience depending on nurses experience with the clinical condition.

Information on how to receive the full on-line training program for the Period of PURPLE Crying is on the back of this sheet. Please complete the training as soon as you can and forward a copy of the Certificate of Completion to your Resource Social Worker.

Foster Parent Comments from the Evaluation Forms:

"This program is extremely valuable for everyone caring or not for infants. It explains crying to non-caregivers and that is important as well. I wish there were more training programs for foster parents of this nature so that we can participate from home while our children are sleeping or otherwise engaged in their routines! Good work!"

"Thank you for this online training presentation. I found it very interesting and wish that I had access to it about 5 years ago. I was very relieved to see that there were the same patterns of crying in all children despite the level of care. It reinforced that as a mom I was doing things right. Even at those times it felt like I wasn't."

"I think that this program was very well done. It had just the right amount of information and was not overwhelming. Anyone could watch this without any problem."

"I found it very interesting and think it is a fantastic idea to educate new moms with this info. I found the program very interesting. All parents should be aware that babies do cry and that it is normal to get frustrated at times BUT you must never, never take your frustrations out on your baby."

STEP BY STEP ACCESS TO FOSTER PARENT TRAINING

1. To access training you must start at this website: http://www.dontshake.ca/lms_index.php
2. On the bottom right hand side enter your username and password **based on your area** as listed below.
3. Fill out the short registration form with your name, email address and phone number to register.
4. Open the foster parent training course and follow the links and instructions for listening to the presentation.
5. Choose the link to the view the PURPLE Crying DVD.
6. Follow the instructions to open the *Certificate of Completion* for download by acknowledging that your have completed the presentation in the "quiz" portion.
7. Complete the short training evaluation and forward any questions or comments

The Table Below identifies your **LOGIN** information to get you into the training program, each Foster Parent Association/Organization has **their own identification code.** If you are unsure of which one to use, please call your Foster Parent Association and ask.

Location	Foster Parent Association or Organization	On Line Access Code Usernames and Passwords (both the same)
Lower Mainland	Hollyburn Family Services **Phone: 604-215-9810**	**hollyburn**
Okanagan area	Okanagan Foster Parent Association **Phone: 250-868-9285**	Southern – **sokfoster** Central –**cokfoster** Northern – **nokfoster** Shuswap - **shuswapfoster**
Interior other than Okanagan area	Interior Community Services **Phone: 250-554-3134**	Thompson Shuswap - **interiortk** Cariboo – **interiorc** West Kootenay – **interiorwk** East Kootenay – **interiorek**
All of Northern BC	Axis Family Resources **Phone: 250-635-6679**	Prince George/McKenzie – **axispg** Quesnel/Hixon – **axisqu** Burns Lake/Vanderhoof – **axisb** Smithers/Houston – **axissm** Terrace/Kitimat – **axistk** Prince Rupert/Queen Charlottes – **axispr** Dawson Creek/Chetwynd – **axisdc**
Vancouver Island	Foster Parent Support Services Society **Phone: 250-598-1500**	Upper Island – **upperfpsss** Central Island – **centralfpsss** South Island - **southfpsss**

If you have any questions about this training or how to access it, please call your local Foster Parent Association for additional support.

The Period of PURPLE Crying®:
A New Way to Understand Your Baby's Crying:

A program of the
National Center on Shaken Baby Syndrome, USA
Offered by
Prevent SBS British Columbia, a program of BC Children's Hospital

Implementation Protocol

The National Center on Shaken Baby Syndrome's new prevention program is called *the Period of PURPLE Crying®*. It approaches shaken baby syndrome prevention by helping parents and caregivers generally understand the features of crying in normal infants that are frustrating and that can lead to shaking or abuse. The program is designed to create a cultural change in the way parents and others think about infant crying, especially inconsolable crying. If parents can understand and handle this normal early crying period, they are less likely to feel stressed to the point where they shake their baby out of frustration and anger.

Many programs tell parents that crying is normal, but this program is very different. This program provides the opportunity for parents to learn about the crying characteristics that they are experiencing during this unique period in the first few months of life. Our understanding of these normal crying characteristics is the result of more than 25 years of research on normal infant crying conducted by Ronald G. Barr, MDCM, FRCPC, and Director of CCCH (UBC) at BC Children's Hospital, along with other scientists worldwide. Their research has contributed to the understanding that these patterns of early crying, although frustrating, are a part of normal infant development.

Dr. Barr created the concept of *the Period of PURPLE Crying®* to help describe these characteristics of early infant crying in normal infants. They begin at about two weeks of age and usually end by four or five months of age, and often earlier. The letters in the *PURPLE* acronym describe these normal characteristics of infant crying:

Peak of Crying – Crying peaks during the second month, decreasing after that
Unexpected – Crying comes and goes unexpectedly, for no apparent reason
Resists Soothing – Crying continues despite all soothing efforts by caregivers
Pain-like Face – Infants look like they are in pain, even when they are not
Long Lasting – Crying can go on for 30-40 minutes at a time, and often for much longer
Evening Crying – Crying occurs more in the late afternoon and evening

The word "Period" is used to let parents know that this experience of increased frustrating crying is temporary, and eventually does come to an end.

In 2004, the National Center on Shaken Baby Syndrome, the University of British Columbia, and the Harborview Injury Prevention and Research Center of the University of Washington received a grant from the Doris Duke Charitable Foundation and the George S. and Delores Doré Eccles Foundation, to produce new materials and an educational film, and to empirically test the new program. The program was tested through four different types of delivery systems: maternity

wards, pediatric offices, prenatal classes and nurse home visitor programs. More than 4,800 parents participated in the research and 75 parents participated in focus groups to develop the 10-minute DVD and 11-page booklet.

Minimum Requirements When Using *the Period of PURPLE Crying*® Program

Each Family Must Receive Their Own Set of Materials

It is imperative that the tested model is used. The model requires that each family of a new baby receive their own copy of the program. Parents initially receiving the materials at the hospital may not realize how relevant they are until later when their baby is going through *the Period of PURPLE Crying*®. They will want and need to get the materials out and review them. It is understood that people learn in different ways, some through reading and some through viewing a film. The *PURPLE* program is given in both the DVD and booklet format to ensure that parents receive materials from which they can understand the message. **The DVD and booklet cannot be distributed as separate components. Parents must receive both the DVD and booklet together as one package.**

Additionally, parents who have the *PURPLE* materials are easily able to share the materials with others who may be caring for their baby rather than attempting to transmit the content of the program themselves.

Consistent Messages and Fidelity of the Program

It is critically important that consistent, clear and correct messages are given to the parents and the public. The program will be less effective if those delivering the program create their own version of the presentations or change the training materials included with this order in any way. Further, *the Period of PURPLE Crying*® materials should not be distributed with other educational materials that express a conflicting message (e.g. All infant crying can be soothed if only parents respond in the correct way). Contact Prevent SBS British Columbia at (604) 875-2000, ext. 5100, or the National Center on Shaken Baby Syndrome toll free at 1-888-273-0071 if you have any questions about materials your institution plans to include with the distribution of the *PURPLE* program.

Ideal Delivery of *the Period of PURPLE Crying*® Program

While it is recognized that many situations will not allow the distribution of the *PURPLE* program in the following Triple Dose Strategy, we strongly recommend delivering the *PURPLE* program in accordance with this three dose approach.

Triple Dose Strategy

Dose One: Maternity Services

The *PURPLE* program is given to families of new babies, both mothers and fathers, in the hospital after the birth of their baby. Maternity nurses are trained and provided with a script to use when presenting the materials to families of new babies. Each family receives from the

nurse the 10-minute DVD and 11-page booklet about *PURPLE Crying* to take home with them. When possible, the parents should watch the film in the hospital and be able to ask the nurse questions. It is very important that the parents receive the program from a person in a position of authority or influence, like a maternity nurse or health educator. It is equally important that the person delivering the *PURPLE* program recommends its use to the parents, encourages them to review the materials, and encourages them to share the materials with other caregivers of their baby.

Dose Two: Public Health Nurse Visiting Programs and Midwives

Public heath nurse home visitors and midwives can reinforce the message by talking to parents about the concepts taught in *the Period of PURPLE Crying*® program. If needed, physicians (or health care personnel) can provide materials to parents who were missed and did not receive the *PURPLE* materials at the hospital after having their baby. It is important not to duplicate the materials in the distribution process as ideally, most parents should have received the materials at the hospital.

Dose Three: Public Education and Media Campaign

A public education campaign provides this information to everyone, and especially to all those who did not receive it through the previous two methods. This is an important part of bringing about a cultural change in our understanding of the normality of early increased crying, as it is necessary to educate everyone around a newborn such as grandmothers, boyfriends, neighbors and relatives about the *PURPLE* program. Understanding of *the Period of PURPLE Crying*® among the general population can help ease the stress of parents dealing with the inconsolable crying of their babies. It also enables mothers and fathers to receive support and reinforcement from those who understand *the Period of PURPLE Crying*® concept.

Reinforcements and Enhancements

Other groups who serve parents will be specifically targeted to facilitate complete community coverage about *the Period of PURPLE Crying*® program. Childcare providers, emergency personnel, general physicians, pediatricians, support lines personnel, child protection workers, foster care personnel, and other groups serving parents should be contacted and receive training on *the Period of PURPLE Crying*®. This will ensure that the parents get the same information wherever they go for help and advice.

Implementing *the Period of PURPLE Crying*® Program into Your Hospital or Birthing Center

Contact Your Local Hospital or Birthing Center Administration

Speak to an administrator who has the authority to discuss the implementation of a shaken baby syndrome prevention program. This may be the hospital's CEO, patient education coordinator, postnatal education manager, nursing administrator, or the administrator responsible for parent education programs. Schedule a meeting to present the *PURPLE Crying* materials to the administrative staff.

Present the *PURPLE Crying* Program Materials to Administrative Staff

Present the *PURPLE Crying* program as an opportunity to provide important education materials to parents of newborns.

1. Point out that, unlike most prevention programs, this program is evidence-based and describes critically important educational information for all parents about normal infant crying, in addition to information on the dangers of shaking a baby.
2. Present the *PURPLE Crying* program materials to the maternity services staff and urge them to review the materials.
   A. If possible, view the entire 10-minute DVD with the staff present.
3. Present the training materials provided with *the Period of PURPLE Crying*® materials to the hospital personnel and describe the different scenarios available to distribute the *PURPLE Crying* materials to families of new babies (included in part 5 of the following "Parent Presentation and Providing the Program Materials" section).
   A. Training materials provided include the following:
      1) 5-minute script to use when presenting to parents
      2) 10-minute script to use when presenting to parents (usually a class situation)
      3) Question and Answer (Q&A) document for parents' questions
      4) Q&A document for professionals' questions
4. Inform the staff that each family of a newborn must receive both the DVD and the booklet to take home with them as that was the tested model.

An institution implementing the program should contact and consult Prevent SBS British Columbia at www.dontshake.ca or the National Center on Shaken Baby Syndrome at www.dontshake.org for additional training materials for the institution's nursing staff, to ensure they are protecting the integrity of the program model, and are following the standardized protocols when presenting to parents of newborns.

Parent Presentation and Providing the Program Materials to Families:

1. Parents of new babies who are born in hospitals should receive the program and a short presentation while they are at the hospital. It is important that both parents receive the program whenever possible.
2. The program should be presented to the parents by a person in a position of authority or influence, such as a nurse, health educator or physician. The program should be presented to the parent(s) separately from other educational issues. However, this may not be possible and the program can be given at the time of discharge. Scripts for presenting the program are included with this order and are also available from Prevent SBS British Columbia at www.dontshake.ca or the National Center on Shaken Baby Syndrome at www.dontshake.org.
   A. Again, *the Period of PURPLE Crying*® materials cannot be given with any materials that express a conflicting message (e.g. All infant crying can be soothed if only parents respond in the correct way).
      i. *The Period of PURPLE Crying*® materials should not be given if families view a different SBS prevention film in the hospital or are given other films or materials that promise methods that will always work to calm the baby. This procedure directly conflicts with the important evidence-based information in *PURPLE*, and compromises the fidelity of the tested model.

3. Ideally, the nurse educator should allow time to respond to parents' questions. The Q&A for parents' questions is included with this order and is also available from Prevent SBS British Columbia at www.dontshake.ca or the National Center on Shaken Baby Syndrome at www.dontshake.org.
4. There are three ways to offer the program information to parents. However, it must be remembered that the program is not likely to be effective unless it is successful in reaching the parents of every newborn delivered at the hospital site.
   A. **At the bedside**, one on one, using the script provided by the National Center on Shaken Baby Syndrome. This is by far and away the most effective method. The script takes about 5 minutes to give to parents. In ideal situations, the film should be shown to the parents after the 5 minute presentation. The nurse educator can leave the room but should come back to answer any questions.
   B. **Classes for parents** held in the postnatal department can be offered; however, if these are optional, in some hospitals poor attendance can occur. An advantage of classes is that presenters can take the time to organize a longer version of the program, answer questions during the class and show the film. The National Center on Shaken Baby Syndrome has visual aids for these class situations and other materials that may be needed, such as a life size doll, to use for demonstration purposes.
   C. **Prenatal classes** are another way to present the information to parents. This allows for a longer presentation too; however, it must be noted that often only a small percentage of parents attend prenatal classes and many are first time parents. Therefore, this method is better to use as an enhancement option rather than as a form of distribution.

The Period of PURPLE Crying®:
A New Way to Understand Your Baby's Crying

A program of the
National Center on Shaken Baby Syndrome, USA
Offered by
Prevent SBS British Columbia, a program of BC Children's Hospital

Most Commonly Asked Questions by Professionals

1. What is the program and why is it different from other shaken baby syndrome (SBS) prevention programs?

The program is **unique** among shaken baby syndrome efforts in several important ways:

- It approaches prevention through child development education about normal infant development, specifically, about crying in normal infants, rather than being limited to warnings of the negative consequences of shaking;
- It is based on nearly 30 years of research on normal infant crying conducted by Ronald G. Barr, MDCM and other scientists;
- It is based on strong scientific evidence about infant crying. Importantly, there is new evidence to demonstrate that infant crying is the most important stimulus for SBS;
- It aims to bring about a cultural change in our understanding of infant crying in caregivers and the community generally;
- It is a positive program that gives all parents encouragement that aims to improve their relationship with their baby;
- It uses highly attractive, *positive* messages for parents rather than negative warnings about detrimental consequences; and
- It is designed to *increase penetration rate* (get the program to more parents and caregivers) as it is likely to be more widely acceptable to health care professionals and groups disseminating the intervention.

2. What has the testing of the program included?

The program was tested over a three year period. In the first year the new materials, a DVD, and an 11 page booklet were revised through testing with 19 parent focus groups in the United States and Canada. The focus groups included 16 groups for mothers, 2 for fathers, and 1 for Native Americans/First Nations. The groups were multicultural and had various socioeconomic backgrounds. The materials were also reviewed by 35 highly regarded clinical pediatric and academic research physicians, public education consultants and public health nurses.

The program was then rigorously tested in two parallel randomized controlled trials in Seattle, Washington (USA) and in Vancouver, British Columbia (Canada). The large scale trials included 4,400 parents and assessed their ability to change knowledge and behavior of mothers related to the information provided in the educational materials.

The settings where the program was delivered included: (1) prenatal classes; (2) maternity wards; (3) pediatric practices; and (4) home visits by public health nurses.

3. What were the results of the testing?

The studies were completed in early 2007 and it took several months to assess the data. We feel the data are encouraging and that is one reason the program is now available. Both studies found that there was a statistically significant increase in the knowledge about normal infant crying and understanding the dangers of shaking an infant. The findings also showed that there was a statistically significant difference in parental behavior in that they were more likely to share information with others. The articles about the studies in the state of Washington and the province of British Columbia are currently being written and will be submitted for publication in the next several months. When they are published, we will be able to provide more detailed descriptions of the methods and the results of the studies.

4. What are some of the things you learned through this process and what are the advantages of this program?

The program components were designed to overcome recognized barriers to delivering such educational information to parents that occur with other prevention materials by ensuring that the materials are:

- Educational and attractive to parents of newborns on the first day of life
- Interesting and valuable for all parents because of the information about infant crying, whether or not they would ever consider shaking their baby
- Clear, memorable, and meaningful with a positive message
- Presented at a grade three language level
- Inclusive of many cultural and ethnic backgrounds
- Acceptable to public health nurses: no bottles, blankets, or bumper pads
- Economical
- Designed for each family of a new baby to receive a copy to review and to share with others

5. What is the difference between the *PURPLE* program and the program of Dr. Mark Dias that was published in Pediatrics in 2006?

The published article by Dr. Mark Dias describes a "process" model or "steps of how to deliver" an SBS prevention program. The *PURPLE* program is the "content." These two can be combined for a very effective program. Dr. Dias is very clear that his model refers to the "process" not the "content." The Dias published model is an "open source" model with regard to the materials that are delivered.

6. Is *the Period of PURPLE Crying*® empirically based?

The *PURPLE* program materials have gone through more extensive testing than any other SBS prevention program in North America. It has been developed through the use of 25 parent focus groups as of the date of writing, and more are being added. They have been run by independent professional focus group leaders over three years and in two countries. In addition, *the Period of PURPLE Crying*® program materials are the only SBS prevention materials that have ever undergone randomized controlled trials, the gold standard of

research. These randomized controlled trials included about 4,400 participants, also in two countries. There are no other SBS prevention materials available that have been more rigorously tested or so closely based on empirical findings.

7. What does the *PURPLE* program model include?

The program that was tested to be effective in changing knowledge and behaviors in mothers included the 10-minute DVD and the 11-page full color booklet. **The tested model is that every family of a new baby receives this set of materials to take home with them**. There are four very good reasons families must each have their own copy:

- *The Period of PURPLE Crying*® starts at about 2 weeks, peaks at about two months, and usually comes to an end by about 4-5 months, and often earlier. **It is very important that parents have the materials with them, at home, and when their baby goes through *The Period of PURPLE Crying*®.**
- It is vital that other people who care for the baby, including relatives, friends, boyfriends, also look at the DVD and read the booklet. **The parent must have these materials to show to them and to educate others.**
- Even intelligent parents do not learn things only by hearing or watching the information one time. They must also be willing to "receive/hear" the message when it is relevant to them. **Parents and other caretakers must be exposed to it as many times as is necessary to understand the message and change their beliefs and behavior.**
- When parents experience having a baby that cries a lot, even for one day, **they need something immediately that can give them accurate and supportive advice so they do not get so frustrated with the baby.** They need permission to put the baby down in a safe place and walk away for awhile and take some time to calm down when they become frustrated.

8. What is the process for implementation of the *PURPLE* program?

The aim of the program is to bring about a cultural change in attitudes and behavior about normal infant crying in parents and in society generally. The *PURPLE* program is designed to educate parents and others about the normal properties of early infant crying, and to reduce the stress and frustration parents experience when they have a baby who cries. In this aim, it is similar to the "Back to Sleep" campaign for the reduction of sudden infant death syndrome (SIDS). This approach brought about a cultural change in the way we put babies to sleep. The *PURPLE* program has been designed to change the way we understand early increased infant crying so that parents and caregivers will have reasonable expectations for their baby and for themselves as caregivers.

Since the program is designed to bring about a cultural change in attitudes and beliefs about infant crying, we recommend the following triple dose approach.

<u>*PURPLE* Program Model: Triple Dose Approach with Enhancements and Reinforcements</u>

Dose One: Maternity Services

The *PURPLE* program is given to families of new babies, both mothers and fathers, in the hospital after the birth of their baby. Maternity nurses are trained and provided with a script to use when presenting the materials to families of new babies and the *PURPLE Crying*

materials themselves. Each family receives the 10-minute DVD and 11-page booklet about *PURPLE Crying* to take home with them. The DVD and booklet cannot be distributed as separate components. Parents must receive both the DVD and booklet together as one package. When possible, the parents should watch the film in the hospital and be able to ask the nurse questions. It is very important that the parents receive the program from a person in a position of authority or influence, like a maternity nurse or health educator. It is equally important that the person delivering the *PURPLE* program recommends its use to the parents, encourages them to review the materials, and recommends sharing the materials with other caregivers of their baby.

Dose Two: Public Health Nurse Visiting Programs and Midwives

Public heath nurse home visitors and midwives can reinforce the message by talking to parents about the concepts taught in *the Period of PURPLE Crying®* program. If needed, they can provide materials to parents who were missed at the hospital after having their baby and did not receive the *PURPLE* materials. It is important not to duplicate the materials in the distribution process as ideally, most parents should have received the materials at the hospital.

Dose Three: Public Education and Media Campaign

A public education campaign provides this information to everyone, including all those who did not receive the program through the previous two methods. This is an important part of bringing about a cultural change as it is necessary to educate everyone around a newborn such as grandmothers, boyfriends, neighbors and relatives about the *PURPLE* program. Understanding of *the Period of PURPLE Crying®* among the general population can help ease the stresses of parents dealing with the inconsolable crying of their babies. Mothers and fathers are more likely to receive support and reinforcement from those who understand *the Period of PURPLE Crying®* concept.

Reinforcement and Enhancements

Other groups who serve parents are specifically targeted to facilitate complete community coverage about *the Period of PURPLE Crying®* program. Childcare providers, emergency personnel, general physicians, pediatricians, support lines personnel, child protection workers, foster care personnel, and other groups serving parents should be contacted and receive training on *the Period of PURPLE Crying®*. This ensures that parents get the same information wherever they go for help and advice.

9. Can it be shown in the hospital and be given to the parents?

Yes, it is recommended that hospitals who invest in the program model provide at a minimum, a 5-minute presentation at the bedside or in a discharge class about *the Period of PURPLE Crying®*, show the DVD and answer any questions about *the Period of PURPLE Crying®*. Scripts are provided for the presentation.

However, each family must receive their own copy to take with them as this is the tested model. The program is also designed to be presented at prenatal programs, discharge classes, child care classes, health departments, and other places where families are served. These sources of information serve as "enhancements" or "reinforcements" of the program. Scripts will be available for these settings as well so that the message remains consistent and correct.

10. How much does the program cost?

Please Note: *In the states of Utah and North Carolina or the province of British Columbia the cost of the state-wide or province-wide hospital based program is supported by grants.*

The tested model is that each family of a new baby receives a set of the materials to take home. The materials include a 10-minute DVD and a full color 11-page booklet. The cost is as little as $2 each depending upon the quantity ordered. The breakdown of pricing for *PURPLE* is as follows:

- 100-499: $3.50 per package
- 500-999: $2.50 per package
- 1,000+: $2.00 per package

The *PURPLE* program will not be sold in increments of less than 100.

For orders of 10,000 or more, and for a minimal additional cost, an insert page (5.25" X 7") can be added to the inside of the DVD case. This can include information like local contact numbers, program sponsors and other information.

11. What if we already have invested in the old *PURPLE* materials and want to switch to the new ones?

The National Center on Shaken Baby Syndrome (NCSBS) will give you a full credit for your old materials. Please contact the NCSBS to determine the value for which you will be credited. This credit will apply to your order of new *PURPLE* materials. Your new order will be shipped upon arrival of the old *PURPLE* materials at the NCSBS office and verification of quantities.

12. Are the old materials still available?

No, they are not. They are out of print.

13. What other materials for the *PURPLE* program do you have?

The NCSBS is developing additional materials to be used as enhancements or to reinforce the message. Some items include a: poster, certificate, reminder post card, and diaper bag tag.

In addition, public education materials are being developed for use in media and other education campaigns.

14. What languages does the program come in and how much do the other languages cost?

The program materials have been translated into Spanish, Cantonese, Punjabi, Korean, Vietnamese and Japanese, and are close captioned for the hearing impaired on the English version. The booklets are currently produced in English and Spanish with all five languages available on the DVD. Though booklets are available in only two languages (English and Spanish), orders for other languages can be taken and produced. If the order is a small order, however, the individual cost will be higher. By early 2008, the program will also be available for order in Portuguese and French.

The translation process has been completed with the most sophisticated process possible. These are not subtitles, but overlay talking in the film. The plans are to produce each booklet in each of these languages within the coming year.

MCFD Training Implementation Plan

Period of PURPLE Crying® Program

Overview of Project:

The *Period of PURPLE Crying* prevention program is unique among shaken baby syndrome (SBS) prevention efforts in several important ways: (1) it approaches prevention through educating parents and the community about *normal infant development*, specifically, crying in normal infants, rather than being limited to warnings of the negative consequences of shaking; (2) it uses highly attractive, *positive* messages for caregivers rather than negative warnings about bad consequences; (3) it aims to bring about a *cultural change* in our understanding of infant crying in caregivers and the community generally; and (4) it is designed to *increase "penetration rates"* to caregivers and be widely acceptable to health care professionals and groups disseminating the intervention.

Prevent Shaken Baby Syndrome BC (the Program) has been allocated funding by the MCFD and others to implement the *Period of PURPLE Crying* program within BC over a four-year period which began on October 1, 2007. The goals will be to create a cultural change in parents' understanding and response to infant crying and a 50% decrease in the number of cases of traumatic brain injury (shaken baby syndrome).

It provides a "triple dose" of education about crying and the dangers of shaking an infant. Parents will receive the information in three ways: (1) in hospital maternity wards after the birth of their baby, (2) by home visitor public health nurses, and (3) through a public education campaign. In addition, other key health centers, physicians (including family practice, pediatricians and emergency room doctors), early child health specialists, and First Nations, minority and at risk populations will be specifically targeted and informed about the program. Other support health care providers such as BC NurseLine nurses, emergency room nurses and pregnancy outreach workers have also been targeted.

The Program's mandate includes training Ministry personnel in the *PURPLE* Program in order for them understand and be able to reinforce the message that parents are now receiving from maternity and public health nursing staff. It is important to be able to provide Ministry staff with any additional information or assistance on shaken baby syndrome that they may need.

This proposal will outline the methods available for training, which groups we will target (and with what type of message), approximate timelines for completion and perceived challenges.

Methods of Training:

The Program has developed several methods of training groups. There have been power point presentations developed in varying lengths (20-60 min) that explain the research behind the materials and how to implement. The Program will develop with help from the Ministry, a tailored presentation for Social Workers and other Ministry personnel. There will also be a special presentation for foster care workers.

These presentations can be delivered via three methods: 1) in-service training, 2) a Goto Meetings conference call and/or 3) on-line training modules.

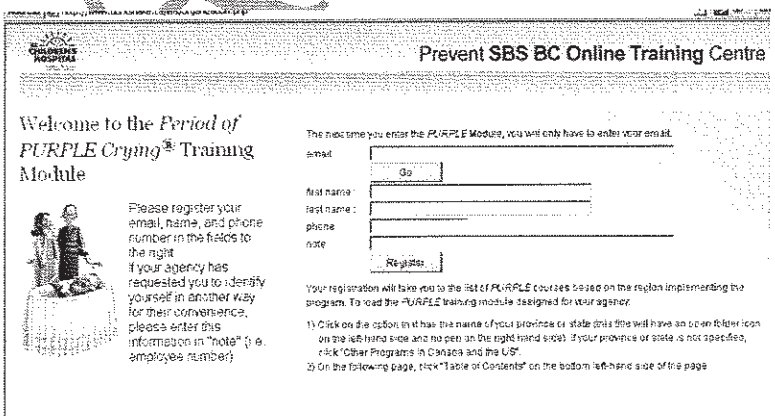
In-Service Trainings:

We anticipate that within the Lower Mainland we will be able to provide in-service training sessions for each of the Ministry offices. These could be coordinated with Community Services Managers and Team Leaders. Five other larger regional offices could also receive in-service trainings: Victoria, Nanaimo, Kelowna, Kamloops and Prince George. These will be arranged where possible to coincide with any other education days that are scheduled for Ministry Personnel. In-service trainings usually entail a short "training satisfaction" evaluation for each meeting.

Video Conferencing or GoTo Meetings:

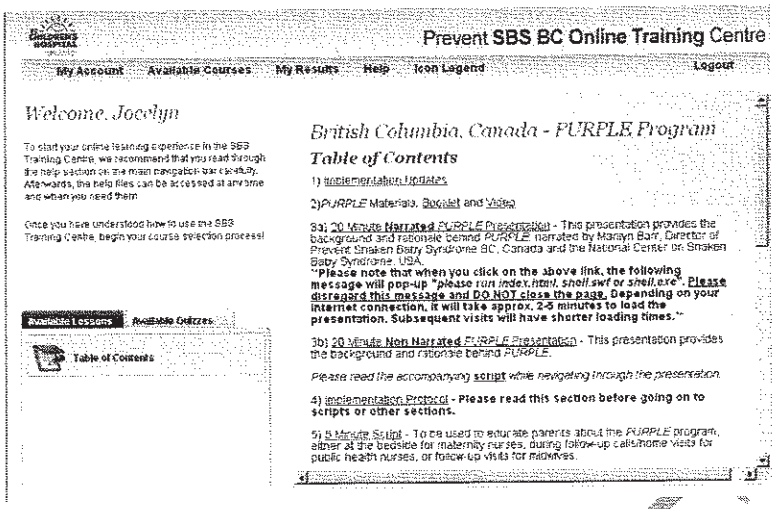
For areas in the province where it is not feasible to budget in-service trainings, the next alternatives would to be to utilize a video conference network and/or a conference call with computer access to the presentation via Goto Meetings. This provides a more personal touch than the online modules described below yet, can easily access personnel from various sites across the province. These could be scheduled for individual offices or provided on a regular basis by the Program and personnel could choose the session that fits their schedule.

Online training modules:



The Program has developed the capacity to deliver education on their website www.dontshake.ca. This is a secure site that asks for minimal identifying information from Ministry personnel (email, name, office phone: example on right). Online access to presentations is specified by the Username and Password given by the Program. The designated "course" is the only one available to personnel. Therefore, this is a highly defined user-space the content of which can be customized to suit the Ministry needs. Registration profiles can be available to Team Leaders or Managers to track when people are self-training. A follow-up in staff meeting with questions to the Team Leaders would provide a quick means to consolidate the information.

Package



Example of student desktop where Ministry personnel can upload narrated presentations and any other materials as decided.

MCFD Personnel (Social Workers and others):
The scope of the present *PURPLE* education presentation will be enhanced with additional information on the physical symptoms, injuries and mechanisms of injury for SBS, as well as, statistics and surveillance data. Based on initial discussions an appropriate training will be approximately 1 hour in length and will include a viewing of the 10 minute DVD. Depending on method of training there would either be time for questions right after the presentation or perhaps in a team meeting after taking the on-line training. The only limit to the size of the in-service groups is the meeting space.

Contract Service Providers (Outreach Workers):
Outreach workers will receive the same presentation as social workers. The intent is to focus on organizing the training through the BC Association of Child Development and Intervention and the Federation of Child family Services BC. Through these umbrella organizations we will work on opportunities to train in larger sessions and disseminate information through newsletters etc.

Foster Parents:
Foster parents will receive another tailored presentation with a viewing of the video. These training sessions will probably be less than 45 minutes. For foster parents who are certified to foster babies with substance withdrawal through training in the safe babies program there will be extra information regarding

Timeline for completion:
Given the demographics of the province, training sessions for the Lower Mainland and Vancouver Island offices may be scheduled throughout the winter months when travel within the interior and northern areas is more difficult. September 2008 will provide 2 opportunities for training social workers. Sept 16-17 the 4th annual conference for social workers takes place in the Interior. The ability to deliver a one hour workshop would be very cost effective. The Vancouver region education conference will be attended by staff with a table top display only. However, this would provide attendees with some

information about the upcoming training sessions. Training for Ministry personnel, outreach workers and foster parents is anticipated to be complete by Spring, 2009.

Challenges:

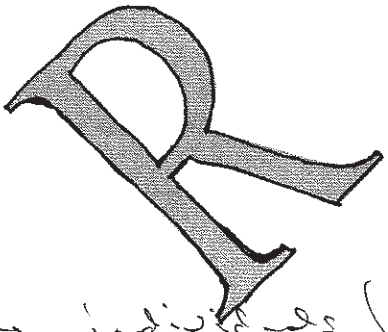
1. It would be helpful to have a regional/community person delegated to track who has been trained in the Program and be responsible for coordinating with Jocelyn Conway for training sessions.

2. The Program has developed a *Train the Trainer* program for ongoing training of new personnel. This would be a separate component and identification of these individuals would be needed.

3. Educational training days are the optimum method of getting this message to workers. It may be a challenge to get on the agenda and help may be needed in this regard.

4. Foster parents perceived as a hard group to train especially providing them with in service sessions as daycare is usually a problem. Do we separate the Safe Babies foster parents from regular or just show everyone the same thing with caveats regarding special babies.?

5. Online training challenges include large number of personnel on website training. Glitches that may result.



TRANSMISSION VERIFICATION REPORT

TIME : 07/30/2008 16:49
NAME : FRSR REGIONAL OFF
FAX : 604-586-4153
TEL :
SER.# : 000000006252

DATE,TIME	07/30 16:49
FAX NO./NAME	96048752770
DURATION	00:00:38
PAGE(S)	05
RESULT	OK
MODE	STANDARD ECM

BRITISH COLUMBIA
www.gov.bc.ca

FAX SHEET

DATE: July 29/08 **No. of Pages:** 5 (including this sheet)

TO: Jocelyn Conway **Fax #:** 604-875-2770

FROM: → Jennifer Locke

☐ Les Boon, Regional Executive Director
☐ Barbara Walsh, Director of Operations
☐ Linda Doig, Manager of Collaborative Practices
☐ Elsa Ivins, Project Officer
☐ Bruce McNeill, Director Integrated Practice
☐ Todd Koverchuk, Management Analyst
☐ Donna Mathiasen, Director of Corporate Services
☐ Lynn Clark, Executive Assistant
☐ Bella Mapson, Finance & Project Management
☐ Penny Craig, Executive Clerk
☐ Michele Melville-Gaumont, Project Officer IST Initiative
☐ _____

SUBJECT: MCFD Joint Coastal Staff Conference Call

BRITISH COLUMBIA
www.gov.bc.ca

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☐ Michele Melville-Gaumont, Project Officer IST Initiative
☐ _____

SUBJECT: MCFD Vanc. Coastal Staff Conference

MESSAGE: Hi Jocelyn, Here's some info on set-up for the conference in Sept.

Sent by: _____

Ministry of Children and Family Development
Fraser Regional Office
Mailing Address:
101 - 10221 153 Street
Surrey, British Columbia
V3R 0L7
Telephone: 604 586-4100
Facsimile: 604 586-4153
Web: http://www.gov.bc.ca/mcf/

Exhibit Planning

Exhibit Name: "Period of PURPLE Crying"

Primary Audience(s) Intake / FS Users & T.L.'s

Secondary Audience(s) Everyone else, probation / youth workers

Objectives of the Exhibit

- Awareness of upcoming training
- Spark interest
- Show DVD → to those interested

Content/Key Messages to meet Objectives

"PERIOD OF PURPLE CRYING"

- UPCOMING TRAINING
- Visual of Logo

Methods of Presentation

Venue provides 6X6 table with cloth covering and 2 chairs plus 10 pipes and drapes

Information to be displayed
(Pamphlets, interactive, business cards, referral forms, articles,

Information Board that outlines the program & shows pictures

Format of Booth Activities
(Brief presentations, video, surveys, games)

- Short DVD on Laptop Screen

Exhibit Planning

Technical Requirements

Additional charge for all equipment rentals, but all requests will be considered.

☑ Will require electrical service to the booth

☐ Will require other audiovisual equipment (microphones, television, VCR, DVD, flip chart) Please specify exactly what equipment you require:

Staffing

Jocelyn Conway (BC Women's Hospital) & Jennifer Locke

Notes

Exhibit Hall Venue Details

Option # 2
Set up: From 6:00 am onwards on September 16- no charge

Room Rental includes:
- 26 booths
- 6 ft X 30 in Rectangle tables with 2 chairs
- All booths dressed and skirted
- 10 easels for poster display included

Extras not included in room rental

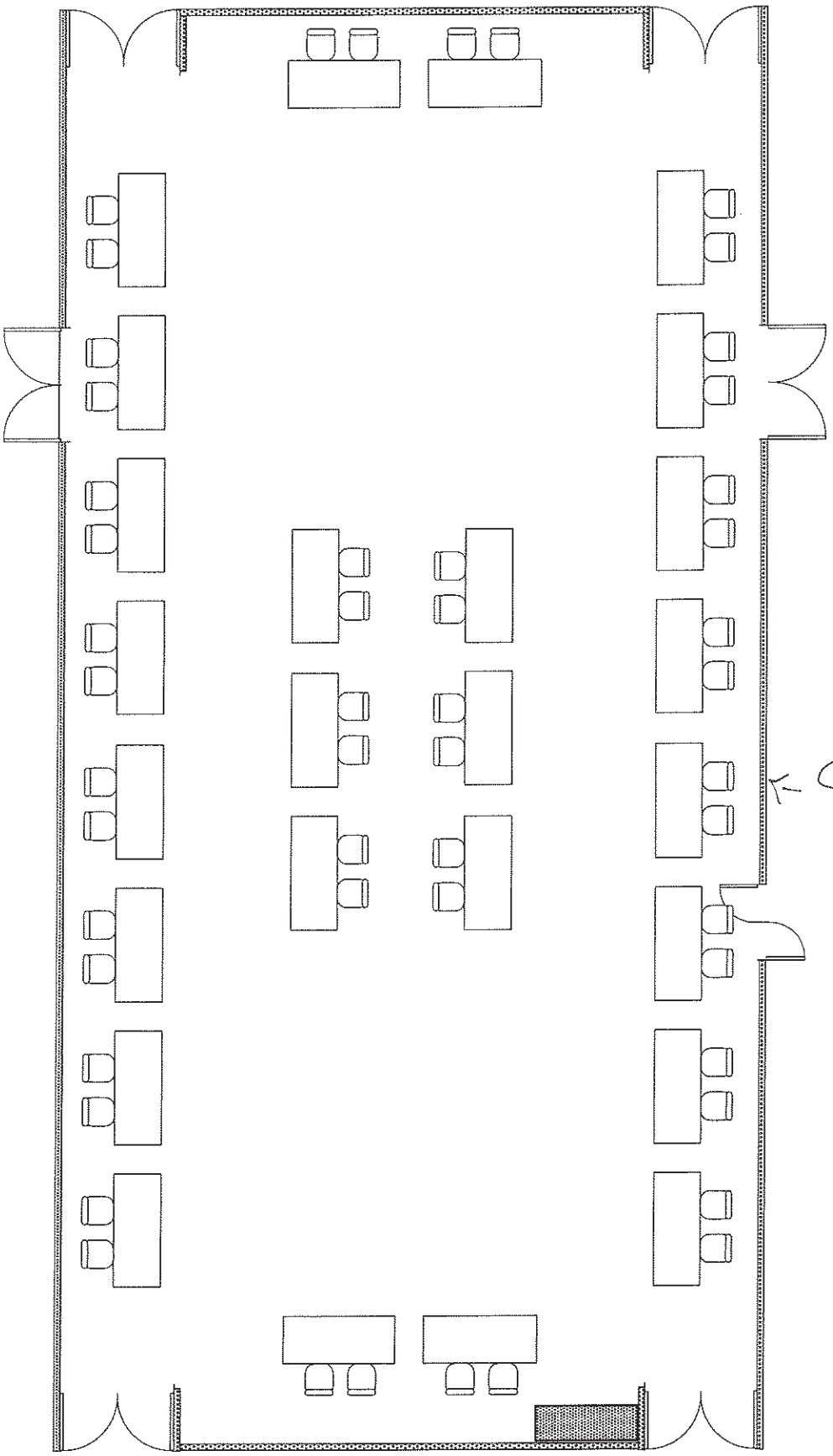
Equipment	Daily Rate	Notes
Power 1500 volts	$ 63.00	booths needing power can be grouped
20" Monitor-1/2 VHS Combo unit	$ 110	
27" Monitor DVS/VHS	$ 160	
Video Stand with black drape	$ 25	
Poster Easel	$ 11.00	
Flip Charts	$ 30.00	
Whiteboards	$ 25.00	
Chairs	$ 16.00	

- **Equipment orders Due August 13 to Logistics Committee**

Judy
(F) 604-660-4005

Jocelyn
(F) 604-875-2770

Ministry of Children and Family Development June 3 to June 5 2008 Meeting Room 8-15



event#23860 dr#23860-2 cb 02/13/08

Exhibit Hall Training Session outline

Large Boardroom
865 Hornby
June 26th
8:30—12:00

Topic	Presenter	Timing (minutes)
Welcome, introductions, overview of the objectives and agenda for the day	Ruth	15
Describe the exhibit space and the constraints	Judy	10
Exhibits that have worked	Anne	15
Primary and secondary audiences and action-oriented objectives.	Anne	20
Exercise on audience and objectives	Anne	45
Presentation on the characteristics of effective materials	Danielle	20
Identifying content that will meet the objectives	Anne	15
Potential presentation formats	Anne	15
Staffing the booths	Anne	5
Final questions and remarks	Judy/Ruth	15

CHILD HEALTH BC

INTERPROFESSIONAL WORKSHOP SERIES
IMPLEMENTING BEST PRACTICES

Understanding Normal Infant Crying and its Link to Shaken Baby Syndrome

11—12 January 2008

Preliminary Announcement and Draft Program

at the Granville Island Hotel
1253 Johnston Street, Vancouver, BC

ORGANISED BY:

Child Health BC
2H2—4480 Oak Street,
Vancouver, BC, V6H 3V4
FAX: (604) 875-2074
PHONE: (604) 875-2345 ex. 5305

in partnership with

BC Perinatal Health Program
and
Prevent SBS British Columbia,
BC Children's Hospital

Prevent SBS British Columbia

BC CHILDREN'S HOSPITAL

522
CFD-2011-00442
Phase 3

INTRODUCTION

BACKGROUND

This Child Health BC workshop on the province-wide implementation of the Period of PURPLE Crying prevention program is presented in partnership with the BC Perinatal Health Program and Prevent SBS British Columbia. The workshop will provide an opportunity to build regional inter-professional team capacity for the planning and implementation of the prevention of shaken baby syndrome (SBS) throughout the province. The purpose of this workshop is to present the evidence base and the program materials, and to discuss their implementation within the Health Authorities in British Columbia.

WORKSHOP THEMES

1. Early infant crying and it's importance for the prevention of shaken baby syndrome;
2. Professional and parent education; and
3. Social aspects of shaken baby syndrome.

KEY OBJECTIVES

1. To present the evidence base on outcomes of shaken baby syndrome, early infant crying, and the relationship of infant crying to SBS;
2. To present the implementation plan and perceived challenges for the program;
3. To provide an opportunity for the interprofessional participants to identify challenges and gaps in implementation and identify suggestions and strategies to fill the gaps; and
4. To contribute to building regional interprofessional team capacity by initiating or contributing to knowledge translation initiatives within health authorities after returning home.

DISCUSSION ISSUES

The implementation and institutionalization of the PURPLE prevention program within the following groups:

1. Hospital maternity wards/family birthing units both in a rural and urban environment, and midwives and doulas;
2. Public and Community Health Units, PHN Home Visitors;
3. Second level groups: health support sector and family support sector, for example: Emergency room nurses and physicians, family physicians, and family centres;
4. Researching First Nations families and communities; and
5. Special populations (for example, at-risk parents, teen parents and hard-to-reach parents).

CHILD HEALTH BC

SHAKEN BABY SYNDROME
11—12 JANUARY 2008

PRELIMINARY AGENDA

DAY 1: Friday, January 11th, 2008

8:30 – 9:30 am	**Registration and Breakfast**	
9:30 – 9:45 am	**Opening Remarks** by Dr. Bob Peterson and Marilyn Barr	
9:45 – 10:00 am	Introductions	
10:00 —12:30 pm	**Evidence-Based Presentations**	**Overview of Day** by Marilyn Barr
		A case example: Leslie Francis
		Evidence lines for shaken baby syndrome and why crying is normal, presented by Dr. Ronald G. Barr
		***Period of PURPLE Crying*® Prevention Program,** Program rational, RCT and Results, presented by Dr. Ronald G. Barr
12:30 – 1:30 pm	**Lunch**	
1:30 – 3:20 pm	**Implementation Presentations**	**Implementation details: Dose 1, 2 and 3,** presented by Marilyn Barr and Jocelyn Conway
3:20 – 3:30 pm	**Break**	
3:40 – 5:00 pm	**Open Discussion** (Open microphone with presenter panel and opportunity for participants to ask questions and discuss issues).	
6:00 – 8:30 pm	**Reception and Dinner**	

DAY 2: Saturday, January 12th, 2008

8:00 – 9:00 am	BREAKFAST	
9:00 – 9:15 am	Opening Remarks	
9:15 – 11:00 am	**Group Discussions**	**Introduction**, presented by Bob Peterson and Marilyn Barr
		Emergency Room Personnel, presented by Sharron Lyons
		Group Discussion (By Health Authority) Group Discussion (By Discipline)
11:30 – 12:00 pm	Closing Remarks and Summary	

WORKSHOP DETAILS

Who Should Attend

There are up to five places available for interprofessional team members from each Health Authority. Health Authorities may want to consider invitations to representatives from the following professional groups:

1) Public and maternity health nurses and leaders;
2) Representatives from the Health Authority Perinatal group (including medical representation such as pediatrician or general practitioner);
3) Nurse educators;
4) Community Health representatives;
5) First Nations Health representatives.

Individuals are asked to complete the attached registration form and fax it to Child Health BC at (604) 875-2074.

Registration Procedure

1. Complete the attached application form and fax it to Child Health BC or contact Child Health BC by e-mail at hchisholm@cw.bc.ca;
2. In the event that there are more applications than there are identified spaces in this workshop, a waitlist will be maintained by Child Health BC; and
3. Final acceptance of applications will be confirmed by Child Health BC by **December 21st, 2007.**

Travel, Accommodation, and Expenses

Reasonable travel expenses will be reimbursed for participants who are confirmed by Child Health BC. There is an expectation that those who attend the workshop will be available for knowledge translation activities in their community and/or Health Authority.

CHILD HEALTH BC

Building Capacity For Infant, Child and Youth Health Services

Child Health BC is a network of the province's five geographic health authorities, the Provincial Health Services Authority, Ministry of Health, MCFD, health professionals and care facilities dedicated to excellence in the care of infants, children and youth in British Columbia. A collaborative approach to child health ensures a quality of care beyond what any one agency can provide alone.

Child Health BC is working to ensure children receive the right service at the right time, in the right place, by the right provider.

Through cooperative partnerships; regional subspecialty programs; education and dissemination; research; monitoring quality and performance; and developing standards, protocols and guidelines, Child Health BC is creating an integrated, standardized and accessible system of care available to all children in British Columbia.

TRANSMISSION VERIFICATION REPORT

TIME : 12/14/2007 14:55
NAME : FRSR REGIONAL OFF
FAX : 604-586-4153
TEL :
SER.# : 000000006252

DATE,TIME	12/14 14:54
FAX NO./NAME	96048752074
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RESULT	OK
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CHILD HEALTH BC

WORKSHOP APPLICATION

SHAKEN BABY SYNDROME WORKSHOP, JAN 11-12TH 2008

HEALTH AUTHORITY:

Other ☒ Fraser Health ☐ Interior Health Authority ☐ Northern Health Authority ☐ Vancouver Coastal Health ☐ Vancouver Island Health Authority ☐

Name: Jennifer Locke

Title: Project Manager

Professional Designation/Occupation: Social Worker (MCFD)

Telephone: 604-586-4328 E-mail: jennifer.locke@gov.bc.ca

Address: Min of Children & Family Development
101-10221-153 Street, Surrey BC V3R 0L7

SIGNATURE: Locke

Please Check All That Apply:

I require accommodation for Thursday, January 10th: Yes ☐ NO ☒ I require accommodation for Friday, January 11th: Yes ☐ NO ☒

I will attend the dinner and reception on Friday January 11th: Yes ☐ NO ☒

CHILD HEALTH BC

WORKSHOP APPLICATION

SHAKEN BABY SYNDROME WORKSHOP, JAN 11-12TH 2008

HEALTH AUTHORITY:

Other [X] Fraser Health [ ] Interior Health Authority [ ] Northern Health Authority [ ] Vancouver Coastal Health [ ] Vancouver Island Health Authority [ ]

Name: Jennifer Locke

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Telephone: 604-586-4328 E-mail: jennifer.locke@gov.bc.ca

Address: Min of Children, Family Development
101-10991-153 Street, Surrey BC V3R 0L7

SIGNATURE: J Locke

Please Check All That Apply:

I require accommodation for Thursday, January 10th: Yes [ ] NO [X] I require accommodation for Friday, January 11th: Yes [ ] NO [X]

I will attend the dinner and reception on Friday January 11th: Yes [ ] NO [X]

I agree that my contact information may be shared with Child Health BC Steering Committee Members, and the other participants and presenters of this workshop: Yes [X] No [ ]

I agree that photos taken of me at the workshop could be published on Child Health BC's Website and Communication materials. Yes [X] No [ ]

PLEASE FAX Your Completed Form to
CHILD HEALTH BC at (604) 875-2074
OR e-mail hchisholm@cw.bc.ca
Not all applicants can be accepted to the workshop, so registration will be confirmed with applicants
by December 21st, 2007

Child Health BC
Room 2H2—4480
Oak Street
Vancouver, BC, V6H
3V4

BC CHILDREN'S HOSPITAL
An agency of the Provincial Health Services Authority

→ DMO

MINISTER OF CHILDREN AND FAMILY DEVELOPMENT
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RUSH

February 12, 2007

Honourable Tom Christensen
Minister of Children and Family Development
Room 347, Parliament Buildings
Victoria, BC, V8W 1X4

Honourable Mr. Christensen,

We sincerely appreciate you taking the time to meet with us on February 1, 2007. It was a pleasure to be able to discuss the implementation of the *Period of PURPLE Crying* Program with you. We are pleased to submit this proposal for the province-wide implementation of the prevention program for your consideration. This program is designed and developed to reduce shaken baby syndrome and other infant abuse in British Columbia.

As we know you are aware, this is **Phase II** of the development and implementation of this program. **Phase I,** strongly supported by the MCFD, was the development, translation, and testing of the materials in a randomized controlled trial in the lower mainland over the last three years. Preliminary results from that phase were very positive, and are described in the enclosed proposal.

The progress to date has been a remarkable example of how a careful, focused empirically-based, programmatic approach to child abuse prevention can be carried out as collaboration amongst the Ministry of Children and Family Development, the BC Shaken Baby Prevention Program, the Centre for Community Child Health Research, BC Children's Hospital, the public health nurses and other partners. This is the ultimate step: implementation of the program and demonstration of its effectiveness. We believe this is the right program, in the right province, at the right time.

Please find enclosed the proposal **Preventing Shaken Baby Syndrome and Infant Abuse: The *Period of PURPLE Crying* Program.** It includes; (1) a one-page summary as well as (2) the body of the proposal consisting of a complete description of the rationale and justification, the preliminary results from Phase I, the implementation plan and schedule, and (3) the budget for MCFD only and (4) a second budget showing the other contributors to the program and (5) the budget justification.

CLIENT RELATIONS BRANCH
MINISTRY OF CHILDREN AND FAMILY DEVELOPMENT
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4480 Oak Street, Vancouver, BC V6H 3V4
Telephone: 604-875-2345
Website: www.cw.bc.ca

Entered CAMS

Thank you for your support in encouraging this submission. We look forward to hearing from you at your earliest convenience.

Sincerely,

Marilyn Barr
Director, BC Shaken Baby Syndrome Prevention Program

Ronald Barr
Director, Centre for Community Child Health Research

cc: Mark Sieben, Assistant Deputy Minister
Loreen O'Byrne, Director, Early Childhood Development
Clara Robbins, A/Director Representative, Office of the Representative of Children and Youth

Attachments

Proposal submitted to the
Ministry of Children and Family Development
Preventing Shaken Baby Syndrome and Infant Abuse:
The *Period of PURPLE Crying* Program
February 14, 2007

Introduction

This grant proposal describes a province-wide implementation of the *Period of PURPLE Crying* program[1] for the prevention of abusive traumatic brain injury among infants (more commonly known as Shaken Baby Syndrome). We propose to implement this universal prevention program for all of the approximately 40,000 births a year in British Columbia over a four-year period. The project represents a unique collaboration of birthing hospitals, public heath nurses, and the BC Children's Hospital. The BC Shaken Baby Prevention Program will be the lead agency and the evaluation will be conducted by the Center for Community Child Health Research of the Child and Family Research Institute (CFRI). The goals will be to create a cultural change in parents' understanding and response to infant crying and a 50% decrease in the number of cases of traumatic brain injury (shaken baby syndrome).

The program to be implemented is based on the most current research but improves on best practices that have recognized limitations to provide an optimal likelihood of success in reaching these goals. It exploits the unique opportunity that British Columbia provides because of its public health nurse home visitor program, not available anywhere else in North America. It provides a "triple dose" of education about crying and the dangers of shaking an infant. Parents will receive the information in three ways: (1) in hospital maternity wards after the birth of their baby, (2) by home visitor public health nurses, and (3) through a public education campaign. In addition, other key health centers, physicians (including family practice, pediatricians and emergency room doctors), early child health specialists, and First Nations, minority and at risk populations will be specifically targeted and informed about the program.

The program will have a 6-component evaluation to determine whether it reaches its goals. This will include (1) active surveillance of traumatic head injuries in infants; (2) active surveillance of abusive head trauma (shaken baby syndrome cases) from child protection services; (3) review of Coroner's cases of deaths due to abuse; (4) a passive surveillance program based on discharge data sets; (5) a surveillance program based on the Canadian Pediatric Surveillance Program; and (6) a process evaluation to determine whether the program reaches expected penetration levels (95% or better) and is understood by parents and the community at large (i.e. whether there is a cultural change);

This is **Phase II** of a two-phase program to provide a rigorous evaluation of effectiveness of a provincial program to prevent Shaken Baby Syndrome. In **Phase I**—funded primarily by the Ministry of Children and Family Development along with other partners—the intervention materials of the *Period of PURPLE Crying* were tested in a rigorous randomized controlled trial (RCT) for their ability to change knowledge, attitudes and behavior when delivered by public

[1] The *Period of PURPLE Crying* is a concept coined by Dr. Ronald G. Barr, supported by research from his laboratory and that of several other scientists over the last twenty years (see, for example, Barr, Green and Hopkins, eds *Crying as a Sign, a Signal and Symptom*, MacKeith Press/Cambridge University Press, 2000).

health home visitor nurses within the first 2 weeks after birth. The preliminary results indicate that the materials are effective in enhancing key knowledge and behavioral features relevant to reducing SBS injuries. A more complete description of these results follows. In addition, **Phase I** material development included translation of the materials into 5 other languages (5 more are in process). This **Phase II** proposal now exploits these positive results and describes the province-wide implementation and evaluation of this prevention program.

Significance of Shaken Baby Syndrome (SBS): Problem this Program Addresses

Physical abuse is the leading cause of serious head injury and death in children aged 2 and younger. Although most commonly referred to as Shaken Baby Syndrome (SBS), it is also referred to by a number of other designations, including Inflicted Traumatic Brain Injury, Abusive Head Trauma, Inflicted Childhood Neurotrauma, and Shaken Impact Syndrome, among others. All of these designations include Shaken Baby Syndrome, but some are broader definitions, often including abusive head trauma that occurs by mechanisms in addition to, or concurrent with, shaking injury. For purposes of this proposal, we will use the term Shaken Baby Syndrome (SBS), unless another phrase is required for a specific purpose.

Shaken Baby Syndrome usually results in death or a range of extremely damaging injuries. Approximately 20-25% of hospitalized babies who are shaken die (Keenan et al., 2003; King, MacKay, Sirnick, & Canadian Shaken Baby Study Group, 2003). Of those who survive, as many as 80% have significant, life long brain injuries (King et al., 2003). The costs associated with the initial hospitalization and long term care for victims of shaken baby syndrome are substantial. A study sponsored by the Missouri Children's Trust Fund followed 214 children with shaken baby syndrome (Bopp, Fraser, Fitch, 1997). The initial medical costs totaled $6.9 million or $32,508 per patient (Bopp, et al., 1997). Since 25% of shaken baby syndrome victims die the cost is far more serious than a financial one.

The most reliable estimates of incidence in North America are from N. Carolina, where there were an average of 29.7 cases per 100,000 person-years for children under one year of age (Keenan et al., 2003). In an Edinburgh study (Barlow & Minns, 2000) a very similar incidence of 24/100,000 infants was reported. In an unpublished report from the KIDS data base in the US, incidences of 23, 24 and 26 hospitalized cases per 100,000 births were reported for 1997, 2000, and 2003 (Leventhal et al., In preparation). Unfortunately, there are no equivalent studies in Canada or BC.

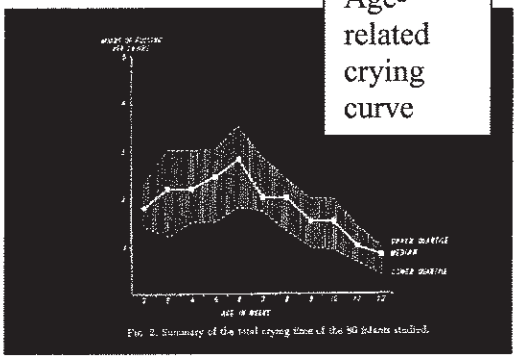
There is increasing evidence that shaking as an "acceptable" parental care giving strategy that is a critical risk behavior for SBS is more widespread than anticipated. A Dutch study reported that 5% of parents consider shaking an appropriate strategy for calming infants (van der Wal, van den Boom, Pauw-Plomp, & de Jonge, 1998). By anonymous telephone survey, 2.6% of N. and S. Carolina parents endorse shaking as an appropriate "disciplinary" response in infants less than 2 years old (Theodore et al., 2005). Surprisingly to us, in our **Phase I** study which was not anonymous, 1.9% of mothers who did not receive the *Period of PURPLE Crying* materials ***agreed*** that 'Shaking a baby is a good way to help a baby stop crying' in the control group in BC. In other countries, preliminary evidence of shaking at rates of 15-60% is being documented in three international studies (Runyan, Seattle Conference on Measuring Incidence of Inflicted Childhood

Neurotrauma, October 5, 2006). Although not all shaking episodes produce brain damage, Runyan estimates from their N. Carolina data that one infant is admitted to the pediatric intensive care unit with inflicted traumatic brain injury for every 151 parents who endorse shaking, and 1 death occurs for every 335 parents who endorse shaking (Runyan, Keynote address, National Center on Shaken Baby Syndrome Conference, Park City, Sept 13, 2006).

In sum, Shaken Baby Syndrome represents a major public health problem that threatens the development of British Columbia's youngest infants, and is a leading *but preventable* cause of physical and mental handicap among infants and young children. This proposal describes a comprehensive, empirically-based prevention program to reduce this health burden in British Columbia. Successful implementation would make British Columbia the first province-wide (or state-wide) jurisdiction in North America to do so.

Preventing Shaken Baby Syndrome through education about crying as the most important stimulus to shaking.

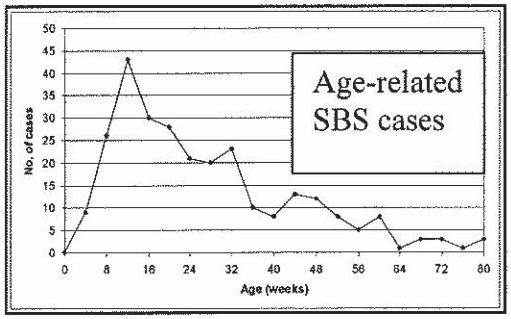
The *Period of PURPLE Crying* prevention program is unique among SBS prevention efforts in several important ways: (1) it approaches prevention through educating parents and the community about *normal infant development*, specifically, crying in normal infants, rather than being limited to warnings of the negative consequences of shaking; (2) it uses highly attractive, *positive* messages for caregivers rather than negative warnings about bad consequences; (3) it aims to bring about a *cultural change* in our understanding of infant crying in caregivers and the community generally; and (4) it is designed to *increase "penetration rates"* to caregivers and be widely acceptable to health care professionals and groups disseminating the intervention. Here we briefly summarize the evidence on which this is based.



It is now clear that crying, especially inconsolable crying, is the most common trigger for shaking and physical abuse (Barr, Trent, & Cross, 2006; Lee & Barr, 2007). Furthermore, research has shown that *all normal* babies have inconsolable crying in the first few months (Barr, 2000; Ghosh & Barr, 2000). Some have much more than others, with infants in approximately the top 20% considered to experience colic. These infants may have weeks to months of inconsolable crying bouts that occur in the first four months, usually peaking during the second month (Barr, 1990). It is also clear that there is little a parent can do to reduce it, and that the inconsolable crying bouts are not reduced regardless of care giving response (Barr, 2000; St.James-Roberts et al., 2006).

Critical to the preventability of shaking episodes is the underlying dynamic connecting crying with shaking. Parents who would never consider hitting their baby become frustrated with the continual crying to the point that they "just shake him (or her)." If the shaking is mild, there may be no external signs of harm. However, the shaking may stun and quiet the baby temporarily. This makes the parent think the shaking stopped the crying and that no harm was done. The importance of crying as a trigger for SBS was reported by one of this project's partners, Dr.

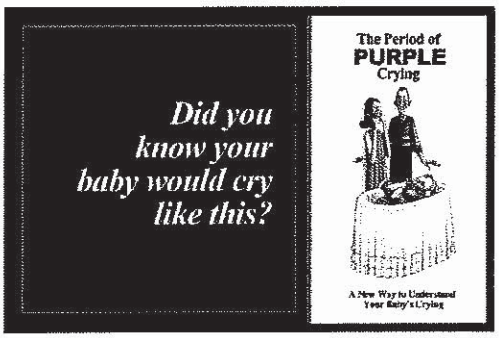
Ronald Barr (Barr et al., 2006; Lee, Barr et al., 2007). The age when babies begin to increase their crying (two weeks) is the same age that infants begin to be hospitalized for SBS. Further, the increase and then decrease in crying amounts are reflected in increases and decreases of hospitalizations for SBS. The peak age of SBS hospitalizations is slightly later than the peak age of crying, probably because many cases are the result of repeated shakings (Barr et al., 2006).



In this program, we take advantage of this critical connection between normal crying and shaking to educate parents and the general public both about normal crying behavior and the dangers of shaking. This goes beyond other prior efforts to prevent shaken baby syndrome. First, it uses the virtually universal interest in infant crying as a normal developmental phenomenon to reach all caregivers. Many new parents would never consider themselves capable of shaking and do not pay attention to warnings to "not shake," but are interested in learning about crying. Second, it is much more acceptable to maternity and public health nurses who are very willing to share a positive message about crying and shaking, but reticent to present new mothers with a "negative" message simply about "not shaking." Third, it helps all supporters of parents, including health care professionals, relatives, transient caregivers and others to accept and spread this understanding. In short, this approach is an important developmental message about infants available to everyone, is much more acceptable than other "don't shake" prevention efforts, and should achieve much higher "penetration" than other available programs.

The *Period of PURPLE Crying* Program

The *Period of PURPLE Crying* is the name for the educational information about the properties of early crying in normally developing infants that are uniformly frustrating to caregivers and appropriate action steps that caregivers need to know. It is presented in two components that reinforce each other: (1) an attractive 11-page booklet ("Did you know your infant would cry like this?") and (2) a 10-minute DVD (or video). [Please see cover of booklet (right). A copy of the booklet is included in this application.] These are currently available in English and five other languages, and will be available in eight languages in 2007. The educational information and action steps are brief, memorable, and easy to transmit. The information and action steps target many points in the causal pathways linking the features of early crying to caregiver frustration, anger, shaking and abuse.



The educational component helps caregivers understand the normality of the frustrating properties of crying—even in babies with colic—and that, in almost every case, they will come to an end at about four months. Each of the letters of the word **PURPLE** refers to one of these properties:

P for **Peak of Crying**—Crying peaks during the second month, decreasing after that;
U for **Unexpected**—Crying comes and goes unexpectedly, for no apparent reason;
R for **Resists Soothing**—Crying continues despite all soothing efforts by caregivers;
P for **Pain-like Face**—Infants look like they are in pain, even when they are not;
L for **Long Lasting**—Crying can go on for 30-40 minutes, and longer;
E for **Evening Crying**—Crying occurs more in the late afternoon and evening.

The behavioral component—**three action steps**—guides caregivers on how to respond to crying in order to reduce crying as much as possible and to prevent shaking and abuse. These action steps are:

1. First, caregivers should respond to their baby with **"Comfort, carry, walk and talk"** behaviors. This encourages caregivers first to increase contact with their infant to reduce some of the fussing, to attend to their infant's needs, and not to neglect them.

2. Second, it is **"OK to walk away"** if and when the crying becomes too frustrating. If it is, caregivers should put the baby in a safe place and then walk away.

3. It is **"Never OK to shake or hurt"** your baby to stop its crying under any circumstances.

Developing the Empirical Support for a Community-based SBS Prevention Program

In addition to the research on which the *Period of PURPLE Crying* approach is based (see above), we undertook to establish that the materials would be appropriate for use in British Columbia by (1) partnering with the province's public health home visiting nurses, and (2) carrying out a randomized controlled trial (RCT) of the ability of the *PURPLE* materials to affect parental knowledge, attitudes and behavior.

Phase I: ***Period of PURPLE Crying*** **Materials Development in BC**

Educational Materials and Parent Focus Groups: In 2004-2007 major product development and testing of the *Period of PURPLE Crying* Prevention Program materials took place. The materials were refined through 28 parent and professional's focus groups lead by professional independent focus leaders. Participants in the parent focus groups included mothers and fathers of infants between 4 weeks and 8 months of age. Participants came from a wide variety of backgrounds, including race, economic status and family makeup. The focus groups included; 16 for mothers, 2 for fathers, 1 First Nations, 2 Chinese, 2 Punjabi, 3 Spanish and 2 Korean. The materials have been translated in all these languages and in 2007 will be translated into Vietnamese, French and Japanese. At the First Nations parent focus group there were 13 parents, both mothers and fathers and an elder. They indicated at that group that they felt the materials were very culturally sensitive and relevant to them. The Elder said at the meeting, "this program should be given to every family, everywhere." The materials were also reviewed by over 35 highly regarded pediatric and research physicians, consultants at the School of Public Health, University of California, Berkeley and B.C. public health nurses. All who reviewed the materials offered constructive feedback, and generally found the information very valuable to parents.

Based on feedback from focus group participants and others, the initial list of materials, which included a 12-minute video, a 12-page booklet, a magnet, a bib and a certificate, was narrowed down to a 10 minute video and an 11 page, full color booklet. Based on public health nurses input, all bottles, formula, bumper pads and blankets in the crib were taken out of the film. The booklet and video have undergone numerous revisions based on feedback and then tested again each time.

The focus groups repeatedly showed that the materials help break down barriers and inaccurate beliefs about infant crying. Parents, who started a focus group claiming to never be troubled by their infant's cries, would watch or read the materials and then share personal and emotional struggles about dealing with crying.

The program components have been designed to overcome the challenges of providing programs to parents by ensuring the following elements for the intervention. The materials are:

- Educational, and attractive to parents of newborns on the first day of life.
- Clear, memorable, salient, meaningful, attractive, positive message.
- Grade 3 level language
- Multicultural
- Valuable for all parents
- Acceptable to Public Health Nurses
    - No bottles, blankets, bumper pads, etc.
- Economical. $2 for the DVD in an attractive case and the 11 page full color booklet for orders of 50,000 or more.
- Stand alone if necessary (each parent has copy)

Phase I: ***Period of PURPLE Crying*** **Randomized Controlled Trial Results (2004-2007)**

Here we briefly describe the results of the study in which the *Period of PURPLE Crying* materials were assessed. It is important to understand that these results are preliminary, have not been submitted for publication, and should not be circulated.

A unique feature of this trial is that the *PURPLE* materials were given by public health nurses in the homes of parents with new infants within 2 wks of birth. The purpose of the study was to assess whether the *Period of PURPLE Crying* materials were able to change knowledge, attitudes and behaviors concerning crying and shaking compared to an active intervention control group provided with analogous infant safety information. The study was funded primarily by the BC Ministry of Children and Family Development. As described above, the intervention materials consisted of 2 components: a 12 minute DVD (or video) and a booklet ("Did you know your infant would cry like this").The control arm received a similar DVD and booklet about infant safety (back to sleep, wall plugs, not leaving your infant unattended on a table, etc.). Parents were also given approximately 5 minutes of instruction on how to complete the Baby's Day Diary (see below).

Parents were recruited by research assistants (RA's) and community nurse liaisons in hospitals at birth. Parents accepting to be in the study were then communicated to their local health unit, and home visiting nurses from their health unit arranged their usual post-birth first visit. During that visit, they obtained written consent for study participation; provided the materials, and encouraged parents to read and view them. However, to eliminate bias, the nurses had not seen either the *PURPLE* materials or the Control materials, and were blind to which intervention the parents received.

At **5 weeks of age** (usual peak crying), mothers completed a 4-day, previously validated Baby's Day Diary (Barr et al., 1988; Barr, Kramer, Pless, Boisjoly, & Leduc, 1989; Calinoiu et al., 1998; Hunziker & Barr, 1986; St.James-Roberts, Hurry, & Bowyer, 1993). At **2 months of age**, parents received a Computer Assisted Telephone Interview (CATI), administered independently by a professional telephone survey company (TSU). The interview included questions (some with reversed polarity) concerning knowledge, attitude and behaviors related to crying, shaking and infant safety. These were grouped into 6 scales: Crying Knowledge, Shaking Knowledge, Safety Knowledge, Crying Behavior, Active Behavior, Passive Behavior; the scoring of each converted into ranges of 0 to 100 (with 100 positive).

The **Crying Knowledge** scale consisted of 8 questions tapping knowledge about aspects of crying that were not unique but that might be expected to be different if parents were exposed to the *Period of PURPLE Crying* materials (e.g. 'Infants cry more in later afternoon and evening'; 'A good parent should be able to soothe his or her infant'). **Shaking Knowledge** (5 questions) asked about dangers of shaking (e.g. 'Shaking can cause serious health problems or even death'). **Crying Behavior** asked about behaviors all caregivers are likely to do, but might do more if exposed to *PURPLE* (e.g. 'You picked up your infant when she or he fussed or cried'). **Active** and **Passive Behavior** scales asked for responses "When your infant's crying was unsoothable, how often did you…." use behavioral responses ('active' e.g. 'pass the baby to someone else for a while') or self-talk ('passive' e.g. 'tell yourself the baby is ok').

Of these, the Crying Knowledge scale was the most direct test of receiving the *PURPLE* information; the Crying Behavior scale tapped common behaviors that might or might not change; the Active and Passive Behavior scales targeted responses specifically to *unsoothable* crying. Although the Shaking Knowledge scale is important, changes might *not* occur due to the intervention for 3 reasons: (1) programs warning of the dangers of shaking have been available for years; (2) other such information sources, including the "Baby's Best Chance" that public health nurses distribute currently, are available in the community, and (3) prior reports (Dias, 2005) indicated that awareness is very high (>75%). Consequently, further increases on this scale might not be obtained if awareness was high (it was, see below).

Three **behavior measures** were derived from the diary: (1) Contact while Distressed (minutes/24 hrs); (2) Pick up while Distressed (rate/24 hrs), and (3) Walk Away with Inconsolable Crying (rate/24 hrs). Because they are prospective and rely less on memory, positive results would be very suggestive that behavior, and not just knowledge and attitudes, were effected.

To determine if information was **shared**, other questions asked who took care of the infant in mother's absence (listing 11 possible care givers, or no-one). If others were used, it was asked

of each whether information on crying, leaving baby unattended, shaking, sleeping on back, and walking away if frustrated was transferred.

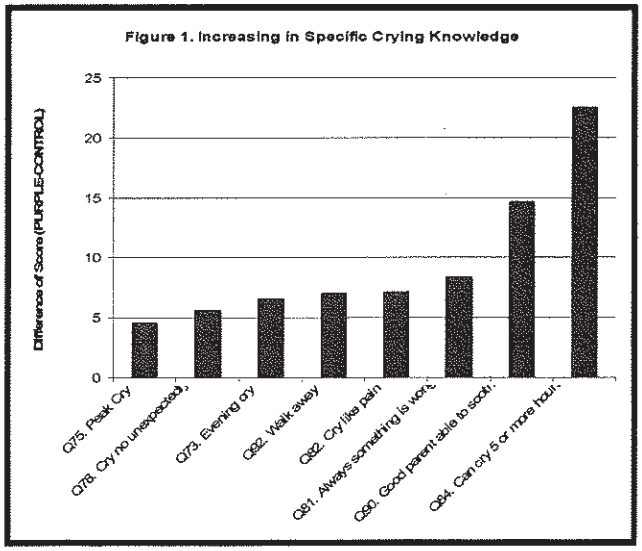
It is important to note that this is a *conservative* test of the efficacy of these materials. In contrast to real life, nurses did not know what the materials said, could not and did not reinforce them, and there was no reinforcement 'outside' of the *PURPLE* information for the crying knowledge (most parent advice is wrong on these points [Catherine, Barr et al., 2006 abstract]).

We report here preliminary analyses from the first 1174 subjects. Diaries were completed in approximately 70% of the sample. Analyses are by intention to treat using completed data for each instrument. Overall, 96% saw the video or read the materials or both; 82% saw the video; 89% read the materials; and 21% watched the video "a few times."

Knowledge, Attitude and Behavior Scales. The **Table** summarizes results for the questionnaire scales. Scores on the Cry Knowledge scales increased significantly in the *PURPLE* group, while Safety Knowledge increased significantly in the Control group. This indicates that DVD + booklet materials *can* change knowledge with regard to both domains. Crying Behavior did not change. Active and Passive Behavior increased in the expected direction, but are not yet significant in this sub-sample. They may be significantly different when the whole sample is analyzed.

Vancouver	PURPLE	Control	Diff	95% CI	P
Crying knowledge	63.7	58.6	5.1	+3.8,+6.5	**<0.001**
Shaking knowledge	83.9	83.4	0.5	-0.6,+1.7	0.36
Safety knowledge	84.1	85.6	-1.6	-2.7,-0.4	**0.01**
Crying behavior	48.2	48.1	0.1	-1.6,+1.7	0.95
Safety behavior	67.4	66.5	0.9	-0.6,+2.3	0.25
Active behavior	27.7	25.9	1.8	-0.6,+4.2	0.14
Passive behavior	35.7	32.9	2.8	-0.7,+6.2	0.12

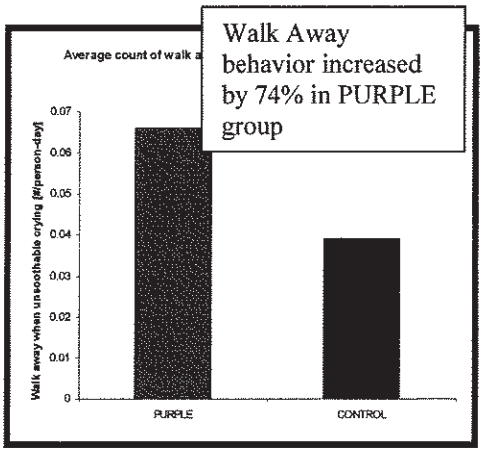
As anticipated, Shaking Knowledge score was (a) very high in both groups (>84/100) and (b) not changed. However, 3 results on individual questions from this scale were especially informative: (1) similar to the Carolinas' study (Theodore et al., 2005), 1.9% ***agreed*** that 'Shaking a baby is a ***good way*** to help a baby stop crying' in the control group; (2) *PURPLE* materials ***reduced*** agreement with that by **63%** (p=0.05); and (3) 'Shaking a baby can be very dangerous and cause serious injuries' was endorsed by >99% of both groups, indicating widespread understanding of the dangers of shaking.



To indicate what this means for individual subjects, the **Figure** depicts ***increases*** in the per cent of mothers receiving *PURPLE* materials who agree with each question in the Crying Knowledge scale. Increases attributable to *PURPLE* range from **4.5 to 22.5%**. Importantly, this includes a

14% increased understanding that *good* parents *cannot* always soothe their crying infants (Qn 80), correcting a claim routinely made incorrectly by parent advice and intervention proponents that probably contributes to frustration in the face of inconsolable crying.

Diary Behavior Measures. For the diary measures of behavior, Rate of Walk Away with Inconsolable Crying increased by **74%** (see **Figure** right). Time in Contact while Distressed and rates of Pick up while Distressed did not increase significantly. The increased walk away finding is important, because it specifically supports a behavior change 2ndary to *PURPLE* materials, where "walking away when frustrated by inconsolable crying" is recommended Action Step 2.



Sharing Cry/Shake Information with other Care Givers. Rates of temporary care giving by others were high, including 59% with fathers, 50% with grandmothers and 3% with nannies. Overall, sharing crying information, walk away if frustrated, and shaking dangers ***increased*** 9%, 12% and 13% (all $p<0.05$). There was no increase in sharing Control information (safe sleep position or leaving a child unattended: both $p>0.15$). Increases were significant for fathers, grandmothers, grandfathers, and aunts, and equivalently high but not significant for others because of small samples sizes.

In summary, preliminary results indicate that:

(1) the most important outcome (change in Crying Knowledge) reliably ***increased***; these increases ranged from 4.5 to 22% depending on the knowledge item;

(2) the erroneous and dangerous belief that shaking is a good way to soothe an infant was ***decreased*** by 63%;

(3) Walk Away behavior by diary (Action Step 2 in the *PURPLE* materials) ***increased***; and

(4) PURPLE materials ***increased*** knowledge sharing to other transient care givers.

Despite being a conservative test, these results indicate that attractive, positive educational materials about crying and shaking are read and watched voluntarily outside of the presence of a health care professional in a high proportion of recipients, can significantly alter knowledge and attitudes; can change an important behavior ("walk away when frustrated") that is considered key to preventing shaking; and are shared with other caregivers of infants at a high rate. The results also demonstrated what was suspected prior to the study; namely that awareness of the dangers of shaking is already very high, so that there is little likelihood that educational programs aimed *only* at increasing awareness of shaking danger is likely to be effective in further reducing shaken baby syndrome or abusive head trauma. Reducing the prevalence of shaking as a means of soothing infants is still likely to be important, and can be changed by educational materials.

Phase II: Province-wide Implementation of Period of PURPLE Crying in British Columbia (2007-2011)

Overview: This program will be the first of its kind to be implemented jurisdiction-wide in North America, and likely in the world. There are a number of reasons why this project should be implemented in British Columbia: (1) British Columbia is the best jurisdiction in North America in which to implement it because of the presence of the universal nurse home visitor program that reaches 97% of newborns within the first 3 weeks of life for 1.5 hours/visit; (2) the current state of the literature suggests, mostly on the basis of the Olds et al studies, (Olds et al., 1997) that nurse visitors are the optimum means to prevent child abuse by preventive efforts; (3) the intervention takes advantage of important and new information about a significant developmental challenge, namely, the specific properties of early infant crying, by approaching this through infant developmental education: thus, the program is also an intervention for all parents related to early child development; (4) other, less well considered and less well-documented interventions are already being introduced in various jurisdictions across North America (some mandated by law) because of the urgency and increasing salience of the shaken baby syndrome form of child abuse. In sum, this is the right time and the right place and the right program to implement.

Goals, Objectives and Timelines: As stated before, in order to make a *long term* positive effect of a sustained reduction in the number of cases of shaken baby syndrome, there will need to be a cultural change in the way our society understands (1) the meaning of increased crying in early infancy and (2) the danger of shaking as a response to the frustration with that crying. The program is conceptualized as a primary, universal, community education prevention program. The BC Shaken Baby Prevention Program staff will implement and train on the program. The Centre for Community Health Research will evaluate the effectiveness of the intervention throughout British Columbia.

In order to accomplish a cultural change, we will implement a **"triple dose"** strategy**.** Our goal is that every parent of a new baby in B.C. will receive this important information at least 3 times. The materials have a child development approach and are relevant to all parents. The new information about normal infant crying is of interest to all parents and the information about the dangers of shaking an infant or child is incorporated in this. Included in the delivery system will be an emphasis to have the program presented to First Nations' families at their equivalent organizations. We have established good working relationships with many Aboriginal Services in B.C and they are looking forward to the implementation of this program.

Dose One: The *PURPLE* Program will be given to parents, both mothers and fathers, in the hospital after the birth of their baby. Maternity nurses will be trained and provided with a script and the materials. Each family will receive a DVD and 11 page booklet about *PURPLE Crying*. When possible, the parents will watch the film in the hospital and be able to ask the nurse questions.

Dose Two: Public Heath Nurse Home Visitors will call parents before they go to visit them usually within one week of the baby's birth. They will ask the parents if they received the materials and in what language. If needed, the nurses will take a set of materials to the parents if

they have not already received them. When they arrive, they will have a script and will go through the information again and ask if there are any questions.

Dose Three: A public education campaign will provide this information to all those who did not receive it through the above methods. This is an important part of bringing about a cultural change as it is necessary to educate grandmothers, boyfriends, neighbors and relatives about the PURPLE program so the mother and father will receive support and reinforcement from them.

Reinforcement and Enhancements: Other groups who serve parents will be specifically targeted so that there is complete community coverage about the program. Child care providers through MCFD licensing, foster care workers through MCFD, midwives, advice and hot line personnel, family practice physicians, pediatricians and non-government organizations will be offered the training. This will insure that the parents get the same information wherever they go for help and advice.

Maternity services and the **public health nurses** are vital to the delivery of the program. There are 112 public health centers and 46 birthing hospitals in B.C. There are over 800 maternity and public health nurses working in these facilities. During the research phase **(Phase I)** of this initiative, we have developed partnerships with and trained about 500 of these nurses. In order to ensure the maternity and public health nurses are trained and supported, we will have two community coordinators working with them. The coordinators will be assigned to each serve 50% of the birthing hospitals based on the geographical locations of the hospitals and the numbers of births at the hospitals. Each coordinator will be responsible for serving hospitals and the nurses where there would be a total of about 20,000 births a year. In addition, Heath Units will be assigned based on the number of nurses to be trained and supported. Each coordinator will serve about 56 heath units and about 25 birthing hospitals each.

Objectives Year 1 (2007-2008)

- **Hire and train** two community coordinators by June, 2007.
- **Organize a leadership committee** consisting of representatives of organizations vital to the program including: MCFD, Ministry of Health, Non governmental organizations, Aboriginal Agencies, Child Care Administrator(s), Medical Associations and other organizations serving children and families..
- **Establish written agreements** with birthing hospitals and health units for implementation of the program for the parents they serve.
- **Maternity Services:** Establish agreements with 23 (approximately 50% of the total) birthing hospitals for program implementation; train maternity nurses at these hospitals on program delivery and how to give it to parents. Scripts will be provided.
- **Health Units**: Establish agreements with 56 health units (approximately 50% of the total) for program implementation; train nurses at these health units on the program delivery and how to give it to parents. Scripts will be provided.
- **Provide training for agencies** that serve families and train them on the program. In year 1, this will include parent and crisis hotlines, MCFD personnel and foster care workers, and day care centre personnel through MCFD licensing.
- **Develop training guide and online training** version which will accessible to all participants.

- **Public education campaign.** Broadcast and print media ads will be donated by the National Center on SBS. Adjustments for Canadian audiences will be made and translation into other languages will take place as needed. Development of relationships with media will take place with the assistance of the Department of Communication at Children's Hospital. A specific plan for social marketing will be devised.
- **Evaluation.**
    - Carry out the first public survey (Ipsos-Reid omnibus) for baseline community knowledge base
    - Patient chart retrieval and review for prospective active surveillance of head trauma admissions
    - Initial data request to CIHI for retrospective discharge data base codes back to 2001.
    - Set up data transfer arrangements with 5 CPS units in the province.
    - Set up written relationship with BC Coroner's office for active surveillance of deaths due to abusive head trauma.
    - Obtain initial data set for first 2 years of Canadian Pediatric Surveillance Program (CPSP) data for baseline

Objectives Year 2 (2008-2009)

- **Maternity Services:** Establish agreements with 23 more birthing hospitals (the remaining 50% of hospitals) for program implementation; train maternity nurses at these remaining birthing hospitals on program delivery and how to give it to parents. Scripts will be provided.
- **Health Units**: Establish agreements with 56 more health units (remaining 50% of health units) for program implementation; train nurses at these remaining health units on the program delivery and how to give it to parents. Scripts will be provided.
- **Provide training opportunities**, posters, scripts and services to Emergency Room personnel, midwives, family practice doctors, immunization clinics, adoption agencies, brain injury associations and the like about the *PURPLE* program and how to tell parents about it.
- **Public Education Campaign** will be fully implemented in this year. Paid and donated ads will take place, articles in news sheets, new stories, and public interest stories will be the focus.
- **2008 October.** The North American conference on SBS will take place in Vancouver. This will bring public and media attention to the subject and the BC program. The BC Province wide program will be featured at the conference.
- **Evaluation**
    - Initiate measures of "penetration" of program to new mothers
    - Initiate maternal interviews 6 months post-birth to assess message transfer, facilitators, inhibitors, memory and acceptability of program (samples of mothers from different regions).
    - Continuing active surveillance from Year 1.
    - Retrieve annual data sets from CIHI, CPSP, Coroner, CPS units

Objectives Year 3 (2009-2010)

- **Maternity Services:** Continue to provide support services and on-going training for maternity services. Monitor the effectiveness of the program and increase services where needed. Provide a second series of training session to all maternity units in the province.
- **Health Units**: Continue to provide support services and on-going training for public heath nurses. Monitor the effectiveness of the program and increase services where needed. Provide a second series of training sessions to all maternity units in the province.
- **Public Education Campaign** will continue through year 3. An ongoing effort to gain press attention to the program, infant crying and SBS awareness will take place.
- **Other agencies serving families** will continue to receive the training and services as in year 1 and 2.
- **Evaluation**
    - Continue "penetration" indices and maternal sampling 6-month interviews
    - Continue annual data set collections and analyses

Objectives Year 4 (2010-2011)

- **Review process evaluation** and begin process to insure the program will be institutionalized in Maternity Services, Public Health Home visitors. Participate in the development of policies that require the program and training manuals that describe it...
- **Establish methods to sustain the program.** Assist in gaining funds to support the program for ongoing years.
- **Present the results** of the program and its effectiveness to agencies that have the authority to insure it is sustained.
- **Continue to provide training, materials, services and support** to the participating organizations to insure consistency and continuity takes place and the program is widely accepted.
- **Provide a detailed report to MCFD** about the outcome of the initiative and the reduction of SBS in B.C.
- **Evaluation.**
    - Continue "penetration" indices and maternal sampling 6-month interviews
    - Continue annual data set collections and analyses
    - Carry out time 2 public survey (Ipsos-Reid omnibus poll)
    - Obtain time 2 CIHI discharge data set
    - Analyses of data sets
    - Writing papers, reports and presentations.

Implementation Timeline	Apr/07 Sep/07	Oct/07 Mar/08	Apr/08 Sep/08	Oct/08 Mar/09	Apr/09 Sep/09	Oct/09 Mar/10	Apr/10 Sep/10	Oct/10 Mar/11
Leadership Committee/Agreements								
Train and Implement in 50% of hospitals/public health units								
Train and Implement in 50% of hospitals/public health units								
Training for External Agencies								
Public Education Campaign								
Active surveillance of traumatic head injury in BC Children's Hospital.								
Active surveillance of infant abuse from Child Protection Services Units								
Review of BC Coroner's Cases								
Passive surveillance of abusive injuries through CIHI								
Passive surveillance through CPSP								
General Community Ipsos Reid Poll								
Program Penetration rates								
Parents 6-month recall survey								

Resources, Organizations, People, Campaigns and Services Used for the Implementation

Province Wide Leadership Committee. Community leaders representing the key organizations serving families such as MCFD, the Ministry of Health, Aboriginal Services, organizations serving at risk families, public health regions, maternity services, medical associations, including emergency services and child care licensing will be invited to serve on a leadership committee to support and advise us concerning interagency agreements and to help coordinate implementation. This provincial steering committee will be critical to the establishment of policies related to offering the program during the course of implementation, and for on-going support for the "institutionalized" program after the MCFD grant has been completed.

Maternity Services: Agreements with the 46 birthing hospitals in B.C will be established to provide the PURPLE program to parents after the birth of their baby. Nurses will have been trained and provided with scripts when giving the program to the parents as the "first dose." Training sessions for the nurses and implementation of the program for parents will take place as follows: 3 pilot hospitals by August, 2007; 5 hospitals by October, 2007, 15 hospitals by January, 2008, and the remaining hospitals for this year (total 23) by June, 2008. The hospitals will have been chosen and divided between the two Project Coordinators based on number of births and locality.

The nurses will be trained on the program, provided the scripts to use with parents. *PURPLE* Program coordinators will work closely with the managers to choose the delivery model that works for each ward. In some cases this may be at the bedside and in others it may be at a discharge class. Hospitals that have previously participated in the *PURPLE* research project already have excellent relationships established.

Public Heath Agencies: Agreements with the112 public health units and the 9 Aboriginal Heath Units in B.C. will be established to provide the *PURPLE* program to parents when the nurses make their visit to the families of new babies. Nurses will ask parents if they have the program and in what language. If not, they will take one to the parents. Nurses will talk to the parents about the program and have the time to answer any questions (the "second dose"). Nurses will have been trained and provided with scripts when giving the program to the parents.

Training sessions for the nurses and implementation of the program for parents will take place as follows: The health units will be split between the Project Coordinators based on number of births and locality. The nurses will be trained on the program and provided the scripts to use with parents. About two-thirds of the public health units have participated in the *PURPLE* research over the past 3 years and important and excellent relationships have been established with the *PURPLE* program administrators. The nurses are enthusiastic about participating in the implementation of the program.

Aboriginal Services. Critical to the implementation of the program will be the involvement of those agencies and organizations serving First Nation's families. The program has been reviewed by various groups within Aboriginal services, and a parent focus group with 14 First Nation's family members took place in Duncan. Throughout the last three years our program has been working with Aboriginal Services including the Vancouver Native Health Society, Caring for First Nation's Children Society and the Aboriginal Infant Development Program who have all received information about the program and are supportive in getting it started for the families they serve.

Program Guidelines for the *Period of PURPLE Crying* Education Program will be developed for distribution and training purposes by July, 2007. This will incorporate different protocols depending on the training area: maternity programs, midwives, emergency services, and community/public health units. Maternity and public health nurses will be given these scripts to use when giving the program to parents and a list of the commonly asked questions and answers.

The complete training program will also be available on the BC SBS Prevention Programs website called: Prevent SBS Canada, through its online learning management system. Having this online will provide an easily accessible, cost efficient way to provide training for nurses in outlying areas or refresher courses or for nurses missing the face-to-face training meetings. Parents will also be able to access information on the user friendly web site about infant crying and other parent support information. Parents and other caretakers will be told that for more information they can go to the website or call the BC SBS Prevention program office. There will be a section on the web site that will give parents and caretakers accurate information about infant crying and coping techniques for the parent to try and ways to keep them calmer and less frustrated. Additionally, warm and hot lines in the province will be trained about the program so they can accurately answer questions when people call.

Staffing: Two Coordinators will be hired by June, 2007 and will be responsible for the following areas: Coordinator A - Vancouver Coastal, Provincial Services, Vancouver Island, and the Northern Health Authorities, and Coordinator B - Fraser and Interior Health Authorities. This

allocates approximately half of all provincial births to each Coordinator as well as an equal number of health units. The project director and the program director will administer the program, budget, supervise all staff and ensure goals and objectives are accomplished.

Information Referral Service: The BC SBS Prevention Program's Information Referral Service will be fully developed in order to support queries from the general public, health care workers, and other professionals by September, 2007. This referral service will include professional telephone support, a website, access to various databases, a list service for SBS professionals, and a list service for victims, families of victims, foster parents, and other caregivers. It also incorporates an online presence to provide up to date, accurate, and scientifically sound information for professionals, parents and caregivers, and others. The website's training centre will provide easy access for rural and repeat training opportunities.

Translations: *PURPLE* program materials will have been translated into Cantonese (Traditional Chinese), Punjabi, Spanish, Korean, Vietnamese, French, and Japanese by the time the program is implemented. This will allow parents to receive the materials in their language of choice providing the best possibility for a cultural change to occur.

Public Education Campaign and Media Strategy: The use of the media will be used to support the primary prevention program by providing education to the general public about the *Period of PURPLE Crying* program and the dangers of shaking infants and children. This education will be the intervention initiative for the general population who would not be educated specifically by one of the other methods like the maternity nurses. Both broadcast and print media will be utilized for this purpose.

The development of a positive relationship with the media is important to this process in that advertisements alone, whether broadcast or print, are cost prohibitive. Newspaper articles and interviews on radio and local interest television shows will be sought and encouraged. These methods can be even more effective as they become part of a news story rather than a paid advertisement. The topic of shaken babies and prevention efforts are of great interest to the press. Unique to this specific initiative is interest in the new information about infant crying. This is expected to create a newsworthy interest from the press. Paid advertising on radio, television and in newspapers will also be a part of this initiative. The National Center on Shaken Baby Syndrome (NCSBS) has committed to provide, at no cost, 10, 30 and 60 second professionally produced ads for television and radio and print ads for newspaper and billboards. These ads will be in English and can also be produced in the other six languages that the *PURPLE* program is available in. This is a contribution from the NCSBS of a value of $43,720 toward this project.

Evaluation of Effectiveness

The implementation will be evaluated for its effectiveness in attaining the three primary goals of the intervention; namely,

- Attaining a "penetration" rate of 90-95% of mothers of newborn infants;
- Reducing the incidence of shaken baby syndrome and/or infant abuse by 50%;
- Achieving a cultural change in the understanding of early infant crying and its relationship to shaken baby syndrome.

Following the recommendations of the Seattle conference on Measuring the Incidence of Inflicted Childhood Neurotrauma (Shaken Baby Syndrome) in October of 2006, we will employ a "mixed method" approach to evaluating effectiveness to provide as accurate an assessment of effectiveness as is possible for a moderate cost. The components of the evaluation will include:

1) An active surveillance system of all traumatic head injury in children less than 2 years of age admitted to BC Children's Hospital;
2) An active surveillance system of all cases of infant abuse in children of less than 2 years of age known to the 5 Child Protection Service units in BC;
3) A review of BC Coroner's cases from 2002 through 2010;
4) A passive surveillance system of all abusive injuries and subtypes of abusive injuries using administrative data sets of hospital discharges (separations) for BC and the rest of Canada through the Canadian Institute of Health Information (CIHI)
5) Cases reported in the Canadian Pediatric Surveillance System, that includes BC and the rest of Canada;
6) Process evaluation, including (a) general population awareness through an Ipsos-Reid poll of change in community knowledge concerning crying and shaking; (b) documentation of program penetration rates, probably through public health unit administrative data; and (c) 6-month recall by parents receiving *PURPLE* program.

1. Active surveillance of traumatic head injury in children less than 2 years of age.

The first component will be active surveillance of traumatic head injury in children less than 2 years of age. In collaboration with pediatric neurosurgeon Dr. Ash Singhal and the department of neurosurgery at BC Children's Hospital, active surveillance of all cases of all ages of traumatic head injury commenced in August, 2006. This includes all cases that are admitted, as well as occasional cases in other hospitals that consult at a distance with the Department and with Dr. Singhal. Since BC Children's is the only pediatric hospital in the province, all cases of significant head trauma are referred for evaluation and treatment. Occasional "parked" cases at other hospitals are sometimes not transferred, but come to the attention of the neurosurgery department.

Although all cases of abusive head trauma will be tracked, for purposes of outcomes for *PURPLE* implementation, we will use all cases of children less than 2 years of age. Cases of abuse will be determined for the majority through referral to the Child Protection Team at the hospital. However, following the protocol of Keenan (Keenan et al., 2003), all cases will be reviewed for determination of abuse by an expert panel from an abstracted and personal ID stripped record. Cases will be classified as Definite, Probable, Questionable and Non-inflicted Head Injury. Following Keenan, (Keenan et al., 2003) all cases of "inflicted" head injury will be sub- classified as Shaken Baby Syndrome, Shaken Impact Syndrome and Battered Child with Inflicted Brain Injury, as well as Abusive Head Injury (with or without evidence of brain injury). Only "depersonalized" data will be included in the Inflicted Childhood Neurotrauma data set for analysis.

Primary outcome measures include annual rates of Abusive Brain Injury and Head Injury/100,000 person-years, and ratio of Abusive: Non-abusive Head Injury.

2. Active Surveillance of all cases of infant abuse in children under 2 years of age in 5 Child Protection Services in BC.

BC has five regional Child Protection Services, the largest of which is at BC Children's Hospital (Dr. Jean Hlady, Director). The others are in Prince George, Surrey, Kamloops, and Victoria. All of the teams network, and have 4 meetings together annually. We have reported to each of their meetings for the last 4 years, and they are all aware of the current evaluation (**Phase I**) and implementation (**Phase II**) of the *Period of PURPLE Crying* prevention program. As with head injuries, the vast majority of abusive head injury cases are referred to and seen at BC Children's Hospital. However, we will maintain active surveillance with all five teams. Depersonalized data from chart reviews for all abusive injuries in children less than 2 years of age will be included for analysis. Primary outcome measures will be annual rate of abusive injuries/100,000 person-years, and more specifically the annual rate of abusive head injuries/100,000 person-years.

3. Reviews of BC Coroner's Cases 2002-2010.

Cases of abusive head trauma and shaken baby syndrome who die may or may not be included in hospital active or passive surveillance systems. In order to ascertain all deaths, all cases of children less than 2 years of age who die from abusive or "undetermined" causes will be reviewed. If there is presence of head or brain trauma, evidence of abuse (definite, probable, questionable, non-abuse) will be determined. Probable and questionable cases will be reviewed by an expert panel. Only "depersonalized" data will be included in the Inflicted Childhood Neurotrauma data set for analysis. The primary outcome measure will be annual rate death due to Abusive Brain Injury and Head Injury/100,000 person-years.

4. Passive surveillance of all abusive injuries and subtypes of abusive injuries using administrative data sets of hospital discharges (separations) for BC and the rest of Canada through the Canadian Institute of Health Information (CIHI).

Since 2001, British Columbia has adopted the ICD-10 coding system for hospital discharges. This provides a series of Injury codes and Assault codes. Depending on the codes used, one can define broader or narrower incidences of abusive trauma (generally) or abusive head injury with or without retinal hemorrhage, and so on. Following the recommendations of the Seattle conference on Measuring the Incidence of Inflicted Childhood Neurotrauma (Shaken Baby Syndrome) in October of 2006 and, in particular, the paper by Wirtz, Trent et al showing that broad and narrow "definitions" of inflicted trauma have similar characteristics, we will track broader and narrower definitions of abusive injury generally and abusive head injuries more specifically in children less than 2 years of age. An important benefit of using discharge data is that it can be analyzed retrospectively. In this case, analyses can be compared back to 2001 when the ICD-10 codes were adopted. Prior to 2001, ICD-9 codes were used. While ICD-9 codes are still used predominantly in the US and are actually better at capturing abusive head injury, they are not available in BC. The other advantage of the discharge data sets is that the incidence of the

same discharge codes in BC can be compared to the incidence of the same codes in the rest of Canada as a control. Thus, for example, the incidence rates per 100,000 for children less than 1 year old in BC for Intracranial Injury (S06.0-S06.9), Retinal Hemorrhage (H35.6), and Maltreatment (T74) WITH Assault codes for Assault (X85-Y09) and Sequelae of assault/undetermined (Y87.1-87.2) averaged **31.07/100,000** between 2001 and 2004. The primary outcomes will be a combination of broad and narrow code definitions presented as a time-series and as a comparison of BC with the remainder of Canada before and after implementation of the prevention program.

5. Cases reported in the Canadian Pediatric Surveillance System (CPSP) that includes BC and the rest of Canada.

Beginning in March 2005, the Canadian Pediatric Surveillance System began to collect cases of "head injury secondary to suspected child maltreatment (abuse and neglect)." The CPSP collects cases from BC and across Canada through a two-tiered monthly mail out to all pediatricians in Canada. In response to the first mail out, pediatricians indicate whether they have encountered a case of the relatively rare conditions being surveyed. If they answer in the affirmative to one of them, a second questionnaire is sent asking for more information about the case. Reported cases are verified as being true, non-duplicative, and meeting criteria. Return rates for the first mail out averaged 82%, and for the follow-up questionnaires 93% during 2005. We will use this system to obtain BC-specific and national rates from the CPSP surveillance system.

6. Process Evaluation for Cultural Change, Program Penetration, and 6-month recall.

Cultural Change: General population awareness through an Ipsos-Reid poll of change in community knowledge concerning crying and shaking.

To gauge the effectiveness of the *Period of PURPLE Crying* program to change cultural norms around infant crying and shaking, we will use Ipsos-Reid omnibus polling to acquire a cost-effective measure of the effect of the *PURPLE* program. The omnibus polls allow us to add questions at $800-$1200 per question depending on format. We anticipate that approximately 5 questions (estimated cost $5200 per survey) will be sufficient. We will benefit from the previous experience and results that will be obtained of asking content questions in the **Phase I** evaluation just being completed. Two polls will be taken; one in Year 1 before implementation, and the second in Year 4 after full implementation. Although still under discussion, the 5 questions will probably be: one to gauge whether the *Period of PURPLE Crying* is recognized; another to determine where the respondent heard of it; two questions to gauge understanding of the key messages, and one question to gauge actions that might be taken. The per cent of households that have a child under two years of age is approximately 7%. We anticipate that the recognition of the *Period of PURPLE Crying* information should reach at least 25% of the population, and there is a good chance that it will be much more widespread than that.

Program Penetration Rates.

"Penetration rates" refer to the per cent of the targeted population who actually receive the *Period of PURPLE Crying* materials. In this program, the primary target is mothers (or parents) of

each newborn in the province. The highest reported penetration rates to date for any SBS prevention program is 69% through a maternity-based program (Dias et al., 2005). Because of the unique delivery system of the public health visitor program in BC, we are targeting, and expect, that the combined maternity ward and public health home visitor program will result in successful "penetration" rates of 90-95% or better. There are a number of possible strategies for obtaining penetration rates. A likely strategy will be by public health home visitor administrative data, but the final strategy is still under consideration.

Six-month Recall by Parents Receiving the *PURPLE* Program.

After the program is implemented, we will conduct a telephone survey of a sample of parents of newborns to ascertain their self-reported exposure to the *PURPLE* intervention (hospital, home visitor, and media campaign), their recollection and understanding of the messages, their self-reported behaviors about caring for their child during the period of *PURPLE* crying, and their dissemination of *PURPLE* crying materials and messages to other caregivers. The survey will be a semi-structured telephone interview survey with 520 new mothers. The timing of the interviews will correspond to the birth of their infant and will be conducted four to six months after the child's birth to allow for the period of *PURPLE* crying (between two and four months of age) to have occurred. The sample of mothers will be approached through Health Unit to obtain permission for the later interview. Estimating the interview completion rate at 65 percent, 100 new parents will be selected from randomly chosen health units every three months for two years (Years 2 through Year 4). The semi-structured interview guide will incorporate some of the outcome measures used to evaluate the intervention's effectiveness in the Phase I trials just completed.

Summary of Evaluation

The proposed evaluation is a cost-effective method of obtaining essential information to be able to assess the main outcomes to test effectiveness of the *Period of PURPLE Crying* program to (a) reach targeted groups; (b) reduce shaken baby syndrome and abusive injury in infants generally; and (c) achieve a cultural change in the community's understanding of early crying and its relationship to shaking. Such an evaluation is critical when the program is being introduced to assure that the program reaches its goals, and that expenditures are justified by a benefit to the population and the government of implementation and support of the program.

Names and Titles of Key Staff including their Responsibilities, Qualifications and Relevant Experience

Program Director: ***Marilyn Barr, BIS, SSW.*** Director, B.C. Shaken Baby Syndrome Prevention Program.

Responsibilities: Overall project director. Specifically responsible for program development, pre-testing of *PURPLE* intervention materials, training of health care professionals, provision of *PURPLE* products. (Commitment: 60% FTE).

Qualifications and experience: Marilyn has worked in the field of child abuse prevention for 29 years. In this role she has developed 3 statewide child abuse and SBS prevention campaigns, 9 national and international conferences, 7 statewide programs in courts, social services, schools and hospitals. She is a licensed social worker and has a degree in communications.

Principal Investigator : Ronald G. Barr, MA, MDCM, FRCPC. Canada Research Chair in Community Child Health Research; Professor of Pediatrics, UBC; Director, Center for Community Child Health Research, Child and Family Research Institute, BC Children's Hospital.

Responsibilities: Overall evaluation direction, rationale and justification, measures, evaluation design, outcome, and data analysis. (Commitment: 20% time, at no cost to this project).

Qualifications and experience: Developmental-behavioral pediatrician and leading expert on early infant crying, colic, infant behavior and mother-infant interaction. Developer of "Baby's Day Diary," the most widely used instrument of home assessment of infant and caregiver behavior. Past President, Society of Developmental and Behavioral Pediatrics. Director, Canadian Institute of Advanced Research Program on 'Experience-based brain and biological development.'

Participating Organizations:

BC Shaken Baby Syndrome Prevention Program. This is the only organization in Canada with a single mission to reduce SBS. Since the inception of the program 4 years ago, the following has been accomplished; province-wide environmental scan to determine need for SBS prevention, randomized controlled trial of the program called the *Period of PURPLE Crying* which recruited over 1,800 parents and 300 nurses and a 10 member research team, development of a web site devoted to education about SBS and infant crying research and information, and two symposia in Vancouver at which 234 and 145 participants attended.

The implementation of the *Period of PURPLE Crying* throughout the province will be carried out by the BC Shaken Baby Syndrome Prevention Program. This will include supervising coordinators, obtaining inter-agency corporative agreements with hospitals and health officials, Aboriginal agencies, child care licensing, foster care groups and other organizations serving families in B.C. The program implementation team includes:

1. Marilyn Barr, Director, B.C Shaken Baby Syndrome Prevention Program and Executive Director of the National Center on Shaken Baby Syndrome;

2. Jocelyn Conway, Project Manager, B.C Shaken Baby Syndrome Prevention Program;

3. Claire Yambao, Information Specialist, B.C Shaken Baby Syndrome Prevention Program;

4. Two Community Coordinators will be hired for this project and will be employed by the B.C Shaken Baby Syndrome Prevention Program.

Centre for Community Child Health Research. The evaluation component of this project will be carried out by Dr. Ronald Barr and his team from the Center for Community Child Health

Research of the Child and Family Research Institute, BC Children's Hospital. Dr. Barr is the Director of the Centre. The surveillance components benefit from collaboration with the BC Injury Prevention Unit, one of the units within the Centre for Community Child Health Research.

The surveillance team includes:

1. Ronald G. Barr, MDCM, FRCPC, Director Center for Community Child Health Research;
2. Ian Pike, Director, BC Injury Prevention Unit, Centre for Community Child Health Research;
3. Ash Singhal, MD, FRCPC, Pediatric neurosurgeon, BC Children's Hospital;
4. Kate Turcotte, Social Science Researcher, BC Injury Prevention Unit;
5. Takeo Fujiwara, MD, PhD, post doctoral fellow, Centre for Community Child Health Research;
6. Cynthia Lee, Research Assistant, Child Development Laboratory, Centre for Community Child Health Research;
7. Pam Joshi, PhD Epidemiology, BC Injury Prevention Unit;
8. Research Assistant, Dept of Neurosurgery.

Additional Support for Implementation of the PURPLE Program 2007-2011

Public Heath Nurses. The public health nurses have been completely supportive of this project. It is expected that about 10 minutes of time per family for all new born babies in B.C. will take place to discuss the *Period of PURPLE Crying* information as part of their responsibilities during the home visit. This contribution equates to 10 minutes X 40,000 babies born each year X 4 years = 26,666 hours of service over the life of this project.

Maternity Nurses. Similarly, it is anticipated that maternity nurses will incorporate this in to their standard practice of delivery to newborn and maternal care. It is expected that a minimum of 5 minutes per family will be used for all newborns in B.C. This contribution equates to 5 minutes X 40,000 babies born each year X 4 years = 13,333 hours of service contributed over the life of the project.

BC Children's Hospital. The BC Children's Hospital will contribute the office space and furnishings for the 5 staff assigned to this project, the salary of the director, the leadership of the steering committee and the communications department specialists who help to implement the public education campaign. .

Francophone Services of BC. This office has agreed to fund the translation of the film and booklet, and the subsequent production of these materials, in to French in 2007, a value of $10,000.

Japanese Ministry of Health. The Ministry has approached us about having the *Period of PURPLE Crying* materials translated into Japanese. They will pay for the translation of the film and booklet and the production of these materials into Japanese in 2007, a value of $10,000.

Vancouver Foundation. The Vancouver Foundation has confirmed that we will receive a grant of $22,050 to support development of the Website which will have the URL www.dontshake.ca.

National Center on Shaken Baby Syndrome. The NCSBS is developing the broadcast and print media ads for paid and earned advertising, including billboards for this project. These materials will be contributed to this project, a contribution valued at $43,720.

Centre for Community Child Health Research. The Centre will contribute 60% of the salary of a post doctoral fellow. The post doctoral fellow, Takeo Fujiwara, will be coordinating the active and passive surveillance systems, and be the primary methodological analyst for the evaluation of the project (Contribution: $150,610 over the course of the project).

Foresters. This fund will contribute $10,000 toward general cost of the program in Year 1 (2007-2008), and $10,000 in Year 2 (2008-2009).

Fraser Health Region. This health region has committed $18,200 towards the website development in 2007, and is expected to commit an equivalent amount in 2008.

Rick Hansen Foundation. A proposal has been invited by the Foundation, and has been submitted for $18,598 to support the media campaign. (We have had support for 3 prior grants from this foundation to date for translation).

Conclusion

Although governments, investigators, child abuse workers and the general public all believe it is better to prevent abuse than to attempt to remediate the consequences, it is rare in the history of child abuse or injury prevention that the converging empirical evidence so strongly supports the possibility of making a real difference in preventing child abuse. Uniquely for the particular form of child abuse referred to as shaken baby syndrome (SBS), or abusive traumatic brain injury, the evidence strongly supports the potential effectiveness of prevention.

SBS has already been shown to

(1) be the *most severe* form of child abuse,

(2) be a *preventable* form of child abuse (25-47% reduction),

(3) have a *clear stimulus* (crying) and *risk behavior* (shaking) leading to the abuse;

(4) have educational materials with *demonstrated efficacy* in changing relevant knowledge and behavior (*Period of PURPLE Crying*).

Furthermore, in BC, we have the right systems to implement this prevention in maternity wards and to *improve on current best practice* by using the public health home visitor program to deliver the prevention. Once implemented, it should be sustainable at greatly reduced costs for decades to come, because

(1) it incorporates essential early infant development information of importance for all parents, early childhood specialists, and health professionals;

(2) implementation will have brought about a *cultural change* in our understanding of early crying and its relationship to shaken baby syndrome (analogous to changing sleeping behavior for SIDS); and

(3) it will have been demonstrated to be a cost-effective prevention strategy, both monetarily and especially in terms of decreased tragedy for the victims, their families, and society.

In summary, this is the right program in the right province at the right time to demonstrate the effectiveness of a province-wide, community-based prevention of the preventable human tragedy of shaken baby syndrome and abusive traumatic brain injury.

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Preventing Shaken Baby Syndrom

The *Period of PURPLE Cryi*

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Appendices Listing

1. *Period of PURPLE Crying* Program Logic Model
2. Hospital and Health Unit Implementation Schedule
3. Proposal Budget (MCFD portion only)
4. BC Shaken Baby Syndrome Prevention Program Budget 2007 to 2011
   Ministry of Children and Family Development and Partners
5. Program Budget Justifications.

Program Budget Justifications

Program Salaries:

Program Manager: This position will continue to be held by the present Program Coordinator who holds a social science degree. The responsibilities for this position will include day-to-day program management, staff coordination, managing project timelines; and performing other duties as necessary to support the program and Program Director. This position is 1.0 FTE with an annual salary of $65,474 inclusive of benefits. Position is subject to 2% annual general wage increase to 2009.

Project Coordinator A & B: These positions will be held by qualified professionals with a degree in the social sciences field. The main responsibilities for these positions are to build relationships with maternity ward and health unit management; train nurses, and implement the prevention program in their assigned geographical areas. These positions are 1.0 FTE with an annual salary of $47,383 inclusive of benefits. Position is subject to 2% annual general wage increase to 2009.

Information Specialist: This position will continue to be held by the present Information Specialist who holds a social science degree. The position of information specialist is to provide support for staff, allied professionals, families of SBS victims, and other caregivers through the Prevent SBS Canada website and telephone information referral service. This position is 1.0 FTE with an annual salary of $47,383 inclusive of benefits. Position is subject to 2% annual general wage increase to 2009.

Program Expenses:

Computers and Projectors: Project Coordinator A and B will need a laptop computer and portable projector for running and displaying presentations at health units, hospitals, and community groups. Laptops will be $1,100 ea and projectors $900.

Mileage and Parking: It is expected that there will be at least two or three trainings sessions at each maternity ward and at least one training session per health unit. Coordinators will use own vehicles in lower mainland.

Public Education Campaign: The advertisements themselves will be made available by the National Center on Shaken Baby Syndrome. Use of public service announcements will boost the purchasing power of all print and broadcast advertisements.

Travel to sites: Project Coordinators will be expected to make at least two trips per year to their hospitals and health units. This travel will be by car to Vancouver Island, and by air with car rentals to the Northern and Interior Health Authorities.

PURPLE materials: Packages consist of one DVD or VHS film and one printed 11-page booklet. All birthing hospitals will be provided with packets to cover the number of yearly births. All health units will be provided with 10% of the number of births to their health area to allow distribution to mothers who had midwife births and those who may have misplaced the packet given at the hospital. Materials are priced at $2.00 per package. 40,316 births x 1.1 @ $2.00 each = $88,696 annually.

Shipping to site: Shipping charges will be by ground whenever possible.

Evaluation Budget[1] Justifications

Labour:

Project Co-ordinator: This position will be held by a Social Science Researcher "B" with experience in evaluation, project management, and the production of scientific reports. The Project Co-ordinator will be responsible for managing the project timeline and budget, including the development of the evaluation plan. The Project Co-ordinator will co-ordinate the activities of the team, data analyst, RAs and the administrative assistant; ensure the project is completed according to timelines and expectations; and draft and edit the preliminary and summary reports. Time commitment to this project is estimated at 0.2 FTE at an annual salary of $65,300 per FTE inclusive of benefits and all overheads.

[1] 3% increase applied to each subsequent year for all labour costs and some services costs.

Data Analyst: The data analyst will be involved in the development of the BCCH Head Injury database and evaluation plan, and be responsible for data management and analyses of all datasets. Total time commitment is estimated at 0.1 FTE at an annual salary of $65,300 per FTE inclusive of benefits and all overheads.

Post Doctorate: The post doctorate will be involved in the project at all levels, with a particular focus on the analysis of provincial and national level data, and the Coroner Review. Total time commitment is estimated at 0.4 FTE at an annual salary of $ 60,000 per FTE inclusive of benefits.

Research Assistant 1: Chart abstraction, data coding and data entry, as well as chart abstraction for review by two child injury experts. Time commitment to this project is anticipated at one hour per chart for 150 charts per year, at a rate of $30 per hour, inclusive of benefits.

Research Assistant 2: Involvement with program penetration and knowledge component evaluations. Time commitment to this project is anticipated at 1.0 FTE for 3 months/yr at an annual salary of $55,020 per FTE, inclusive of benefits and all overheads.

Administration Assistant: The administrative assistant will be responsible for providing support to the research team, project coordinator, and data analyst. Time commitment is estimated at approximately two hours per month for $500 per year, inclusive of benefits.

Other Expenses:

Maternal Penetration/Questionnaire: Hospital penetration as determined through Public Health Units, telephone questionnaire administered to consenting mothers as identified through Public Health Units.

General Public Survey: To be arranged as part of an Ipsos Reid *BC Reid Express* omnibus survey.

Chart Retrieval: Chart retrieval for the BCCH Head Injury data collection is estimated at $5 per chart for 150 cases of hospitalization and death per year in BC for neurotrauma among children ages 2 years and under (based on 16 years of hospital data, 1989 to 2004, and 14 years of mortality data, 1990-2003).

Chart Abstraction at other sites: Estimated at $10/chart – for approximately 50 charts

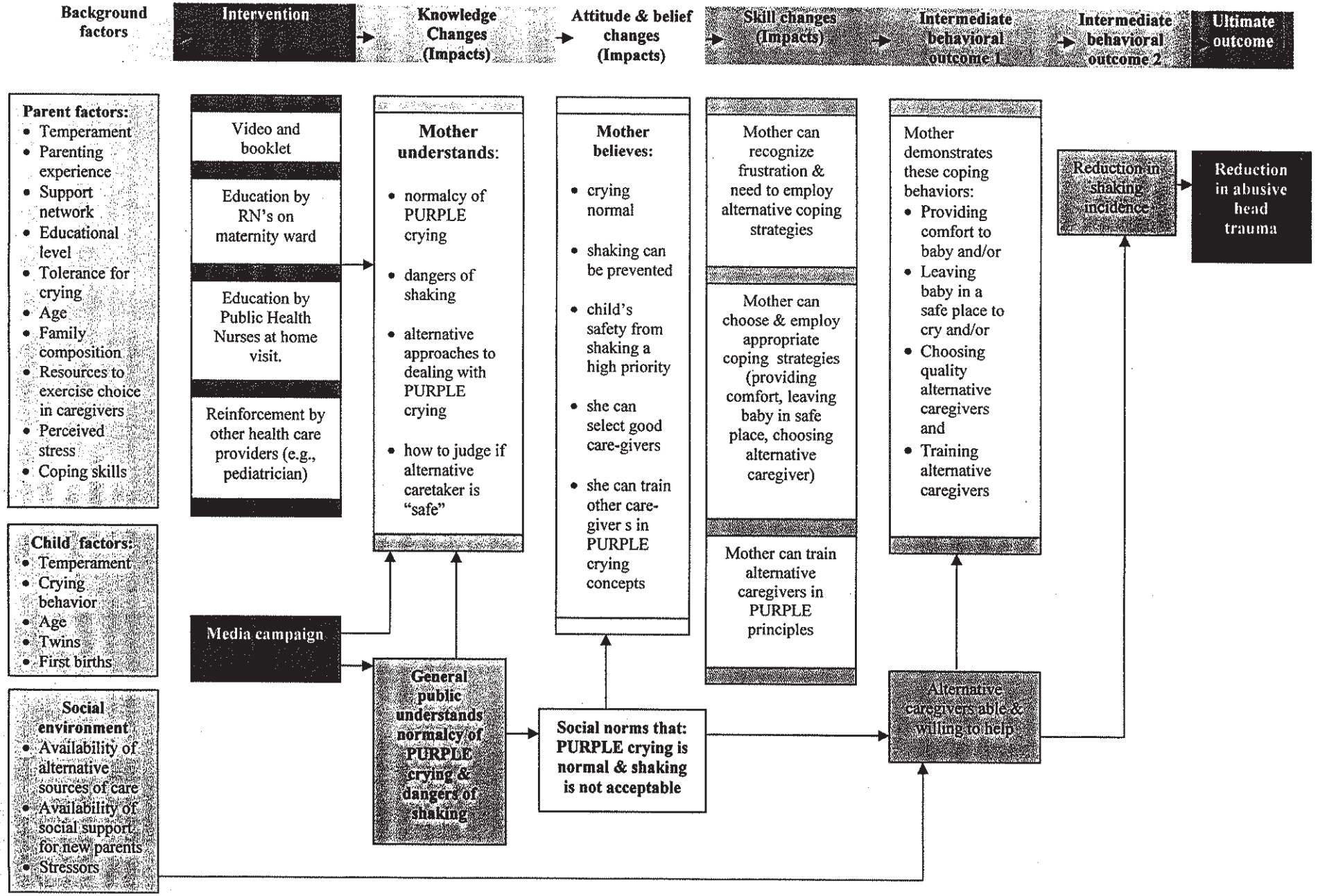
CIHI data: Basic administrative fees of $1000 + Programming hours at $120/hour. Project 24 hours of programming (rough estimate): $1000 + (24 x $120/hour) = $3880 excluding taxes. Estimate 15% taxes: total = $4,462.

Project Computer: $2,500

Meetings/Teleconferences: Meetings, teleconferences and other communications costs estimated at $500 per year.

Miscellaneous: Photocopying, printing, database storage, etc. for a nominal fee of $150 per year.

Period of PURPLE Crying Program Logic Model



Project Coordinator A - Implementation Schedule						
Health Authority	**Serv Del Area**	**Hospital**	**approx # births**	**Births per HA**	**Impl Date**	**# births per phase**
FHA	FS	Surrey Memorial	3,600		Aug-07	
FHA	FN	Royal Columbian	4,000		Aug-07	7,600
FHA	FS	Langley Memorial	1,639		Oct-07	
FHA	FN	Burnaby	1,700		Oct-07	3,339
FHA	FE	Fraser Canyon	2		Jan-08	
FHA	FS	Peace Arch	671		Jan-08	
FHA	FN	Ridge Meadow	730		Jan-08	
FHA	FE	MSA General	1,721		Jan-08	
FHA	FE	Chilliwack General	907		Jan-08	4,031
Fraser Health Authority Total Births				14,970		
Number of public/community health units trained for Fraser = 18						
IHA	EK	East Kootenay Regional	390		May-08	
IHA	KB	Kootenay Boundary Regional	250		May-08	
IHA	O	Pentiction Regional	550		May-08	
IHA	O	Vernon Jubilee	800		May-08	
IHA	O	Kelowna General	1,500		May-08	
IHA	TCS	Royal Inland	1,250		May-08	4,740
Interior Health Authority Total Births				4,740		
Number of public/community health units trained for Interior = 40						
			Total # births Project Coordinator A	19,710		

The *Period of PURPLE Crying* Program
Hospital and Health Unit Implementation Schedule

Project Coordinator B - Implementation Schedule						
Health Authority	**Serv Del Area**	**Hospital**	**No. births**	**Total Births**	**Impl Date**	**# births per phase**
PHSA	VC	BC Women's Health Centre	7,000		Aug-07	7,000
Provincial Health Services Authority Total Births				7,000		
Provid	VC	St. Paul's	1,400		Oct-07	
Providence Health Total Births				1,400		
VCHA	VC	Richmond General	1,150		Oct-07	
VCHA	NS	Lions Gate	1,500		Oct-07	4,050
VCHA	NS	Squamish General	150		Jan-08	
VCHA	NS	Powell River General	100		Jan-08	
Vancouver Coastal Health Authority Total Births				2,900		
Number of public/community health units trained for PHSA, Providence, and Van Coastal = 17						
VIHA	VIC	Tofino General	10		Jan-08	on line
VIHA	VIC	WestCoast General	236		Jan-08	
VIHA	VIC	Cowichan District	468		Jan-08	
VIHA	VIC	Nanaimo Regional General	1,200		Jan-08	
VIHA	VIN	Port McNeill	15		Jan-08	on line
VIHA	VIN	Campbell River General	365		Jan-08	
VIHA	VIN	St. Joseph's General	500		Jan-08	
VIHA	VIS	Victoria General	1,777		Jan-08	4,821
Vancouver Island Health Authority Total Births				4,571		
Number of public/community health units trained for Van Island = 17						
NHA	NE	Chetwynd General	26		May-08	
NHA	NE	Fort Nelson	102		May-08	
NHA	NE	Dawson Creek and District	208		May-08	
NHA	NE	Fort St. John	557		May-08	
NHA	NI	McBride & District	5		May-08	
NHA	NI	MacKenzie and District	10		May-08	
NHA	NI	Stuart Lake Hospital	33		May-08	
NHA	NI	Lakes District	51		May-08	
NHA	NI	St. John	158		May-08	
NHA	NI	GR Baker Memorial	186		May-08	
NHA	NI	Prince George Regional	1,034		May-08	
NHA	NW	Queen Charlotte Islands General	11		May-08	online
NHA	NW	Wrinch Memorial	52		May-08	
NHA	NW	Kitimat	75		May-08	
NHA	NW	Prince Rupert Regional	200		May-08	
NHA	NW	Bulkley Valley District	242		May-08	
NHA	NW	Mills Memorial	297		May-08	3,247
Northern Health Authority Total Births				3,247		
Number of public/community health units trained for Northern = 20						
Total # births Project Coordinator B				19,118		

The *Period of PURPLE Crying* Program
Hospital and Health Unit Implementation Schedule

Project Coordinator A - Implementation Schedule						
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IHA	O	Kelowna General	1,500		May-08	
IHA	TCS	Royal Inland	1,250		May-08	4,740
Interior Health Authority Total Births				4,740		
Number of public/community health units trained for Interior = 40						
Total # births Project Coordinator A				19,710		

The *Period of PURPLE Crying* Program
Hospital and Health Unit Implementation Schedule

Project Coordinator B - Implementation Schedule						
Health Authority	**Serv Del Area**	**Hospital**	**No. births**	**Total Births**	**Impl Date**	**# births per phase**
PHSA	VC	BC Women's Health Centre	7,000		Aug-07	7,000
Provincial Health Services Authority Total Births				7,000		
Provid	VC	St. Paul's	1,400		Oct-07	
Providence Health Total Births				1,400		
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NHA	NE	Dawson Creek and District	208		May-08	
NHA	NE	Fort St. John	557		May-08	
NHA	NI	McBride & District	5		May-08	
NHA	NI	MacKenzie and District	10		May-08	
NHA	NI	Stuart Lake Hospital	33		May-08	
NHA	NI	Lakes District	51		May-08	
NHA	NI	St. John	158		May-08	
NHA	NI	GR Baker Memorial	186		May-08	
NHA	NI	Prince George Regional	1,034		May-08	
NHA	NW	Queen Charlotte Islands General	11		May-08	online
NHA	NW	Wrinch Memorial	52		May-08	
NHA	NW	Kitimat	75		May-08	
NHA	NW	Prince Rupert Regional	200		May-08	
NHA	NW	Bulkley Valley District	242		May-08	
NHA	NW	Mills Memorial	297		May-08	3,247
Northern Health Authority Total Births				3,247		
Number of public/community health units trained for Northern = 20						
Total # births Project Coordinator B				19,118		

Ministry of Children and Family Development
Proposal Budget (MCFD Only)
2007 - 2011

2/12/2007

	Year One Apr/07 - Mar/08	Year Two Apr/08 - Mar/09	Year Three Apr/09 - Mar/10	Year Four Apr/10 - Mar/11	
Program Salaries *w/benefits incl.*					
Program Manager 1.0 FTE @ 53,523	$65,474	$66,681	$67,912	$68,221	
Project Coordinator A 1.0 FTE @ 35,918 Jun hire	$40,154	$49,338	$50,330	$50,559	
Project Coordinator B 1.0 FTE @ 35,918 Jun hire	$40,154	$49,338	$50,330		
Information Specialist 1.0 FTE @ 35,918	$24,738	$49,413	$50,330	$50,559	
Sub Total	**$170,520**	**$214,770**	**$218,902**	**$169,339**	**$773,531**
Program Expenses					
Laptop/Projectors	$4,000				
Mileage and parking	$2,500	$2,500	$2,500	$2,500	
Public Education Campaign		$37,000	$32,000	$20,000	
Travel	$2,500	$5,000	$5,000	$2,500	
PURPLE materials*	$28,200	$88,696	$88,696	$88,696	
Shipping to sites	$1,000	$2,500	$2,500	$2,500	
Sub Total	**$38,200**	**$135,696**	**$130,696**	**$116,196**	**$420,788**
Evaluation Expenses					
Project Coordinator	$13,060	$13,452	$13,855	$14,271	
Data Analyst	$6,530	$6,726	$6,928	$7,136	
Post Doctoral Fellow	$24,000	$19,000	$19,000	$24,000	
Research Assistant 1	$4,500	$4,635	$4,774	$4,917	
Research Assistant 2		$13,755	$14,168	$14,593	
Penetration Assessment		$7,500	$7,500	$7,500	
Maternal Knowledge Questionnaire		$10,000	$10,000	$10,000	
General Public Knowledge Survey	$5,200			$5,200	
Patient Chart Retrieval & Abstraction/off site	$1,250	$1,288	$1,326	$1,366	
CIHI data request	$4,462			$4,462	
Project Computer	$2,500				
Sub Total	**$61,502**	**$76,356**	**$77,551**	**$93,445**	**$308,854**
Program Budget Total	**$270,222**	**$426,822**	**$427,149**	**$378,980**	**$1,503,173**
Less funds from Research Grant Year 4	-$74,398				-$74,398
Funds Requested from MCFD	**$195,824**	**$426,822**	**$427,149**	**$378,980**	**$1,428,775**

BC Shaken Baby Syndrome Prevention Program
Ministry of Children and Family Development and Partners - Year 1
April 1/07 - March 31/08

	Min of Children & Family	BC Children's Hospital	Fraser Health*	Vancouver Foundation	Foresters	Rick Hansen Fdn*	BC Franco-phone Serv of BC	Ministry of Health, Japan	National Center on SBS	***Budget Totals***
Projected Revenue:	**$195,824**	**$92,000**	**$15,000**			**$20,000**	**$10,000**		**$43,720**	***$376,544***
FY4 Research bring forward	$74,398		$1,263	$22,050	$10,000	$18,598		$10,000		$136,309
Total Anticipated Revenue:	**$270,222**	**$92,000**	**$16,263**	**$22,050**	**$10,000**	**$38,598**	**$10,000**	**$10,000**	**$43,720**	***$512,853***
** proposals submitted or planned*										
Program Director - 0.6 FTE		$60,000								*$60,000*
Program Manager - 1.0 FTE*	$65,474									*$65,474*
Project Coordinator A - 1.0 FTE*	$40,154									*$40,154*
Project Coordinator B - 1.0 FTE*	$40,154									*$40,154*
Information Specialist - 1.0 FTE*	$24,738		$1,263	$22,050						*$48,051*
**benefits included*										
Program Salaries Total	**$170,520**	**$60,000**	**$1,263**	**$22,050**						***$253,833***
Office Space		$30,000								*$30,000*
General Office Supplies		$2,000			$1,500					
Laptop/Projectors	$4,000									*$4,000*
Mileage and parking	$2,500				$2,350					*$4,850*
Media Ad Development						$3,000			$43,720	*$46,720*
Public Education Campaign			$13,800			$17,000				*$30,800*
Incentives for Nurses					$2,000					*$2,000*
Travel to sites	$2,500									*$2,500*
PURPLE materials	$28,200									*$28,200*
Shipping to sites	$1,000									*$1,000*
Staff training and conferences			$1,200							*$1,200*
Website Design & Mtnce					$1,000					*$1,000*
Translation & Film Adaptiation					$2,500	$18,598	$10,000	$10,000		*$41,098*
Program Expenses Total	**$38,200**	**$32,000**	**$15,000**		**$9,350**	**$38,598**	**$10,000**	**$10,000**	**$43,720**	***$196,868***
Project Coordinator	$13,060									*$13,060*
Data Analyst	$6,530									*$6,530*
Post Doctoral Fellow	$24,000									*$24,000*
Research Assistant 1	$4,500									*$4,500*
Research Assistant 2										*$0*
Penetration Assessment										*$0*
Maternal Knowledge Questionnaire										*$0*
General Public Knowledge Survey	$5,200									*$5,200*
Patient Chart Retrieval & Abstraction/off site	$1,250									*$1,250*
CIHI data request	$4,462									*$4,462*
Project Computer	$2,500									*$2,500*
Meetings & Gen. Expenses					$650					*$650*
Evaluation Total	**$61,502**				**$650**					***$62,152***
Implementation Total	**$270,222**	**$92,000**	**$16,263**	**$22,050**	**$10,000**	**$38,598**	**$10,000**	**$10,000**	**$43,720**	***$512,853***

BC Shaken Baby Syndrome Prevention Program
Ministry of Children and Family Development and Partners - Year 2
April 1/08 - March 31/09

	Min of Children & Family	BC Children's Hospital	Foresters	Foundations and Fundraising	***Budget Totals***
Projected Revenue:	**$426,822**	**$92,500**	**$10,000**	**$37,500**	***$566,822***
Program Director - 0.6 FTE		$60,000			*$60,000*
Program Manager - 1.0 FTE*	$66,681				*$66,681*
Project Coordinator A - 1.0 FTE*	$49,338				*$49,338*
Project Coordinator B - 1.0 FTE*	$49,338				*$49,338*
Information Specialist - 1.0 FTE*	$49,413				*$49,413*
** benefits included*					
Program Salaries Total	**$214,770**	**$60,000**			***$274,770***
Office Space		$30,000			*$30,000*
General Office Supplies		$2,500	$2,500		*$5,000*
Mileage and parking	$2,500		$2,459		*$4,959*
Public Education Campaign	$37,000			$35,000	*$72,000*
Incentives for Nurses			$2,000		*$2,000*
Travel to sites	$5,000				*$5,000*
PURPLE materials	$88,696				*$88,696*
Shipping to sites	$2,500				*$2,500*
Training and conferences				$2,500	*$2,500*
Website Maintenance			$1,000		*$1,000*
Program Expenses Total	**$135,696**	**$32,500**	**$7,959**	**$37,500**	***$213,655***
Project Coordinator	$13,452				*$13,452*
Data Analyst	$6,726				*$6,726*
Post Doctoral Fellow	$19,000				*$19,000*
Research Assistant 1	$4,635				*$4,635*
Research Assistant 2	$13,755				*$13,755*
Penetration Assessment	$7,500				*$7,500*
Maternal Knowledge Questionnaire	$10,000				*$10,000*
General Public Knowledge Survey					*$0*
Patient Chart Retrieval & Abstraction/off site	$1,288				*$1,288*
CIHI data request					*$0*
Meetings & Gen. Expenses			$2,041		*$2,041*
Evaluation Total	**$76,356**		**$2,041**		***$78,397***
Implementation Total	**$426,822**	**$92,500**	**$10,000**	**$37,500**	***$566,822***

BC Shaken Baby Syndrome Prevention Program Ministry of Children and Family Development and Partners - Year 3 April 1/09 - March 31/10				
	Min of Children & Family	BC Children's Hospital	Foundations and Fundraising	***Budget Totals***
Projected Revenue:	**$427,149**	**$92,500**	**$30,500**	***$550,149***
Program Director - 0.6 FTE		$60,000		*$60,000*
Program Manager - 1.0 FTE*	$67,912			*$67,912*
Project Coordinator A - 1.0 FTE*	$50,330			*$50,330*
Project Coordinator B - 1.0 FTE*	$50,330			*$50,330*
Information Specialist - 1.0 FTE*	$50,330			*$50,330*
** benefits included*				
Program Salaries Total	**$218,902**	**$60,000**		***$278,902***
Office Space		$30,000		*$30,000*
General Office Supplies		$2,500	$2,500	*$5,000*
Mileage and parking	$2,500		$2,500	*$5,000*
Public Education Campaign	$32,000		$20,000	*$52,000*
Incentives for Nurses			$2,000	*$2,000*
Travel to sites	$5,000			*$5,000*
PURPLE materials	$88,696			*$88,696*
Shipping to sites	$2,500			*$2,500*
Training and conferences			$2,500	*$2,500*
Website Maintenance			$1,000	*$1,000*
Program Expenses Total	**$130,696**	**$32,500**	**$30,500**	***$193,696***
Project Coordinator	$13,855			*$13,855*
Data Analyst	$6,928			*$6,928*
Post Doctoral Fellow	$19,000			*$19,000*
Research Assistant 1	$4,774			*$4,774*
Research Assistant 2	$14,168			*$14,168*
Penetration Assessment	$7,500			*$7,500*
Maternal Knowledge Questionnaire	$10,000			*$10,000*
General Public Knowledge Survey				*$0*
Patient Chart Retrieval & Abstraction/off site	$1,326			*$1,326*
CIHI data request				*$0*
Evaluation Total	**$77,551**			***$77,551***
Implementation Total	**$427,149**	**$92,500**	**$30,500**	***$550,149***

BC Shaken Baby Syndrome Prevention Program Ministry of Children and Family Development and Partners - Year 4 April 1/10 - March 31/11				
	Min of Children & Family	BC Children's Hospital	Foundations and Fundraising	***Budget Totals***
Projected Revenue:	**$378,980**	**$92,500**	**$42,500**	***$513,980***
Program Director - 0.6 FTE		$60,000		*$60,000*
Program Manager - 1.0 FTE*	$68,221			*$68,221*
Project Coordinator A - 1.0 FTE*	$50,559			*$50,559*
Project Coordinator B - 1.0 FTE*				
Information Specialist - 1.0 FTE*	$50,559			*$50,559*
**benefits included*				
Program Salaries Total	**$169,339**	**$60,000**		***$229,339***
Office Space		$30,000		*$30,000*
General Office Supplies		$2,500	$2,500	*$5,000*
Mileage and parking	$2,500		$2,500	*$5,000*
Public Education Campaign	$20,000		$32,000	*$52,000*
Incentive for Nurses			$2,000	*$2,000*
Travel to sites	$2,500			*$2,500*
PURPLE materials	$88,696			*$88,696*
Shipping to sites	$2,500			*$2,500*
Training and conferences			$2,500	*$2,500*
Website Maintenance			$1,000	*$1,000*
Program Expenses Total	**$116,196**	**$32,500**	**$42,500**	***$191,196***
Project Coordinator	$14,271			*$14,271*
Data Analyst	$7,136			*$7,136*
Post Doctoral Fellow	$24,000			*$24,000*
Research Assistant 1	$4,917			*$4,917*
Research Assistant 2	$14,593			*$14,593*
Penetration Assessment	$7,500			*$7,500*
Maternal Knowledge Questionnaire	$10,000			*$10,000*
General Public Knowledge Survey	$5,200			*$5,200*
Patient Chart Retrieval & Abstraction/off site	$1,366			*$1,366*
CIHI data request	$4,462			*$4,462*
Sub Total	**$93,445**			***$93,445***
Implementation Total	**$378,980**	**$92,500**	**$42,500**	***$513,980***

CHILD & FAMILY RESEARCH INSTITUTE

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December 8, 2008

Mark Sieben
Assistant Deputy Minister
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2nd Floor, 940 Blanshard St
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Aleksandra Stevanovic
Director, Early Childhood Development
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Victoria, BC V8W 1L8

Dear Mark and Aleksandra:

I am taking the opportunity to write for two reasons, both related to the Ministry of Child and Family Services and its support of the SBS Prevention Program.

The first reason is to share with you the really good news that we have recently been informed that the article Barr, Barr, Fujiwara, Conway, Catherine and Brant: *"Do educational materials change knowledge and behaviors regarding crying and shaken baby syndrome in mothers of newborns when delivered by public health home visitor nurses? A randomized controlled trial"* has been accepted for publication in the *Canadian Medical Association Journal* as of 27 November, 2008. It is anticipated that it will actually be published sometime in the first half of 2009. This is good news because the *CMAJ* is the leading general medical journal in Canada, and has an exceptional "citation rating" of above 7, which is very high. This pretty much assures that it will receive considerable exposure.

As you will remember, this study was funded by the Ministry of Children and Family Development and in part by others. The Ministry is acknowledged by being listed first in the Funding/Support acknowledgements. In addition, when the copy editing and other steps are completed, the *CMAJ* will be issuing a press release just prior to publication. The process leading up to this is described in the letter indicating acceptance. I have forwarded with this letter a copy of (1) the submitted manuscript, and (2) the letter of acceptance that also describes the process from here to actual publication. I am sure you understand that the *CMAJ* does not permit premature press announcements or release of these materials prior to the actual publication of the article.

The second reason for writing relates to the Conflict of Interest guidelines for the University of British Columbia. As I expect you are aware, each faculty member at UBC is required to declare their potential conflicts of interest annually. The potential conflict of interest in my case arises because of a Royalty agreement that was reached between the National Center on Shaken Baby Syndrome (USA) Governing Board and myself on December 22, 2007. I did not seek such a royalty, but the Governing Board offered it in recognition of the intellectual property donation to the *Period of PURPLE Crying* program. The USA trademark for the *Period of PURPLE Crying* is jointly owned by the National Center on Shaken Baby Syndrome and myself. I have attached a copy of the disclosure statement that was submitted to *CMAJ* (also required for publication in that journal) describing the royalty arrangement, as well as my relationship with its Executive Director, Marilyn Barr. Note that, as described, she was intentionally excluded and uninvolved from all discussions, decisions or preparations for this agreement.

I wanted the Ministry to be aware of this Royalty agreement both because of the support of the Ministry for the *Period of PURPLE Crying* program, and because I notified UBC that I would be writing to you as part of the agreement concerning the Conflict of Interest declaration at UBC.

I would appreciate receiving from you or the Ministry some acknowledgement of this notification. I do appreciate how important these notifications are, and would appreciate any suggestions as to any other measures that might be appropriate.

Thanks again for the support of the Ministry of Children and Family Services and yourself in this important prevention initiative.

Yours sincerely,

Ronald G. Barr, MDCM, FRCPC
Director, Centre for Community Child Health Research, Child and Family Research Institute
Professor of Pediatrics, Faculty of Medicine, University of British Columbia

Financial disclosure and conflict of interest:

M Barr is the Executive Director of the National Center on Shaken Baby Syndrome (NCSBS), a 501(c)3 non-profit organization. She receives no support other than her salary as Executive Director of the NCSBS. RG Barr is a member of the International Advisory Board of the NCSBS. He receives no compensation for this role other than travel and lodging expenses for meetings. RG Barr and M Barr are married. The NCSBS and RG Barr jointly hold the registered trademark for The Period of PURPLE Crying (Reg. No. 2,962,262). RG Barr received no financial benefit from Period of PURPLE Crying products sold by the NCSBS through to the end of June 2007. In December 2007, the Governing Board of the NCSBS offered a Royalty Agreement to RG Barr for a minor share of net profits from the future sale of Period of PURPLE Crying products in recognition of the intellectual property contribution by RG Barr. M Barr was not involved in the creation of the agreement and was intentionally excluded and uninvolved in terms of the discussions, preparations and review of the agreement to avoid any perception of a conflict of interest. The agreement was signed on December 22, 2007.

From: onbehalfof@scholarone.com on behalf of john.fletcher@cma.ca
Sent: Thu 11/27/2008 6:41 AM
To: Barr, Ron
Cc: mbarr@dontshake.org; Fujiwara, Takeo; Conway, Jocelyn; Catherine, Nicole; rollin@stat.ubc.ca
Subject: CMAJ - Decision on Manuscript ID CMAJ-08-1419.R1

27-Nov-2008

CMAJ – medical knowledge that matters

Dear Dr. Barr:

Thank you for your detailed letter outlining the changes made in your manuscruipt (or indeed why they were not made!). This is so helpful to us as editors and I am pleased to accept your manuscript and pass it on for final editing now.

Once your paper has been scheduled for a particular issue, we will provide information about production timelines. Please note that CMAJ distributes a media release for each issue a week before print publication. This gives journalists time to interview researchers and prepare their reports. They are given an advance copy of the Journal with the understanding that they may not disseminate this information until the embargo is lifted at 4:30 pm EST the day before print publication, which is when the issue is posted online. Please ensure that you, your co-investigators and your press office observe the embargo. Presentations at scientific meetings (with the goal of informing your colleagues about your results) are acceptable.

The paper will now enter the copyediting stage. You will hear from a CMAJ staff member soon regarding your availability to review the copyedited version of the manuscript. The manuscript editor assigned to your paper will prepare it for publication in accordance with the highest standards for language and presentation of data. The editor will examine the paper closely for grammar, usage, and consistency; conformity with preferred journal style; and, perhaps most important, clarity. We have a broad medical readership, and we want to ensure that your article is readily understandable to readers outside your own field. The senior editors may also request additional modifications from you at this stage. You will of course be given an opportunity to review the copyedited paper, and we look forward to working closely with you to prepare all elements of the paper for publication, both in print and online.

At this time, if you have not already done so, we ask you to verify that all required documents have been sent to us by completing the author checklist at http:www.cmaj.ca/authors/checklist.shtml. In particular, please ensure that the attached copyright assignment and financial disclosure forms are duly completed and signed by all authors and faxed to our office at 613-565-5471. Please would you also make sure that you have sent us a statement outlining each author's contribution to the manuscript. If your paper includes one or more case reports or information about specific patients, please ensure that you have forwarded the patient's consent for publication.

IMPORTANT: Please note that we are unable to proceed with copyediting and publication of your manuscript until we receive all of the required supporting documents.

Thank you for contributing this important paper to CMAJ. We look forward to its appearance in an upcoming issue of CMAJ.

Sincerely,

John Fletcher MB BChir MPH
Deputy Editor, CMAJ

CMAJ
Medical knowledge that matters

Do educational materials change knowledge and behaviors regarding crying and shaken baby syndrome in mothers of newborns when delivered by public health home visitor nurses? A randomized controlled trial

Journal:	*CMAJ*
Manuscript ID:	CMAJ-08-1419.R1
Manuscript Type:	Research - Clinical Trial
Date Submitted by the Author:	25-Nov-2008
Complete List of Authors:	Barr, Ronald; Centre for Community Child Health Research, Child and Family Research Institute, BC Children's Hospital Barr, Marilyn; National Center on Shaken Baby Syndrome; Prevent Shaken Baby Syndrome BC, BC Children's Hospital Fujiwara, Takeo; Centre for Community Child Health Research, Child and Family Research Institute, BC Children's Hospital; University of British Columbia, Pediatrics Conway, Jocelyn; Prevent Shaken Baby Syndrome BC, BC Children's Hospital Catherine, Nicole; Centre for Community Child Health Research, Child and Family Research Institute, BC Children's Hospital Brant, Rollin; University of British Columbia, Statistics
Keywords:	Community Medicine, Nursing, Pediatrics
More Detailed Keywords:	shaken baby syndrome, crying, colic, prevention, abusive head trauma, inflicted traumatic brain injury
Abstract or brief description of article:	Background: Because crying is a precipitant for shaken baby syndrome, we wished to determine if educational materials (Period of PURPLE Crying) changed maternal knowledge and behaviors relevant to shaking when delivered by public health home visitor nurses. Methods: In a randomized controlled trial, 1279 parents received treatment or control materials from their home visitor nurses by 2 weeks after birth. At 5 weeks, participants completed a diary to measure parent and infant behaviors. At 2 months, participants completed a telephone survey to assess knowledge and behavior. Results: The mean infant crying knowledge score (range 0-100) was greater in the intervention group (63.8) compared with controls (58.4): difference +5.4 (95% confidence interval [CI] +4.1 to +6.5). For shaking knowledge, reported maternal behavioral

	responses to crying, responses to unsoothable crying and self-talk responses, mean scores were similar for both groups. More intervention mothers reported sharing information about walking away if frustrated [intervention 51.5%, control 38.5%, difference +13.0% (95% CI +6.9 to +19.2)], the dangers of shaking [intervention 49.3%, control 36.4%, difference +12.9% (95% CI +6.8 to +19.0)], and infant crying [intervention 67.6%, control 60.0%, difference +7.6% (95% CI +1.7 to +13.5)]. Walking away during unsoothable crying behavior was significantly higher in the intervention than in the control group (0.067 vs. 0.039 events/person-day; incidence rate ratio: 1.7, 95% CI: +1.1 to +2.6). Interpretation: The Period of PURPLE Crying materials appear to lead to higher scores in knowledge about infant crying, and in some behaviors considered to be important for the prevention of shaking.

Do educational materials change knowledge and behaviors regarding crying and shaken baby syndrome in mothers of newborns when delivered by public health home visitor nurses? A randomized controlled trial

Ronald G. Barr, MDCM, FRCPC[1,2], Marilyn Barr, BIS, SSW[3,4], Takeo Fujiwara, MD, PhD, MPH[1,2], Jocelyn Conway, BA[4], Nicole Catherine, M. Sc.[1], Rollin Brant, PhD[5].

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2. Department of Pediatrics, University of British Columbia, Vancouver, BC, Canada
3. National Center on Shaken Baby Syndrome, Ogden, Utah, USA
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5. Department of Statistics, University of British Columbia, Vancouver, BC, Canada

Registered at www.clinicaltrials.gov trial register number NCT00175422.

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Sources of support.

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Running head: Crying and shaken baby syndrome prevention

Manuscript word count: 2493

Abstract word count: 250

Figures: 1

Tables: 6

Abstract

Background: Because crying is a precipitant for shaken baby syndrome, we wished to determine if educational materials (*Period of PURPLE Crying)* changed maternal knowledge and behaviors relevant to shaking when delivered by public health home visitor nurses.

Methods: In a randomized controlled trial, 1279 parents received treatment or control materials from their home visitor nurses by 2 weeks after birth. At 5 weeks, participants completed a diary to measure parent and infant behaviors. At 2 months, participants completed a telephone survey to assess knowledge and behavior.

Results: The mean infant crying knowledge score (range 0-100) was greater in the intervention group (63.8) compared with controls (58.4): difference +5.4 (95% confidence interval [CI] +4.1 to +6.5). For shaking knowledge, reported maternal behavioral responses to crying, responses to unsoothable crying and self-talk responses, mean scores were similar for both groups. More intervention mothers reported sharing information about walking away if frustrated [intervention 51.5%, control 38.5%, difference +13.0% (95% CI +6.9 to +19.2)], the dangers of shaking [intervention 49.3%, control 36.4%, difference +12.9% (95% CI +6.8 to +19.0)], and infant crying [intervention 67.6%, control 60.0%, difference +7.6% (95% CI +1.7 to +13.5)]. Walking away during unsoothable crying behavior was significantly higher in the intervention than in the control group (0.067 vs. 0.039 events/person-day; incidence rate ratio: 1.7, 95% CI: +1.1 to +2.6).

Interpretation: The *Period of PURPLE Crying* materials appear to lead to higher scores in knowledge about infant crying, and in some behaviors considered to be important for

the prevention of shaking.

Introduction.

Shaken baby syndrome (SBS), or inflicted traumatic brain injury (iTBI), is due to violent shaking with or without contact with a hard surface resulting in head trauma, including subdural hematomas, diffuse axonal injury, and retinal hemorrhages. Estimated rates of iTBI are 30 cases/100,000 children/year younger than one.(1;2) Because it is inflicted and because of lack of awareness of the damage shaking causes, SBS may be preventable. There are no randomized controlled trials of materials to prevent SBS.(3) However, information about shaking provided at birth may decrease SBS incidence.(4)

Crying is a common stimulus for shaking.(3-9) Age specific SBS incidence curves have a similar onset, shape and peak pattern as crying in normal infants.(5-7) Crying increases in the first, peaks in the second, and decreases by the fourth month.(8-10) Prolonged, unsoothable, and unpredictable crying bouts cluster in the evening, are unique to the first few months, and are a source of parental frustration and anger.(11;12) Anticipatory guidance about crying is recommended in policy statements about SBS prevention.(13;14)

The *Period of PURPLE Crying* materials(15) utilize the association with crying to educate parents about the dangers of shaking, and about sharing this information with other caregivers. Because SBS cases occur by week two,(1;5;6) information should be received before or soon after birth. These prevention materials were provided by public health home visitor nurses. We wished to estimate the effects of these materials on knowledge and behaviors relevant to SBS prevention.

Methods

This randomized controlled trial was approved by the Behavioral Ethics Review Board of the University of British Columbia. Mothers were randomized to receive the *Period of PURPLE Crying* materials (an 11-page booklet and a DVD) or injury prevention materials (two brochures and a DVD about infant safety).

Participants were recruited from hospitals in Greater Vancouver, British Columbia, between May 2005 and November 2006. Eligible mothers had an uneventful pregnancy, a healthy singleton infant >37 weeks gestation, access to a DVD player, and English fluency. Research assistants or discharge nurses recruited mothers at six hospitals by obtaining a 'Consent for Initial Contact.' After obtaining verbal consent in person or by telephone, participants were randomly assigned to receive intervention or control materials during routine public health nurse visits occurring within two weeks after discharge following signed informed consent. The package included a Baby's Day Diary(16) with instructions, a sealed envelope with intervention or control materials and a teddy bear. Nurses demonstrated diary use during the visit. Nurses were blind to the content materials provided.

At five weeks, mothers were telephoned one day before and after starting the diary to facilitate diary completion. At eight weeks, mothers were telephoned by an independent research group whose staff were blind to study hypotheses, intervention materials, and intervention groups of the subjects to conduct a 20-minute questionnaire.(17) Participants received a certificate and $25 cheque.

The *PURPLE* materials were developed by the National Center on Shaken Baby Syndrome.(15) The letters in '*PURPLE*' each stand for a property of crying in normal infants that frustrates caregivers: **P** for *peak* pattern, where crying increases, peaks during

the second month and then declines; **U** for *unexpected* timing of prolonged crying bouts; **R** for *resistance* to soothing; **P** for *pain-like look* on face; **L** for *long* crying bouts; and **E** for late afternoon and *evening* clustering. The materials reinforce their normality, suggest ways to soothe, underline that soothing is *not* always expected to work, describe why unsoothable crying is frustrating, and suggest three "action steps" when caring for a crying infant: (1) Increase "carry, comfort, walk and talk" responses; (2) If the crying is too frustrating, it's OK to walk away, put the baby down in a safe place, calm yourself and return to check on the baby, and (3) Never shake a baby. The *PURPLE* materials describe what SBS is, and emphasize "telling other" caregivers about the *Period of PURPLE Crying*, the frustration, the dangers of shaking, and action steps. They do not claim that unsoothable crying is soothable if caregivers act appropriately;(9-11;18) rather, they acknowledge the frustration that occurs when the infant is unsoothable.

Control materials consisted of the Canadian Pediatric Society brochure Safety Tips for Parents, Health Canada's brochure on sleep position and SIDS, and a DVD of clips from the Back to Sleep campaign (National Institute of Child Health and Human Development) and the Safe Start program at BC Children's Hospital on infant safety.

Outcomes

The questionnaire addressed knowledge concerning crying and shaking; behavior in the past month in response to crying generally and to unsoothable crying; the number and relationships of caregivers other than mother; and behavior concerning whether information was shared with each. Because there were no previously established relevant measures of crying, shaking or safety knowledge and behaviors, all questions were

created for this study. Outcome measures were defined during data collection and prior to analysis.

Of the eight primary outcome measures, five were scales of Crying Knowledge, Shaking Knowledge, Responses to Crying Generally, Responses to Unsoothable Crying, and Self-talk Responses to Unsoothable Crying. Scales were transformed to the range of 0-100; higher scores indicated better knowledge or improved behaviors. Three outcomes measured information-sharing behaviors defined as percent of mothers who shared information with at least one caregiver for each of three topics: crying, walking away if frustrated, and shaking dangers.

Four secondary outcomes were derived from Baby's Day Diary©(16) recordings of infant (including fussing, crying, unsoothable crying) and caregiver (body contact) behaviors previously described, used widely, and tested for reliability and validity.(12;19-24) "Distress" included fussing or crying or unsoothable crying.(25) As in other studies,(26;27) parents indicated prespecified events ("picking up your crying infant;" "put your baby down, walk away and take a break")—actions recommended in the *PURPLE* materials. Diaries were transcribed into a counting program [RonNicLog©(25)]. Mean inter-rater reliability scores (κ)(28) from a 7% sample were 0.99 for behavioral states and 0.75 for event codes. Three diary-derived outcomes were: (1) caregiver contact when infant was distressed (minutes/day); (2) pick-up events when infant was distressed (events/day); and (3) walk away events when infant cried unsoothably (events/day). A fourth outcome was a six-point Likert scale of frustration in response to the question "How frustrating to you was your baby's crying today?"

Power. For several outcomes, a total sample of 1052 to 4058 was estimated to achieve 90% power to detect a mean difference of 10% between intervention subjects and controls, using alpha=0.05 for a two-sided test with equal numbers in each group. We sought to enroll approximately 1200 subjects.

Missing Data. Of 1279 women, age was missing for 3%, education for 3%, family income for 9%, and marital status for 3%. All five knowledge and behavior scales were missing for 4%. These women had less education (completed high school: 24 vs. 14%), lower incomes (<40,000 dollars, 74 vs. 23%), and were less often in the intervention arm (40 vs 51%) compared to those responding to at least one primary outcome. Age and marital status were similar. All four diary measures were missing for 17%.

As non-random missingness might bias estimates of treatment effect, we performed analyses on known data and parallel analyses using multiple imputation methods previously described(29) as a sensitivity analysis. Unless noted, multiple imputation results were essentially identical with the reported known data results.

Statistical Analyses. Analytic strategy was determined independently of any results from the study. For continuous measures, the mean difference between intervention and control subjects was estimated using t-test. For diary event counts, incidence rate ratios using negative binomial regression(30;31) were estimated. Tests of statistical interaction were used to examine subgroups based on education, whether the intervention was read or viewed, baby's parity (1^{st} vs. $>1^{st}$), and whether the infant manifested unsoothable crying. Main effects terms were included for tests of

interaction.(32) If measures were not normally distributed, significance was confirmed using a non-parametric comparison. Analyses used Stata software.(33)

Results

We approached 3240 mothers (Figure 1); 2331 were invited to participate; 1833 mothers in four health regions consented and were randomized in permuted blocks of size 2 or 4. Since this was a test of materials and not materials delivery, those not receiving a nurse visit or lost to follow-up were excluded. The final intention to treat sample included 649 intervention and 630 control mothers who completed the interview, the diary, or both. Baseline characteristics were similar in both, implying no selection bias (Table 1).

Primary Outcomes. Crying knowledge scale scores were higher in the intervention group compared with controls (5.4 point difference). Shaking knowledge scores were not statistically different (Table 2).

Behavior scale scores regarding responses to crying and unsoothable crying were higher in the intervention group compared with controls, but not statistically significant (Table 3).

More (13.0%) intervention mothers shared information concerning walking away if frustrated by inconsolable crying, 12.9% more about shaking dangers, and 7.6% more about crying (Table 4).

Secondary Outcomes (Table 5). Using known data, walking away when an infant cried unsoothably was increased 1.7 times by the intervention during week five (incident rate ratio: 1.7, 95% CI: +1.1 to +2.6). Using multiply imputed data, walking away was increased 1.5 times (incident rate ratio: 1.5, 95% CI: +1.0 to +2.2). There were no significant differences in contact duration when distressed, picking up rates when

distressed, or daily frustration level scores. Durations and frequencies of distress, fussing, crying, and unsoothable crying were not statistically different (all p>0.1).

Subgroup Analyses (Table 6)**.** The intervention effect on crying knowledge was greater among women who watched the DVD, read the materials, or both. The intervention effect on shaking knowledge was greater in those with more education. There was little evidence that the intervention effect varied on any other scales by education level, reading or viewing the materials, being mother's first baby, or unsoothable crying on the diary.

Interpretation

For the eight primary outcomes, the *PURPLE* materials were associated with statistically significant improvements in four: compared with control mothers, intervention mothers scored 5% higher on crying knowledge; and more often shared descriptions of crying (8% difference), advice to walk away if frustrated (13% difference), and warnings about shaking dangers (13% difference). Small improvements on behavior scales in relation to crying generally and unsoothable crying specifically were not statistically significant. Walk away behavior with unsoothable crying was 1.7 times more frequent among intervention mothers. Maternal contact and pick-up events during distress and daily frustration levels were similar. Crying knowledge differences varied with materials used, evidence that reading and/or viewing them resulted in the observed differences. Absence of evidence that intervention effects varied with education (except for shaking knowledge), being the first baby, or unsoothable crying implies that the *PURPLE* program might be effective in other populations, unless such populations differed in ways not measured.

Since the normality of frustrating properties of early increased crying is neither widely known nor accurately represented in parent advice literature,(34) the significant increase in crying knowledge was important. As previously reported,(35) awareness of the dangers of shaking was already high, and no further gain was reported. The crying knowledge change represented a Cohen's effect size(36) of 0.46, twice the average effect size reported for short (0.23) or long-term (0.27) effects of 108 interventions measuring changes in parenting knowledge and attitudes.(37) The gain in information sharing behaviors about normal properties of crying, walking away if frustrated, and shaking dangers is important because temporary caregivers—especially males—are the most common perpetrators after biological parents.(13;38-40) Mothers recorded a higher rate of walking away behavior with unsoothable crying, as the second "action step" recommends.

This assessment was designed as a conservative test of the materials. Nurses did not know which, nor had they viewed or read, materials they were delivering. Stronger effects might have occurred if nurses had reinforced the messages,(4) or if the messages were reinforced by multiple exposures through prenatal, maternity and postnatal sites, media, and community support organizations. In the successful "Back to Sleep" campaign, the impact on behavior change was due to combined effects of clinician and nurse advice, reading materials, print and broadcast media.(41) The materials are available through the National Center on Shaken Baby Syndrome, Odgen, Utah (www.dontshake.org). For institutions, they are available for $2.00 USD/package (DVD and booklet) to be given to each set of parents of a newborn that they serve.

The only similar test of materials was an analogous randomized controlled trial of *PURPLE* materials in Seattle, WA.(29) Materials were delivered in prenatal classes, on maternity wards and at pediatric offices by research assistants, not health professionals. There was a 6.2 point increase in crying knowledge, a 6.5% increase in sharing information about walking away and a 5.6% increase in shared information about shaking dangers Reading and/or viewing materials were associated with higher crying knowledge scores. Differently from this trial, shaking knowledge showed a statistically significant 1.3 point increase, but sharing knowledge about crying and walking away from unsoothable crying were not different. There were no site-specific differences related to where or when the materials were received. Compared to our results of higher information sharing and walking away behavior rates, this may indicate a small benefit to early postpartum and/or public health nurse intervention.

The study has a number of limitations. First, although males are the most common perpetrators,(38-40;42) changes were assessed only for mothers. However, mothers were considered most important because they (1) are most likely to be reached by intervention programs; (2) are primary caregivers; (3) as such, need to know about the normality of crying, the frustration it produces, and shaking dangers; (4) are likely the best educators of other caregivers; (5) are more likely to choose appropriate caregivers, and (6) remain the second or third most common perpetrators.(38-40;42) Second, the outcome measures are maternal reports, not direct observations. Baby's Day Diary recordings have the advantage of being less susceptible to memory bias, but sample only four days of behavior. Third, missing data can result in biased estimates unless data are missing completely at random. Fourth, we did not adjust for multiple outcomes, increasing the

probability of chance findings. Finally, these results may not generalize to other populations. However, the trial is moderately large, employs a randomized controlled design, those collecting outcomes were blinded as to treatment, and we used intention to treat analyses using known data. Parallel sensitivity analyses using multiple imputation methods make biased estimates due to missing data less likely.

This study was not designed, nor large enough, to test whether the *PURPLE* intervention reduced SBS incidence. However, as a conservative test of producing differences in knowledge and behaviors likely to be relevant to SBS, these results appear encouraging that some knowledge and behaviors may be amenable to change when delivered soon after birth by public health home visitor nurses. They complement the small but increasing number of reports(4;29) that practical and contextually relevant materials presented to parents perinatally can change relevant knowledge and behaviors, and perhaps reduce SBS incidence.(4) Whether the *PURPLE Crying* materials actually reduce SBS and other forms of inflicted infant trauma when implemented in clinical practice and community settings remains to be examined.

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Figure 1 Consort diagram. R = randomization.

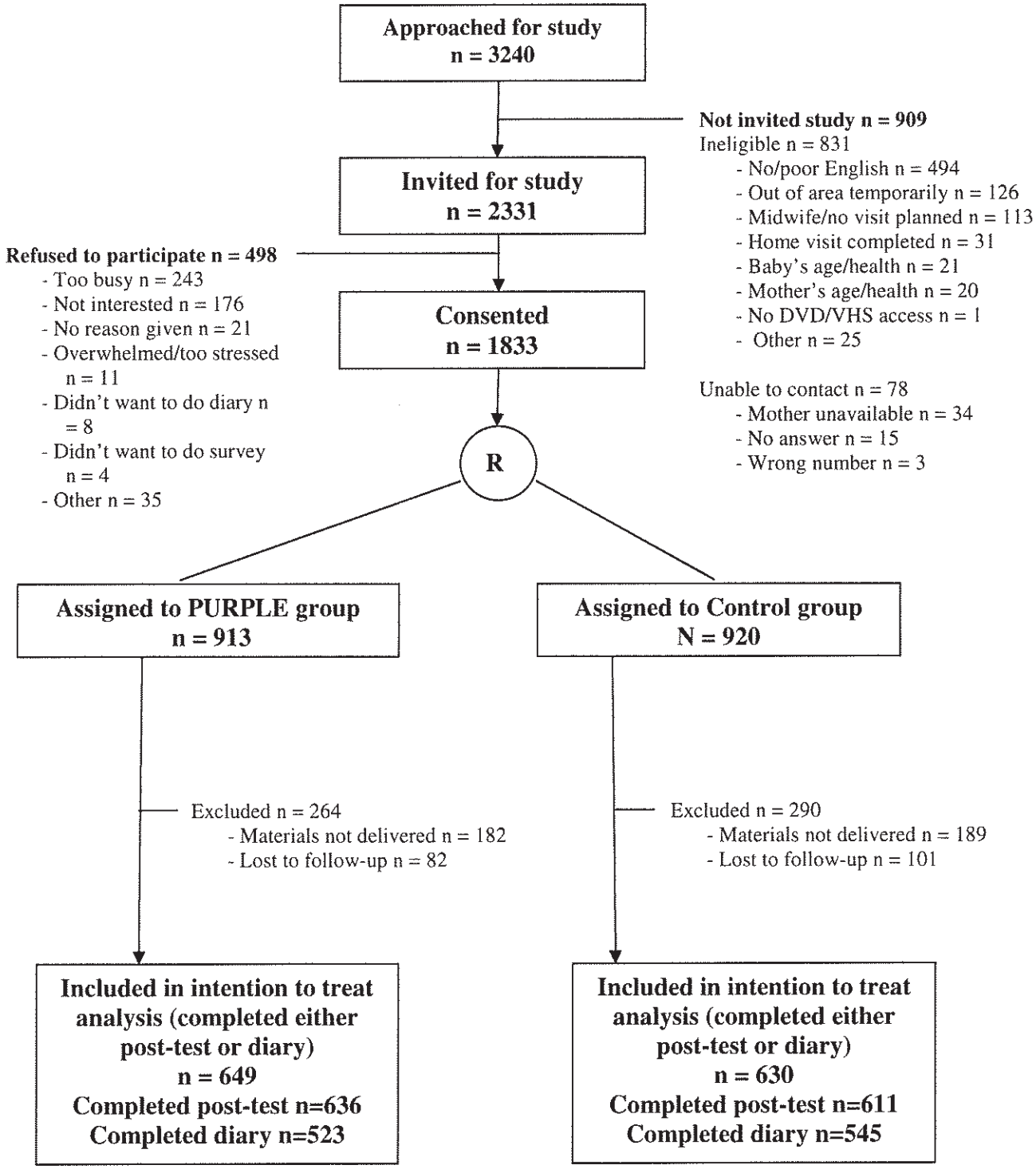

Table 1. Characteristics of study mothers by intervention arm

Characteristics [number (per cent)]		PURPLE N=649	CONTROL N=630
Demographic characteristics		N (%)	N (%)
Mothers age	<25 years old	65 (10)	40 (7)
	25-<30 years old	150 (24)	141 (23)
	30-<35 years old	221 (35)	248 (41)
	35+ years old	192 (31)	182 (30)
Educational year	High school or less (≤12 years)	91 (14)	79 (13)
	In college (13-15 years)	208 (33)	173 (28)
	Completed college (16 years)	142 (22)	150 (25)
	Graduate studies (17+ years)	194 (31)	208 (34)
Annual household income (dollar)	<40,000	125 (22)	147 (25)
	40,000-100,000	299 (52)	298 (51)
	>100,000	146 (26)	144 (24)
Married	Married	506 (83)	514 (81)
	Living with partner	69 (11)	72 (11)
	Never married	35 (6)	49 (8)
Parity	First baby	365 (58)	361 (59)
Recruitment/material characteristics			
Region	Vancouver	243 (37)	241 (38)
	Fraser South	191 (29)	182 (29)
	Fraser North	176 (27)	170 (27)
	North Shore	39 (6)	37 (6)
Material delivered by	Public health nurse	576 (89)	573 (91)

	Research assistant	63 (10)	43 (7)
	No delivery	10 (2)	14 (2)
Exposure to materials	Neither	23 (4)	24 (4)
	Watched video only	30 (5)	46 (8)
	Read pamphlet only	89 (15)	81 (14)
	Both	472 (77)	430 (74)

Table 2. Primary outcomes for knowledge scale differences at the end of the study, by trial arm. Scales range from 0 to 100. A positive difference favors the *PURPLE* intervention arm.

	PURPLE	CONTROL	Diff	95% CI
Crying knowledge	63.8	58.4	+5.4	+4.1, +6.5
Shaking knowledge	84.0	83.2	+0.8	-0.4, +1.9

CI = confidence interval

Table 3. Primary outcomes for responses to crying in the past month behavior scale differences at the end of the study, by trial arm. All scales range from 0 to 100. A positive difference favors the *PURPLE* intervention arm.

	PURPLE	Control	Diff	95% CI
Crying generally	48.3	48.2	+0.1	-1.5, +1.7
Unsoothable crying	27.7	26.0	+1.7	-0.6, +4.1
Self talk	36.0	32.9	+3.1	-0.3, +6.4

CI = confidence interval

Table 4. Percent of mothers who shared information about infant crying or shaking with other caregivers by study arm. A positive difference favors the *PURPLE* intervention arm.

	PURPLE	CONTROL	Difference	95% CI
Infant crying	67.6	60.0	+7.6	+1.7, +13.5
Walking away if frustrated with crying	51.5	38.5	+13.0	+6.9, +19.2
Shaking an infant	49.3	36.4	+12.9	+6.8, +19.0

CI = confidence interval

Table 5. Diary behavior measures with means or rates by study arm

Diary Measures	PURPLE	CONTROL	Diff./RR	95% CI
			Difference	
Contact when Distress (min/day)	109.8	106.1	+3.7	-4.2, +11.6
Frustration level	1.19	1.25	-0.06	-0.18, +0.05
			Rate ratio	
Pick up when Distress (number/person-day)	3.57	3.61	0.99	-0.9, +1.1
Walk away when Unsoothable crying (number/person-day)	0.067	0.039	1.7	+1.1, +2.6

CI = confidence interval

Table 6. Subgroup analyses of 5 primary study outcomes. Each cell shows differences in mean scores (*PURPLE* intervention mean minus control mean) with 95% confidence intervals in parenthesis. P-values are for a test that the difference estimates below are similar across subgroups.

	Crying knowledge	Shaking knowledge	Behavior for crying generally	Behavior for unsoothably crying	Self talk when unsoothably crying
Education	P = 0.23	P = 0.02	P = 0.56	P = 0.26	P = 0.14
High school or less	+3.7 (+0.1 to +7.4)	-2.4 (-5.9 to +1.2)	-0.2 (-5.2 to +4.8)	+2.2 (-4.2 to +8.6)	-2.5 (-12.1 to +7.1)
Some college	+7.1 (+4.8 to +9.4)	-0.1 (-2.0 to +1.9)	+1.4 (-1.5 to +4.4)	+4.5 (+0.5 to +8.5)	+7.9 (+1.9 to +13.9)
College or more	+5.1 (+3.3 to +6.8)	+2.1 (+0.6 to +3.6)	-0.5 (-2.6 to +1.5)	+0.1 (-3.1to +3.4)	+2.0 (-2.6 to +6.5)
Intervention read or viewed	P = 0.02	P = 0.45	P = 0.35	P = 0.24	P = 0.84
Neither	-2.4 (-10.4 to +5.5)	-3.6 (-9.7 to +2.4)	-3.4 (-11.7 to +4.9)	-10.6 (-24.1 to +3.0)	-2.6 (-20.5 to +15.3)
Watched DVD	+1.8 (-3.6 to +7.2)	+0.5 (-5.3 to +6.3)	+1.5 (-4.9 to +7.9)	+1.3 (-8.1 to +10.7)	-0.5 (-14.3 to +13.3)
Read pamphlet	+3.6 (+0.1 to +7.1)	-0.2 (-3.4 to +3.0)	-2.8 (-7.4 to +1.8)	+2.6 (-3.9 to +9.0)	+1.6 (-7.6 to +10.9)
Both	+6.4 (+4.9 to +7.8)	+0.9 (-0.3 to +2.2)	+0.8 (-1.0 to +2.6)	+2.2 (-0.6 to +4.9)	+3.7 (-0.3 to +7.6)
First baby	P=0.64	P=0.58	P= 0.77	P= 0.32	P= 0.16
No	+5.7 (+3.7 to +7.8)	+1.1 (-0.6 to +2.9)	+0.4 (-2.1 to +2.9)	+0.4 (-3.3 to +4.1)	+0.3 (-5.0 to +5.6)

Yes	+5.1 (+3.4 to +6.8)	+0.5 (-1.0 to +2.0)	-0.1 (-2.1 to +2.0)	+2.8 (-0.3 to +5.8)	+5.2 (+0.8 to +9.6)
Infant had unsoothable crying	P=0.34	P=0.12	P=0.47	P=0.32	P=0.57
No	+5.2 (+3.3 to +7.1)	+1.8 (+0.2 to +3.3)	0.0 (-2.3 to +2.3)	+0.3 (-3.0 to +3.6)	+1.4 (-3.2 to +6.1)
Yes	+6.5 (+4.5 to +8.6)	-0.1 (-2.0 to +1.7)	+1.3 (-1.2 to +3.7)	+2.8 (-0.9 to +6.5)	+3.5 (-1.9 to +8.9)

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Appendix

Knowledge Scales:

Mothers were asked "How much do you agree with each statement about an infant's behaviors and needs in the first few months of life?"

Answers were coded on a scale where 0 = Strongly agree; 1 = Agree; 2 = Disagree; 3 = Strongly disagree (Don't know or Refuse to answer was re-coded as a score of 1.5 out of 3 on the scale)

Crying Knowledge Scale.

(1) Infants cry more often in the late afternoon and evening.

(2) Infant crying increases in the first few weeks of life and reaches a peak in the first 2 or 3 months before getting less.

(3) If an infant is healthy, it should not cry unexpectedly or without a clear reason. (reverse scored)

(4) When an infant cries it is always a sign that something is wrong. (reverse scored)

(5) Sometimes a crying infant can look like she/he is in pain even when they are not.

(6) Sometimes healthy infants can cry for 5 or more hours a day.

(7) A good parent should be able to soothe his or her crying infant. (reverse scored)

(8) It is ok to walk away from a crying infant when his or her crying becomes very frustrating.

Shaking Knowledge Scale.

(1) One important role for parents is to protect their infant by making sure people who take care of their infant know about the dangers of shaking an infant.

(2) Shaking an infant can cause serious health problems or even death.

(3) Shaking a baby is a good way to help a baby stop crying. (reverse scored)

(4) Sometimes infant crying can be so frustrating or upsetting that I can see how someone might shake or hurt an infant.

(5) Shaking a baby can be very dangerous and can cause serious injuries.

Behavior Scales:

Response to Crying Generally Scale.

Mothers were asked, "How often did you do the following things with your infant in the PAST MONTH"?

Answers were coded on a scale where 0 = Did not do it; 1 = Once or twice; 2 = 3-5 times; 3 = 6-10 times; 4 = 11 times to almost everyday. Don't know or Refuse to answer were coded as missing.

(1) You picked up your infant when she or he fussed or cried.

(2) You put your infant down in a safe place and walked away when he or she fussed or cried to the point that you were frustrated.

(3) You told other people who take care of your infant about the characteristics of infant crying.

(4) You walked around with your infant when he or she fussed or cried.

(5) You told other people who take care of your infant what to do if they became frustrated with your infant's crying.

Response to Unsoothable Crying Scale.

Mothers were asked, "When your infant's crying was unsoothable, how often did you do the following things with your infant in the PAST MONTH"?

(1) Pass the baby to someone else for a while.

(2) Put the baby down in a safe place for a while.

(3) Took a break from the sound of crying.

(4) Took the baby for a walk or drive.

Self-talk Responses to Unsoothable Crying Scale.

Mothers were asked, "When your infant's crying was unsoothable, how often did you do the following things with your infant in the PAST MONTH"?

(1) Told yourself the crying would end.

(2) Told yourself your baby is ok.

(3) Told yourself there is nothing you can do.

(4) Told yourself it was not your fault.

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Stevanovic, Aleksandra MCF:EX

From: Yambao, Claire [CYambao@cw.bc.ca]
Sent: Monday, June 7, 2010 4:05 PM
To: Woodman, Lara MCF:EX; marilyn barr
Cc: Stevanovic, Aleksandra MCF:EX; Ketterer, Elizabeth MCF:EX
Subject: RE: PURPLE Training update and staff changes

Hi Lara,

Please find below an update on PURPLE training from October 01, 2009 to May 31, 2010.

B.C. program staff developed a training package which was mailed out to 1043 foster parents in October, 2009. The 18 foster parent associations throughout the province provided PURPLE training to foster parents via in-services and Compact Discs. Online training which was specifically designed for foster parents and was available 24/7 free of charge was also offered. From October 2009 to May 2010, with respect to the online modules, 191 foster parents completed training for a total of 592 trained thus far.

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Sessions continue to be offered on an ongoing basis as requested.

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Thank you.

Regards,

Claire

Claire Yambao, B.A.
Provincial Program Coordinator
Prevent SBS BC

BC Children's Hospital
4480 Oak Street, K1-209
Vancouver, BC V6H 3V4
Tel: (604) 875-2000 ext. 5100
Fax: (604) 875-2770
Email: cyambao@cw.bc.ca
Website: www.dontshake.ca

Please join us in Atlanta, Georgia for the Eleventh International Conference on Shaken Baby Syndrome/Abusive Head Trauma on September 12, 13, 14, 2010. For more information visit www.dontshake.org/conference.php.

-----Original Message-----
From: Woodman, Lara MCF:EX [mailto:Lara.Woodman@gov.bc.ca]
Sent: Monday, June 07, 2010 12:07 PM
To: marilyn barr; Yambao, Claire
Cc: Stevanovic, Aleksandra MCF:EX; Ketterer, Elizabeth MCF:EX
Subject: RE: PURPLE Training update and staff changes

Thank you very much Marilyn, it has been my pleasure. Elizabeth will make a great addition to the PURPLE steering committee.

I am not at the office today, but was just wondering if it would be possible for you to send the training update I requested in my original email below to Aleks by the end of today? We have a meeting with one of our ADMs tomorrow morning at 8:30 to discuss the project. Thanks very much for your help.

~Lara

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From: marilyn barr [mailto:mbarr@dontshake.org]
Sent: Sun 6/6/2010 6:34 PM
To: Woodman, Lara MCF:EX; 'Yambao, Claire'
Cc: Stevanovic, Aleksandra MCF:EX; Ketterer, Elizabeth MCF:EX
Subject: RE: PURPLE Training update and staff changes

Lara, It has been a pleasure to work with you. You have been efficient, interested, thorough, nice and very responsive. I am pleased to meet and work with Elizabeth Ketterer and we wish you well in your new responsibilities. Warmly, marilyn

Marilyn Barr

Director, Prevent Shaken Baby Syndrome, BC

604 662-8691

Mobile:

mbarr@dontshake.org

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From: Woodman, Lara MCF:EX [mailto:Lara.Woodman@gov.bc.ca]
Sent: Thursday, June 03, 2010 11:33 AM
To: marilyn barr; Yambao, Claire
Cc: Stevanovic, Aleksandra MCF:EX; Ketterer, Elizabeth MCF:EX
Subject: PURPLE Training update and staff changes

Good morning Marilyn and Claire,

I hope you are both well. I am writing to inform you both that we have recently had some restructuring in our department and I will no longer be responsible for the PURPLE file as my portfolio has changed. I have thoroughly enjoyed my experiences working on this file and participating in the steering committee meetings (though it would have been lovely to meet you in person!). My colleague Elizabeth Ketterer will be taking over the responsibility for this file. I will be working on transitioning the work over to Elizabeth over the coming weeks. Please add her to your contact lists and include her in future meeting invitations.

On a separate note, Aleks has asked that I obtain an update from you on the training that has occurred thus far for foster parents, MCFD personnel and community groups. Below is the information you provided in your latest contract report, which included the work completed up until March 31, 2010. If further training for these groups has occurred since March, please provide the updated figures.

B.C. program staff developed a training package which was mailed out to 1043 foster parents in October, 2009. The 18 foster parent associations throughout the province provided PURPLE training to foster parents via in-services and Compact Discs. Online training which was specifically designed for foster parents and was available 24/7 free of charge was also offered. In the last six months, with respect to the online modules, 164 foster parents completed training for a total of 565 trained thus far.

An education program specific to MCFD personnel was developed collaboratively with Jackie Behrens and other leadership. From October 2009 to March 2010, in-services and web conferences were offered weekly. A total of 16 in-services and 11 web conferences were provided. To date, 754 MCFD personnel across the province attended the sessions by these two methods. Sessions continue to be offered on an ongoing basis as requested.

Community Agencies: Two out of six private adoption agencies in the province completed training and commenced implementation of PURPLE in October, 2009. Military advocacy personnel completed training in January, 2010. Train the trainer sessions were provided to 51 Child Care Resource &

Referral personnel in the Vancouver Coastal, Vancouver Island, Fraser and North Regions. Personnel who completed training provide PURPLE education via workshops, classes and consultations to the child care providers and parents they support. Immigration Services Offices who provide MCFD Child Care Subsidy Outreach (BCSAP Stream 1) were contacted individually and offered training in February, 2010. English Language Services for Adults, Affiliation of Multicultural Societies and Service Agencies of BC and their affiliates were also contacted and offered training. The Early Childhood Development Planning Table in Vancouver Coastal completed training in March, 2010. CHIMOS crisis lines and their affiliates who support transition houses completed training in March, 2010. Four additional pregnancy outreach and infant development offices completed training online and a total of 95% of their offices currently offer the program. Various Family Services throughout the province implemented the program. PURPLE has been incorporated into the curriculum of 6 additional post-secondary institutions for Registered Nurses, Licensed Practical Nurses, Midwives, Early Childhood Educators and Community Health Support Personnel. A podcast of the program summary was developed in January, 2010 to supplement student training.

Thank you once again for your assistance with this matter. All the best and I look forward to hearing from you.

Lara Woodman
Policy Analyst
Early Years Policy Team
Ph: 250 356-7277
Cell:
Fax: 250 356-0399
Email: Lara.Woodman@gov.bc.ca

Westphal, Andrea MCF:EX

From: Stevanovic, Aleksandra MCF:EX
Sent: Monday, June 7, 2010 4:08 PM
To: Westphal, Andrea MCF:EX
Subject: FW: PURPLE Training update and staff changes

For my 9:30 mtg tomorrow, thanks Andrea.

-----Original Message-----
From: Yambao, Claire [mailto:CYambao@cw.bc.ca]
Sent: Monday, June 7, 2010 4:05 PM
To: Woodman, Lara MCF:EX; marilyn barr
Cc: Stevanovic, Aleksandra MCF:EX; Ketterer, Elizabeth MCF:EX
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Thank you.

Regards,

Claire

Claire Yambao, B.A.
Provincial Program Coordinator
Prevent SBS BC

BC Children's Hospital
4480 Oak Street, K1-209
Vancouver, BC V6H 3V4
Tel: (604) 875-2000 ext. 5100
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Marilyn Barr

Director, Prevent Shaken Baby Syndrome, BC

604 662-8691

Mobile:

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Policy Analyst
Early Years Policy Team
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Period of PURPLE Crying Training Update

October 1, 2009 to May 31, 2010

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CONFIDENTIAL ESTIMATES NOTE **Ministry: Children and Family Development** **Date: March 5, 2010** **Minister Mary Polak**	**Shaken Baby Syndrome Prevention Program**

KEY FACTS:

- The *Period of* PURPLE *Crying* ® program comprises elements of education, surveillance and intervention related to the prevention of shaken baby syndrome in infants. The ultimate goals of this program are to create a cultural change in parents' understanding of and response to infant crying and a 50 per cent decrease in the number of cases of traumatic brain injury due to shaken baby syndrome.
- Minister Christensen launched the program by making a public announcement at Children's Hospital in April 2008.
- The Ministry of Children and Family Development (MCFD) is endorsing and offering funding to the project, which is led by Prevent Shaken Baby Syndrome BC (PSBSBC). The program is also supported (and funded) by several other organizations, including the BC Children's Hospital, the Fraser Health Authority, the Vancouver Foundation and the Rick Hansen Foundation.
- The Ministry of Healthy Living and Sport provides in-kind support to the program, as maternity services and the public health nurses are vital to the delivery of the program.
- The *Period of* PURPLE *Crying*® prevention program implements a 'triple-dose' strategy to educate parents and the community about normal infant development through the distribution of attractive, positive messages for caregivers rather than negative warnings about the consequences of shaken baby syndrome.
- Program materials are distributed directly to new parents via birthing hospitals (Dose I), public health units, including public health nurses on home visits (Dose II) and to the general public through a broader media campaign (Dose III).
- MCFD has provided a commitment of up to $1.4 million over four years (2007/08 – 2010/11) to support the program.
- The ministry entered into a contract with the Children's and Women's Health Centre of BC on October 1, 2007, to implement the *Period of* PURPLE *Crying* ® prevention program. The initial contract expenditure for 2007/08 was $185,873.
- The contract was extended from October 2008 to September 2009, for a total contract value of $427,000 for the latter half of fiscal year 2008/09 and the first half of fiscal year 2009/10. The contract was further extended from October 2009 to March 2010, for a contract value of $277,864.50.
- Funds are secure in the MCFD budget to support this program until the end of fiscal 2010/11. Over the next fiscal year, the program will focus on a public education campaign to educate the general public on the dangers of shaking a baby.

Program Area: Early Childhood Development Policy and Support

Key Contact	ED	Deputy (if required)
Lara Woodman	**Aleksandra Stevanovic**	

- The public education campaign (Dose III) is intended to reinforce the *Period of PURPLE Crying* message among parents of infants and to introduce the program to friends, family members (e.g. grandparents) and others involved in the care of infants (temporary caregivers).
- The goal is to bring about a *cultural change* in the way society understands the meaning of increased crying in early infancy, and the dangers of shaking as a response to the frustration with that crying.
- From 2006 to 2007, MCFD provided $386,644 to support the Shaken Baby Syndrome Research Project, some of which was carried out in partnership with BC Children's Hospital.

Actual Expenditure for 2007/08	Actual Expenditure for 2008/09	Budget for 2009/10	Budget for 2010/11
$185,873	$363,035	$426,000	$303,000

Program Implementation:

- As of January 2009, the program was fully implemented in all birthing hospitals and Health Units across British Columbia:
  - 1,950 (97.7%) of a targeted 1,997 maternity nurses trained
  - 950 (99.1%) of a targeted 959 public health nurses trained
  - 53 birthing hospitals and 123 health units implemented the program
- Health care support staff including emergency room physicians and nurses, family physicians, pediatricians and midwives have received training in administering the program.
- The surveillance/evaluation aspect of the program includes collaboration with emergency services and hospitals in reviewing patient charts, child protection services in reviewing all abuse cases involving children under age two, public health nurses on home visits and, if warranted, with the BC Coroner's Office in conveying details of deaths of children under age two due to abusive head trauma.
- From October 2008 to February 2009, specific training material for Ministry of Children and Family Development personnel and contracted family support workers was developed. To date, a total of 754 MCFD Social Workers across the province have received training through in-services and web conferences.
- Development and approval of the *Period of* PURPLE *Crying*® presentation for foster parents was completed for online training February, 2009. The online module is currently available to all foster parents with downloadable certificate of completion.
- In August 2009, additional training methods were identified so that training for foster parents will have three components:
  1. On-line training or in-person training for foster parents available through regional Foster Parent Support Society offices;
  2. Training for MCFD Resource Social Workers to ensure that they encourage the use of the on-line foster parent training modules when placing infants in foster homes; and
  3. In September 2009, foster homes that identified a preference to care for children under the age of 3 were mailed a package containing an information sheet which explains the basic points of the program, the Period of Purple Crying DVD/ Information Pamphlet and instructions on how to access the on-line training.

Program Area: Early Childhood Development Policy and Support

Key Contact	ED	Deputy (if required)
Lara Woodman	**Aleksandra Stevanovic**	

- Eighteen foster parent associations throughout the province were trained to provide *PURPLE* education to foster parents via in-services and Compact Discs.
- Ongoing training for foster parents will be provided 24/7, free of charge via online and Compact Disc. Training sessions will also be conducted via webinars and in-services as needed.
- As of January 2010, 565 foster parents across the province had completed the training using the online training module.
- The Children's and Women's Health Centre of BC is also providing the *Period of* PURPLE *Crying*® prevention program to Aboriginal families.
- The program is working with First Nations Health Council and a BC Perinatal Health Program Aboriginal Nurse Consultant to train First Nations health centre nurses and other groups working with the Aboriginal population.
- Program staff are currently working with Child Care Resource & Referral agencies, Early Childhood Development programs, Emergency Room departments, Child & Youth Mental Health community programs and Immigrant Settlement Service Agencies.

Program Area: Early Childhood Development Policy and Support

Key Contact	ED	Deputy (if required)
Lara Woodman	**Aleksandra Stevanovic**	

Stevanovic, Aleksandra MCF:EX

From: Woodman, Lara MCF:EX
Sent: Friday, March 5, 2010 3:16 PM
To: Stevanovic, Aleksandra MCF:EX
Subject: Shaken Baby Year 4

Hi Aleks, here is what is in the original PURPLE Proposal. I have also attached the Schedule for the current contract, which will need to be updated by the program for 10/11 once we have confirmation of funding. Thanks!

Objectives Year 4 (2010-2011)

- **Review process evaluation** and begin process to insure the program will be institutionalized in Maternity Services, Public Health Home visitors. Participate in the development of policies that require the program and training manuals that describe it...
- **Establish methods to sustain the program.** Assist in gaining funds to support the program for ongoing years.
- **Present the results** of the program and its effectiveness to agencies that have the authority to insure it is sustained.
- **Continue to provide training, materials, services and support** to the participating organizations to insure consistency and continuity takes place and the program is widely accepted.
- **Provide a detailed report to MCFD** about the outcome of the initiative and the reduction of SBS in B.C.
- **Evaluation.**
    - Continue "penetration" indices and maternal sampling 6-month interviews
    - Continue annual data set collections and analyses
    - Carry out time 2 public survey (Ipsos-Reid omnibus poll)
    - Obtain time 2 CIHI discharge data set
    - Analyses of data sets
    - Writing papers, reports and presentations.

FINAL_ Schedule A_SBS Period o...

Lara Woodman
Policy Analyst
Early Years Policy Team
Ph: 250 356-7277
Cell:
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Email: Lara.Woodman@gov.bc.ca

Prevent Shaken Baby Syndrome BC

A program of BC Children's Hospital

Aleksandra Stevanovic
A/Director
MCFD -- Early Years Policy
2nd Fl, 777 Broughton Street
Victoria, BC
V8W 1E3

March 17, 2010

Dear Alecks,

As per your request, I have prepared a budget for our new fiscal year April 1, 2010 - March 31, 2011(Year 3). I have also prepared the Year 4 budget to complete the research project.

You asked me to prepare a budget and the deliverables and to try to decrease the total amount allocated to complete this project. I am very pleased to tell you that, after much consideration and alterations to the original budgets submitted with our proposal, I have been able to reduce the cost of this project for Years 3 and 4 by 10%.

This has been accomplished by the following methods:

1. The implementation staff has been reduced from three full time staff, plus one part time staff (10 hours a week), to one full time staff and one office assistance half time in Year 3. The same will be the case Year 4 but the office assistant will be one quarter time.

2. The Director's salary (M Barr) continues to be paid by the BC Children's Hospital and I will continue to lead the project.

303,050

3. Office Space for the Implementation Team continues to be offered at no cost to the project by the BC Children's Hospital.

172,556

4. Training meetings for public health nurses and maternity nurses will be conducted by conference call luncheon meetings instead of going to the sites. This reduced the cost of travel significantly.

5. *PURPLE* Materials were purchased in advance to avoid a cost increase.

6. The public education campaign was reduced by $20,000 in Year 4. We will rely on more donated and earned media to enhance our paid media campaign.

4480 Oak Street,
ACB, Room K1-209
Vancouver, BC, V6H 3V4

Following is an accounting of the funds allocated, used and projected by this project.

British Columbia Infant Abuse Prevention Program	
Carry over from 2009	57,165
Year 3 Budget (2010)	427,149
Year 4 Budget (2011)	378,980
Total	863,294
One half year contract. Funds used from October 1, 2009 to March 31, 2010	(269,843)
Accounts payable. A contact has been established for the media campaign to be conducted in 2010. (Documentation on File).	(65,000)
Total for Year 3 and Year 4	528,451
10% reduction requested by the MCFD	(52,845)
Balance remaining for use in Year 3 and 4	**475,606**
Year 3 budget April 1, 2010 to March 31, 2011	303,050
Year 4 budget April 1, 2011 to end of analysis.	172,556
Total	**475,606**

The detailed budget for year 3 is attached. Year 4 is available when needed.

On behalf of the implementation team and the research evaluation team we continue to appreciate the support the Ministry of Children and Family Development gives to this evidenced based infant abuse prevention project.

Sincerely,

MBarr

Marilyn Barr, Director
Prevent Shaken Baby Syndrome BC

4480 Oak Street,
ACB, Room K1-209
Vancouver, BC, V6H 3V4

BC CHILDREN'S HOSPITAL
An agency of the Provincial Health Services Authority

British Columbia Shaken Baby Syndrome Prevention Program

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Marilyn Barr, Director

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Staff:

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Director
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Marilyn has worked in the field of child abuse prevention since 1978 and has a degree in social work and communications. She developed one of the first prevention programs on shaken baby syndrome and has directed four national conferences and three international conferences on shaken baby syndrome, as well as fifteen state and national conferences on child abuse and neglect.

Marilyn was the Founder and Chief Executive Officer of the Child Abuse Prevention Center of Utah (1981-2003), as well as the Founder and President of the Board of Directors, Utah Chapter of the National Committee for the Prevention of Child Abuse (1983-1987). Marilyn has been a psycho-education instructor for adult sex offenders, won the Commissioner's award for Outstanding Leadership and Service in the Prevention of Child Abuse and Neglect (1998, U.S. Department of Health and Human Services), and was the National Victims Rights Advocate of the Year in 1998 (United States Justice Department).

Marilyn currently serves as the Director of the BC Shaken Baby Syndrome Prevention Program in Vancouver, BC and is also the Founder and Executive Director for the National Center on Shaken Baby Syndrome in Utah, USA.

Jocelyn Conway
Program Coordinator
Email: jconway@cw.bc.ca

Jocelyn received her degree in psychology in 2003 from Simon Fraser University. She was hired as the Community Coordinator for the Period of PURPLE Crying research study in early 2005, with half time duties for the BC SBS Prevention Program. Her previous research work was for the Forensic Psychiatric Services Commission, Riverview Hospital, and the Institute for Law and Psychology at SFU. Previous to getting her degree she worked in various office positions which eventually culminated in managing a family owned business before staying home to raise her children.

She serves currently on the Board of Directors for the Auxiliary to Sunny Hill Health Centre for Children and has since 2004. She was also a family volunteer at Canuck Place in 2004. Jocelyn's interest in working towards the prevention of shaken baby syndrome is not only to save babies lives, but is also based on a desire to contribute towards a societal shift in knowledge and attitudes regarding early infant crying and its direct association with shaking.

Claire Yambao
Information Specialist
Email: cyambao@cw.bc.ca

Claire received her BA in psychology from the University of Victoria in 2004. She has previously worked as an ESL teacher and provided client centered care at a mood disorders clinic. She began working as a research assistant for the Centre for Community Child Health Research in 2006, recruiting participants in the study of the Period of PURPLE Crying program materials. She developed a strong interest in the prevention of shaken baby syndrome and transferred to the BC SBS prevention program when her duties for the above study were completed.

Ministry of Children and Family Development
Preventing Shaken Baby Syndrome and Infant Abuse:
The *Period of PURPLE Crying* Program

Proposal: A province-wide implementation of the *Period of PURPLE Crying* program for the prevention of Shaken Baby Syndrome [SBS] (abusive traumatic brain injury) in infants.
Target: Implement a universal prevention program for all 40,000 births/year in BC over 4 years.
Outcomes: (1) Bring about a cultural change in knowledge of crying and shaking in parents of newborns and society generally to permanently reduce shaking and SBS;
(2) reduce incidence of SBS by 50% in 4 years.
Program Description: Each parent of a newborn receives a "triple dose" of education about normal infant crying and dangers of shaking an infant: (1) in hospital maternity wards; (2) by home visitor public health nurses; and (3) through a public education campaign. Other health centers, physicians (family practice, pediatricians and ER physicians and nurses), early child specialists, First Nations, minority and at risk populations will be targeted.
Evaluation: 5-components to measure reaching goals:
(1) active surveillance of traumatic head injuries in infants at BC Children's Hospital;
(2) active surveillance of SBS cases and abusive injuries from 5 provincial child protection services;
(3) process evaluation of program "penetration," effects, and to accessibility;
(4) passive surveillance with CIHI (Can. Inst. Health Info) and Ministry of Health discharge data, compared with rest of Canada;
(5) passive surveillance with Canadian Pediatric Society Surveillance data system.
Background and Significance:
Physical abuse is a leading cause of death and morbidity infants under age 2. SBS is the leading cause of death and morbidity in infants under age 1 and peaks at 3 months. Incidence ranges from 22-30/100,000 births. Twenty-five per cent die; 80% of survivors have life-long permanent disability. Estimated medical costs $32,000 initially; 1 million lifetime, not counting legal costs and incarceration of perpetrator.
Typical crying in normal infants is the stimulus in over 90% of cases. Shaking is common. 1.9% of parents in British Columbia believe it is a good way to soothe their infant.
SBS is preventable. Maternity ward education of parents may reduce SBS incidence by 25-47% (current best practice). ***Period of PURPLE Crying*** program should improve on best practice by (1) linking understanding of normal development (crying) to dangers of shaking; (2) higher acceptability to parents (educational rather than threat); (3) higher acceptability to nurses; (4) available in 8 languages; (5) "triple dose" primary universal community-based education.
MCFD Support: **Phase I** (2004-2007): With other partners, MCFD supported randomized controlled trial of *Period of PURPLE Crying* materials to change knowledge, attitudes and behavior when delivered by public health home visitor nurses before 2 weeks of age. Cost: $386,644 (52% of project costs: see page 2). Results: (1) improved crying knowledge by 4.5-22%; (2) increased walk away when frustrated behavior by 69%; (3) *increased* sharing of knowledge and prevention by 9-13% overall, ranging from 5-38% depending on caregiver.
Phase II Implementation (2007-2011) Proposed: With at least 7 other financial partners (see budget), MCFD component requested: **07/08** $231,800; **08/09** $473,900; **09/10** $473,000; **10/11** $469,000.

Summary: This proposal describes a comprehensive, empirically-based prevention program to reduce a ***preventable*** health burden in British Columbia. It incorporates best practices, but goes beyond it by (1) using an empirically tested program (*The Period of PURPLE Crying*) previously tested in BC; (2) using the home visitor nurse program, unique in N. America for optimal program delivery; and (3) bringing about a cultural change in understanding crying and shaking baby syndrome to sustain improvement. Successful implementation would make British Columbia the first province- or state-wide jurisdiction in North America to do so.

Financial Support 2004-2007

MCFD Support:

Fiscal year 2004-2005	$ 55,700
Fiscal year 2005-2006	$125,473
Fiscal year 2006-2007	$131,073
Fiscal year 2007-2008	$ 74,398
Total	**$386,644**

Other Support:

B.C. Children's Hospital	$232,500
Human Early Learning Partnership (H.E.L.P.)	65,000
Community Care Foundation	5,000
Rick Hansen Foundation	18,598
Fraser Health Authority	28,200
Total	**$349, 298**

Partner's for the Next Project in 2007-2011:

- Children's Hospital (office, director's salary) $77,500 (confirmed)
- Francophone Services of BC (translation) $10,000 (confirmed)
- Ministry of Health, Japan $10,000 (confirmed)
- Foresters (general costs) $ 5,000 (confirmed)
- Fraser Health (Web based learning Modules, cont.) $18,200 (TBD for 2008)
- Rick Hansen Foundation (Media Campaign Supplement) $18,598 (submitted 1-07)
- Vancouver Foundation (Website Development) $22,050 (confirmed)
- Volunteer time of 800 Public Health Nurses and Maternity nurses B.C wide @ 10 minutes per birth Family X 40,000 births a year X 4 years = 26,667 Donated hours of presentation time. 2/3 of these are confirmed.
- National Center on SBS will donate the "canned" media ads for broadcast and print media and billboards. Value $50,000.
- Centre for Community Child Health Research will donate the partial salary of a post doctoral fellow who will be the primary analyst for the evaluation. Value $38,000

Steering Committee

BC CHILDREN'S HOSPITAL
An agency of the Provincial Health Services Authority

BC Children's Hospital Shaken Baby Syndrome Steering Committee November 2006

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Shaken Baby Syndrome – Intentional Injury Prevention Program
Steering Committee Minutes

October 27, 2006

Present: Karen Breau (Chair), Marilyn Barr, Dr. Ian Pike, Dr. Jean Hlady, Clara Robbins, Dr. Bob Armstrong, Sharon Toohey, Lidia Kemeny

Regrets: Beth Larcombe

Recorder: Mia Woerler

1.0 Approval of the Agenda

- Agenda was approved as circulated

2.0 Approval of July 7, 2006 meeting minutes

- Minutes from the meeting were approved as circulated

3.0 SBS Symposium – May 19, 2006

- The symposium was a success with 146 participants
- There were complimentary seats for MCFD people as well as for the Ophthalmology Department at Children's hospital
- There was high interest from the law enforcement. However feedback was that it was too medically geared
- The next North American conference will be held in Vancouver in 2008

4.0 Educational Presentations

4.1 Kyoto and Tokyo, Japan Conference and Case Consultation

- Two conferences were held - one in Kyoto and two in Tokyo
- Conferences were sponsored by the Japanese child abuse teams of approx. 15 people
- Technology is very sophisticated however they are far behind in child abuse detection and intervention
- Only 5 SBS cases have been prosecuted in Japan – with 2 being confessions
    - Father confessed that he didn't "shake very hard"
- China and Hong Kong are just beginning to identify child abuse and are identifying services and to build expertise

4.2 North American Conference on SBS, Park City Utah

- Marilyn Barr and Jocelyn Conway presented "Translation of PURPLE" in Utah
- There is a lot of national interest in the translation process
- Ongoing challenge of translation is identifying the exact word for "shaking"
    - Chinese was translated to "shivering"
    - Spanish was translated to "dusting"
    - Punjabi was translated to "without hope"

5.0 Update on SBS Surveillance System – Ian Pike

- The larger project is to establish a surveillance system to track inflicted injury in BC children and youth 0-19 years
- Phase 1 is to look at Inflicted Childhood Neurotrauma in BC Children 0-2 years, with a motivation to gather baseline and monitor the effectiveness of the Period of PURPLE Crying intervention
- Ethics approval has been given by C&W and UBC
- Dr. Ash Singhal, Neurosurgeon has started collecting data on all head injury coming to Children's hospital

- Administrative databases will also be used to establish a retrospective baseline. The problem with the administrative data is that it is received one to two years after the fact.

- A challenge remains in identifying cases of interest that are treated at hospitals other than BCCH. We are attempting a strategy starting with those hospitals that have CAT and PET scanners.
- Another challenge is identifying the small number of cases that may be treated in Alberta
- Sharon Toohey advised that work is under way by the National Child and Youth Health Coalition on health indicators. The group may be helpful in this regard. The BCCH contact is Sharon Beynon
- Ian presented on behalf of the ISPCAN Conference bid committee in York, UK in hopes that the 2010 ISPACN Conference will come to Vancouver.

6.0 Fundraising for SBS Programs

Marilyn reported that

- we are working to receive funding from various organizations
- we have submitted 4 to 5 proposals and are waiting to hear back
- we should hear from the Vancouver Foundation next week
- Fraser Health Authority would like to provide funding to further assist in development of a website and to develop and implement an online training program. Also to assist in the development and implementation of a SBS information referral service

Funded Translation Projects:

- Chinese – Community Cares Foundation
- Punjabi – Rick Hansen
- Spanish – DDCF (US)
- Korean – Rick Hansen
- Vietnamese – Rick Hansen

Not yet funded:

- French – Francophone Affairs
- Japanese – new contact

7.0 SBS PURPLE Prevention/Educational Product Development

- To date 1,431 subjects have received study packages
- 827 subjects have completed both of the tasks
- 1,016 have completed one or the other task
- Recruitment takes place in five Lower Mainland maternity wards including: BC Women's, Surrey Memorial, Royal Columbian, Burnaby General, and Lions Gate
- It also involves the participation of 19 community and public health units for delivery of the packages to new moms
- Recruitment is scheduled to be completed on November 30, 2006. The last participant will be finished the study by the middle of February. Preliminary analysis will begin in February and results are expected in March, 2007.
- Visits will be made to all participating centres and hospitals in the New Year to present the Period of PURPLE Crying booklet and film as the nurses have not had a chance to view them and to recognize their support for the program
- The main goal is to instill a cultural change in parents' attitude and behaviour towards crying
- Implementation will be geared towards information health centres, Public heath centres, media, childcare trainers, etc.

8.0 Other Business

- Marilyn and Ron Barr will be meeting with MCFD November to update them about the research project and discuss implementation. The next North American SBS conference will be held in Vancouver from October 6 – 8, 2008

9.0 Next Meeting

- The committee will determine the next meeting date for early February.

Shaken Baby Syndrome – Intentional Injury Prevention Program
Steering Committee Minutes

July 7, 2006

Present: Karen Breau, Marilyn Barr, Ian Pike, Dr. Jean Hlady, Clara Robbins

Regrets: Dr. Bob Armstrong, Sharon Toohey, Lidia Kemeny

Guest: Beth Larcombe, Coroner – Child Death Review

Recorder: Mia Woerler

Karen started the meeting with introductions around the table

1.0 Approval of the Agenda

- Ian Pike was asked to report on the Surveillance Project so it was added to the agenda

2.0 Approval of December 5th, 2005 meeting minutes

- Minutes from the meeting were approved as circulated
- Karen indicated that she had contacted Barb Hestrin and she is interested in staying as a member of the committee

3.0 Review of Three Year Report: Each member received a copy of the *draft* report and Marilyn Barr reported:

Environmental Scan:

- An environmental scan was conducted from February to June 2003 which demonstrated the need and provided direction for the project
- From the 96 mail-out survey there was a 40% response rate. 73% surveyed indicated that they thought that SBS was a serious problem
- Recommendations for the SBS prevention program included:
    - Educate parents and other caregivers about the normal characteristics of infant crying;
    - Increase the knowledge of the dangers of shaking infants;
    - Conduct research to determine if the program is effective;
    - Provide training opportunities in BC for professionals working with SBS cases; and those working with families that address investigation, diagnosis, treatment, family support, and prevention strategies to stop shaken baby syndrome.
- Challenges faced to provide an intervention program in BC
    - Need to establish an accurate system that will provide SBS incidence data;
    - Inclusion of BC's ethnic population in the education program including translation of the program into various languages;
    - Establishing and institutionalizing the necessary resources to adequately support the prevention program

Activities:

Research on a new SBS prevention program was developed. The MCFD provided a grant for the research.

- Focus groups were recruited – 60 members from public and community health units
- Participants for the study are being recruited from many health units. 30 to 40 are being recruited per week. Expect to recruit 1,700 participants. Recruitment is expected to be complete by end of November 2006
- The analysis of the study will be available sometime in Spring 2007
- The major focus of the study is to change attitude, knowledge and behaviour of people towards crying

Translation:

- PURPLE Crying materials were translated into Traditional Chinese and Cantonese. The Rick Hansen Man in Motion Foundation provided funding to translate the materials into Punjabi. An additional $18,595 is available to translate to Vietnamese and Korean. Chinese and Spanish were not easily translated as the meaning of "shaking" was difficult to translate

Future Activities.

- A website address has been secured for the program "dontshake.ca" This website will contain Canadian content. A proposal has been submitted for website development. There may be a donor interested in financing this project.

Action: Karen Breau to give Marilyn Barr contact information for website development. Grief works may be a model to use

Distribution of the Three Year Report. Marilyn asked the steering committee for their ideas for distribution. She also asked them to make any recommendations for changes by July 31.

- Suggestions for distribution of Review to groups/individuals – B.C.child protection teams, Health Canada Child Maltreatment group, Centre of Excellence in Toronto, Canadian Pediatric Society, Directors from MCFD, child development centres, Red Cross, Roots of Empathy group, educational institutions, health advisory committee, partners and participants mentioned in Review, Early Childhood Development Centres (~10).

4.0 SBS Symposium – May 19, 2006

The Second British Columbia Symposium on Shaken Baby Syndrome was held at the Children's and Women's Health Centre (CHAN Centre) on May 19, 2006. The sponsors for the event were the Ministry of Children and Family Development, the Fraser Health Authority, Children's and Women's Health Centre of British Columbia, the National Center on Shaken Baby Syndrome (NCSBS), and the Foresters.

Canadian and American experts on SBS presented on a variety of aspects of the syndrome. Presenters were Dr. Alex Levin, Dr. Robert Reece, Dr. Carole Jenny and Dr. Ron Barr. The program started with an overview of SBS, information on retinal hemorrhages, SBS research articles, the biomechanics of inflicted head injury, and ended with an in-depth update on current efforts in B.C. Presentation was relevant for medical professionals, law enforcement, child protective services, legal professionals, parents and others.

This year's symposium was a huge success with 150 people in attendance. Feedback was positive.

5.0 Translation of Prevention Programme – Punjabi and Spanish (Chinese is Complete)

- Punjabi and Spanish translations are almost complete – in final process
- Chinese translation is complete
- To date there is no funding for French

6.0 Public Health Agency of Canada: Interest in PURPLE Programme as a National Initiative

- A proposal was submitted – made the first cut but not the last. Proposal that was chosen is on obesity
- However, 2 people from BC Health Agency of Canada are very interested in PURPLE and would like to be involved and advocate it in BC. They think they may have some limited funding to offer also.

7.0 Other Business – Surveillance Project

- Grant was available from the Michael Smith Foundation to look at inflicted childhood neurotrauma.
- Ian Pike together with Dr. Ash Singhal, Neurosurgeon, set-up surveillance at Children's Hospital. 90% to 95% of the cases come here
- Approval of the project is sitting with the ethics committee. Concern is over legal exposure and funding
- Dr. Ron Barr has indicated that he will fund the project through his establishment grant provided ethics questions are all answered
- Dr. Singhal has been collecting data since the beginning of the year
- Members agreed that they would like an update from Ian Pike at each meeting

SBS Conference 2008

- An international SBS conference will be held in Vancouver in 2008. The Westin Bayshore has been designated as the venue.

New Membership

- Clara Robbins nominated Beth Larcombe, Coroner from the Office of the Chief Coroner, to join the committee as a member. Each year Beth trains new coroners on SBS
- It was agreed that it is important for the Pathologists at Children's and Coroners at the Ministry to communicate

8.0 Next Meeting:

- Possible meeting dates are Friday, October 6, 13 or 27 at 2:00pm.

Shaken Baby Syndrome – Intentional Injury Prevention Program
Steering Committee Minutes
December 5, 2005

Present: Karen Breau (Chair) Marilyn Barr, Sharon Toohey, Ian Pike, Lidia Kemeny and Dr. Jean Hlady

Regrets: *Bob Armstrong and Clara Robbins. Bob was called to an emergency PHSA meeting and Clara Robbins is on Special Assignment with Justice Huges for the next 6 months. Karen Wallace is her replacement at MCFD but will not be serving on this committee while Clara is unavailable.*

1.0 Approval of Agenda

Marilyn added Ian Pike to the agenda to discuss the SBS surveillance system in B.C.

2.0 Approval of June 30, 2005 meeting minutes

Karen followed up with request to circulate copies of the study conducted by Janet Newberry at C & W.
and indicated it was in the members packets. It was a study Sharon had originally initiated. Marilyn said upon recent review she is pleased this SBS Research/Community Prevention Programme incorporates many of the recommendations.

3.0 Membership

Karen spoke and approached to **Barb Hestrin, who is back doing special projects** at BCW's, to see if she wants to come back on the steering committee and she has agreed to return as a committee member.

4.0 New offices and personnel

Marilyn expressed her appreciation to Karen, Sharon and all who made it possible for the SBS program to be in the new offices. "We love it and it is very productive environment."

5.0 Report on SBS Prevention Research Project

- *Hospital and Health Districts participating*

Marilyn reminded the committee that we need 1000 completers (parents) for this study. Recruitment was slower than expected in the beginning. It was anticipated that all 1000 participants could be recruited from Women's. It became apparent this was not going to work. In the beginning it was six heath districts and Women's Hospital only, to recruit mums for the project but it was not meeting the expectation. In order to get the numbers, over 3 months many others were added which are those listed on handout #1: What this meant was ethics approval from all these hospitals and health districts. Now the recruitment is going very well.

- A report of the study participants: recruited, active and completers was distributed to the committee.
- Staffing updates: There were two coordinators the community program coordinator and the research coordinator. The research coordinator has left the project but in his place 1 ½ research assistants were hired which has actually been more efficient and more in line with the responsibilities of the project.

6.0 *B.C. Symposia on SBS, 2006*

- *Vancouver, May 2006*

The Fraser Health Authority, Acquired Brain Injury Program task force which included the Fraser Valley Brain Injury Association contacted Marilyn and wanted to provide financial support for some training on SBS for their area. They have a community task force which has set 3 priorities and SBS is one. They have a grant to organize some services and wanted to start with another symposium. They will provide $10,000 for the spring symposium (May 19, 2006) and MCFD will match it.

- *Fraser Valley, November 2006*

Additionally, they (Fraser) wants some localized training and will provide another grant for this to take place in November 2006.

7.0 *Translation of materials and film*

- *Grants for translation are from the Community Cares Foundation and the* BC Traumatic Head Injury Foundation.

- *Chinese and Punjabi*

This project received a grant from the Community Cares Foundation to translate the film and the booklet into Chinese. That process was conducted by Provincial Language Services and is now complete. The audio was done at Children's and will now be incorporated in to the film and added to the booklet.

Last meeting Marilyn reported we were applying for funds from the BC Traumatic Head Injury Foundation (Rick Hansen: Man in Motion fund). We were successful and received $6250 grant to translate the programme in to Punjabi.

8.0 *International Exposure and Conferences*

- *Dhaka, Bangladesh,* February 12-16, 2006-At the invitation of Stuart MacLeod Dr. Barr and Marilyn will be presenting at the International Conference on the Impact of Global Issues on Women and Children. The presentation will be on research and applying to a community intervention.

- *Kyoto, Japan* BC Children's Hospital and the NCSBS will jointly sponsor a one-day pre-conference on shaken baby syndrome in Kyoto, Japan on June 19, 2006. Seven SBS experts from US, Canada and Japan will be presenting. Aprica Company will be paying all the costs.

- *Park City, Utah (North American Conference on SBS keynote)* at the 2006 North American Conference on SBS held in Park City Utah this year (same one held in Montreal in 2004) Dr. Ron Barr will be the keynote presenter and will be talking on Infant Crying and Shaken Baby Syndrome: The Evidence Base for a Prevention Program.

B.C. Child and Youth Intentional Injury Surveillance Project (new agenda item)

Ian Pike reported that he and Dr. Barr had applied for and received a planning grant from the Michael Smith Foundation to organize a group of relevant participants (policy and decision makers) and discuss the existing and necessary components of this system. A presentation was then made at the foundation's workshop on these projects on October 13 and 14.

Ian handed out the power point presentation about the project to the committee members. In phase two of this SBS Prevention project it will be important to demonstrate a reduction in SBS cases. To establish a surveillance system for a smaller incidence like SBS could serve as a model for larger situations like child abuse.

Jean Hlady asked Ian if it was necessary to call it Intentional Injury as her team preferred inflicted or non-accidental. Ian said it was just a term being used as the opposite of unintentional injury and certainly could be called one of these others.

9.0 Phase Two Implementation (Future Planning)

- *Canadian Pediatrics' Society:* On June 23, here in Vancouver at the Canadian Pediatric Society meeting of the child abuse committee Dr. Barr and Marilyn presented the program and told about the research. The committee was very supportive and offered their help when we get to phase 2, Implementation

- *American Academy of Pediatrics:* On November 18, Dr. Barr and Marilyn presented to the American Academy of Pediatric, Child Abuse Section Committee in Chicago. The committee was very impressed with the program and it relevance. Dr. Bob Block said, "Well, we are all pediatricians and have been helping parents with kids all these years and trying to deal with colic and this is the first time we have ever heard it is just normal and even animals do it. The negative out come is shaking and this is very important to tell parents."

- *Regional interest in Canada and US:* We get 3-5 contacts a week about this program and when it will be available. Just this week a nursing supervisor in Portland wrote to Marilyn and said, "After hearing you and Dr. Barr's presentation we are convinced this is the programme we want for our state. We just wish we could get it tomorrow and I bet you hear that all the time". And we do.

10.0 NEXT MEETING: will be in April 2006 on a Friday afternoon.

Meeting.SBSDec05

Shaken Baby Syndrome – Intentional Injury Prevention Program
Steering Committee Minutes

June 30th, 2005

Present: Karen Breau, Marilyn Barr, Dr. Bob Armstrong, Sharon Toohey, Ian Pike, Lidia Kemeny, Dr. Ron Barr, Dr. Jean Hlady

Guests: Dr. Ron Barr, Director, Center for Community Child Health Research; Neil Pegram, Research Coordinator, SBS; Jocelyn Conway, Community Coordinator, SBS

Recorder: Ashleigh Salter

Karen started meeting with introductions around the table for the guests in attendance.

1.0 Approval of the Agenda

- Marilyn added a few items under upcoming conferences

2.0 Reports from Coroner's Project

- Marilyn met with coroner's office 1-½ years ago to set up a research study on SBS deaths in B.C. Since that time 4 physicians, including Dr. Ron Barr, Dr. Jean Hlady, Dr. Michelle Clarke, and Dr. Margaret Colbourne from BCCH have been reviewing cases.
- Ron reported that there have been 88 cases from 1998-2002 that meet the criteria. The purpose of the case review is to establish a baseline incidence of SBS deaths.
- Preliminary results have been shared with team members and a poster presentation will be presented at the BCRI summer student presentations.
- The team is aware that with increased awareness an increase in reports occurs.

3.0 Research Project: Period of PURPLE Crying

3.1 Ethics Approval – It has been a challenge to get the various organizations approval through BREB. Out of all the areas, North Vancouver is the only outstanding area where approval is needed. Hopefully by the end of July all areas will have ethics approval. Those institutions that have now given ethics approval include:

- C & W Research Review
- Vancouver Coastal Health Research Review Board (Plus the Managers and Directors of the 6 Community Health Districts for Vancouver)
- Fraser Health's Ethics Review Board specifically for Surrey and Langley (Surrey Memorial hospital review board, and Managing Directors for the Surrey Public Health Units)
- In contact with the North Vancouver IRB

3.2 Marilyn explained that we would have only needed to go through the ethics approval process once, but due low parent recruitment we added various new things like; incentives, payments, reminder post cards and, methods to do the recruitment with our own staff rather than relying on others. Each of these things required more rounds of the ethics approval process.

3.3 Incentives and Recruitment – Recruitment is an ongoing challenge as this is a difficult time in Mom's life. To recruit them within 24 hours after the baby has been born means that it is necessary to get their consent before the Public Heath nurse first visits them. Jocelyn went through the new parent incentive package with the group. She reported that nurse's reactions have been extremely positive.

3.4 Training for Nurses – A blind set of materials are given to the PH nurses. The package may include the Purple study materials or the control group materials which is safety information. All together, in Surrey and Vancouver, 110 nurses have been trained by Jocelyn and Neil, jointly at the local heath regions. At Women's, the liaison

nurses are doing the recruitment which had gone very slowly so an improvement was needed. We are setting up a system by which the recruitment can take place by our Community and/or Research Coordinators, at BC Women's. Because the discharge system happens so quickly, it is hard to catch some new parents as they leave before the nurse has a chance to ask them if they want to participate. The goal of the research project is to get 1000 parents as quickly as possible.

3.6 **Data Bases** – Neil reported on how the data base will work when there are hundreds of participants in it. It will help keep participants and coordinators on track. It allows us to tell where each individual is in process and reminds when checks, post cards and such should go out.
46 Fields per participant, primarily covering demographics and recruitment tracking
3 Different Tables
16 Different Queries
10 Different Forms
9 Different Reporting features

4.0 MCFD Funding/Grant

- A MCFD grant has been received which is designated for certain research purposes. MCFD funding is until February 2008. It is mainly being used for both the Coordinator positions and the adaptation of the film into other languages.
- Marilyn is in the process of applying for money from BC Traumatic Head Injury for a Surveillance Symposium and also money to have the materials translated into 3 more languages. Additionally, another proposal is being prepared to assist with the spring SBS daylong symposium. Marilyn is partnering with Ian Pike, director Injury Prevention to submit this proposal.
- The Ministry would like us to hold another SBS symposium because it was so popular and not everyone interested was able to attend.
- Currently there is funding to produce the booklet and film in 2 languages, Chinese and Spanish. The new funding from the BC Traumatic Head Injury fund would allow us to get it done in 3 more languages. .

5.0 SBS Conference Update: March 2005

- Marilyn reported that she is pleased with the population breakdown of the conference and all outcomes.
- Marilyn briefly went over the summary report of the conference that all members of the meeting received.
- The money made from the conference will be used for SBS initiatives in BC.

5.2 **Attendance & Demographics** - Marilyn reported that the population turnout was much different than she has had in the past. The breakdown was approximately 20% Physicians and 80% being a variety: Ministry, parent, nurses, social work and other health care professionals. The conference also has good media coverage on radio and in newspaper.

5.3 **Evaluation** – Presenters were given high ratings on evaluations. Many of the presentations had a large impact on the audience.

- **June 2006 –** We have been invited to organize one-day seminar on SBS in Japan. It would be in conjunction with an ISIS large conference

6.0 Other Business

- Karen brought up the need to have MCFD representation on this committee. Marilyn will talk to Clara Robinson about becoming a member of the committee.
- Representation from BC Women's needs to be readdressed as Barb Hestrin is in semi-retirement. Karen will talk to Liz Whynot about representation from BC Women's.

- Marilyn and Lidia had a brief discussion about what role she wants to play on the committee. Marilyn and Lidia will meet at a later date to discuss further. Lidia is concerned about open communication between hospital and prevention projects so she can inform the public fully. Marilyn suggested that membership on this steering committee certainly is a way to inform her about this SBS prevention initiative. Lidia agreed.
- Karen and Sharon discussed redistributing the report done by the consultant, Janet Newberry, last year which specifically addressed coordination/partnership between prevention initiatives and research conducted.

7.0 Next Meeting

Next meeting will be in November. We will look at changing to Thursday mornings instead of Friday afternoons.

SBSmeeting.June30th05

Shaken Baby Syndrome – Intentional Injury Prevention Program
Steering Committee Minutes

February 11, 2005

Present: Karen Breau, Marilyn Sandberg, Dr. Bob Armstrong, Barb Hestin, Ian Pike

Regrets: Sharon Toohey, Jean Hlady, Lidia kemeny

1.0 Approval of the Agenda

- Resend minutes from October 29th to members.
- Ian Pike has been added to the committee. Also Barb Hestin is looking to find a more appropriate rep from B.C. Women's to sit on the committee. There is also discussion around having a member from the Ministry for Child and Family Development on the committee as well, perhaps Clara Robinson.
- Agenda item 2.1 is not necessary. There will be a slight change to the agenda with Period of Purple Crying and the Conference the main topics for the meeting.

2.0 Period of Purple Crying

- We have received Ethics approval from UBC and C& W and the certificates of approval have been submitted to the Ministry of CFD.
- The Public Heath Nurses in Vancouver and Frazer Valley have provided all official approval documents to participate in the program.
- The Nurse liaisons at Women's, Maternity Services have agreed to ask the mothers if they are willing to participate in a research project.
- The DVD's and videos (85/15%) have been reproduced for both the PURPLE Program and the Safety Program. They have passes the scrutiny of the public health horses after several revisions to PURPLE and the Safety (bottle, car seat, 6,000 SIDS).
- The booklets, video and DVD covers and stickers are being printed now.
- The Research Coordinator, Neil Pegram was hired and started working February 1, 2005. The Community Coordinator position has been advertised is in the interview process.
- We have a contract established with the telephone survey company. They are the University of Western Ontario and they cam in well within budget.
- We are starting the pilot interviews for the telephone survey.
- The ministry funding has been confirmed. For years 2005-2008 it will total $386,644. HELP will provide $65,000 for year one and two. Community Cares foundation $5,000 for translation of products, forester's $30,000 year for three years, second year starts in March. The new revised budget for each year with all financial support has been developed.

- Eight parent focus groups took place in Vancouver, Eight in Utah Pat Jones, Vice President of Dan Jones and Associates, a very large polling and marketing firm in Utah, said after conducting 8 parent focus groups on the PURPLE film and booklet, "Evaluations of the marketing materials for the PURPLE Crying film and booklet show they are the most effective ever tested by Dan Jones & Associated in 30 years of market research.
- Canadian Pediatric Society will hold their meeting in Vancouver in June. Sue Bennett, chairman of the section on child maltreatment will sponsor a meeting, with all heads of CPS Units in Canada to begin discussions about how to develop a prevention strategy for SBS Canada-wide.

- A letter of intent has been submitted to CDC in the U.S. to hold a North American "think tank symposium" on how to establish a system to determine the incidence of SBS. This, which would include all those in the world who have conducted studies on the incidence of SBS. This would include Bob Minns in Edinburgh, The King groups, et al at CHEO, Des Runyan's groups from North Carolina and others. Further work will be done to see if C&W will co-sponsor or support. Think Tank Sponsors proposal is due in April. Ontario Nero-trauma Program interested in funding as well; their incentives are for Ontario only so it would have to be held there.
- Sue Bennett was about to launch, in 10 Ontario hospitals the Buffalo New York prevention program. After discussions with Ron and viewing the new film she decided to wait for PURPLE. She said, "there is no comparison, the PURPLE film is so wonderful and such an improvement."
- CPS has approved the Canadian Pediatric Surveillance Program. Sue Bennett submitted the proposal. This means all Canadian pediatricians will be surveyed and asked if they have a case of traumatic head injury. If so it will investigate further to determine reliability. The Ontario Nero-trauma Foundation will fund this. (Rick Volpe).
- Forester's have received a copy of the film and the Foundation has asked me this week to send a copy to the Forester's Executive VP.

3.0 Conference

- Program has been confirmed. (Grid)
- We currently have 150 registered for the conference. We have to cut it off at 200. (Large variety in audience).
- The media strategy has been established for the next 4 weeks. I am working closely with Children's Hospital, Erin Folk, and the ministry public information office, which includes Central PAB and MCFD PUB. Two press releases have been written and approved. Will go out next week.
- Two ministers will beat the conference to open it Hagen and Reid. Political sensitivities.
- A release from the hospital will go out next week with quotes from jean Hlady and Ron Barr. The next week will be a "government" release. The next week from NCSBS and after the conference op educational piece organized by the ministry.
- All logistical arrangements have been made including A/V, lunches, name badges, and room arrangements.

Shaken Baby Syndrome – Intentional Injury Prevention Program
Steering Committee Minutes

October 29, 2004
1400 – 1600 hrs

Present: Sharon Toohey, Karen Breau, Marilyn Sandberg, Dr. Bob Armstrong, Jean Hlady,

Regrets: Barb Hestin Guest: Dr. Ronald Barr

1.0 Approval of the Agenda

Approved

2.0 Approval of Minutes of March 14, 2004

Karen Breau opened the meeting and asked for approval of the minutes. There was a consensus to approve the minutes.
Approved

3.0 North American Conference on SBS

Marilyn reported that the conference was a great success. There were over 580 people who attended including 60 parents. The highest category was again physicians. The program had exceptional evaluations and the 100 presenters equally represented Canadians and Americans. The adjust meetings included the Children's Hospital Network Luncheon and the Canadian Pediatric Society who discussed the Joint Statement on SBS.

Media reports were very positive and there were print and broadcast media on many channels every day of the conference. Marilyn handed out a list of the media coverage a conference. (Attached)

Marilyn announced that a day-long conference will be taking place in Vancouver, B.C. on March 3. It will include a line-up of the most popular presenters at the Montreal conference.

4.0 Shaken Baby Syndrome Prevention Program and Research

5.0 Parent Focus Groups

Over the past several months, seven parent focus groups took place in Surrey, Chilliwack, Port Moody, Richmond and Vancouver. The educational package was then revised according to the findings. The initial program materials, including a booklet and film, have been revised in accordance with the input provided by the parents. The bib, magnet and caretaker instruction were deleted from the package as parents did not find them valuable. The graph on page 5 was taken out. Some of the feedback from the parents included the following:

"The overall impression of the booklet was very positive. Almost all participants found it easy to read with felt it provided a good balance of information." All respondents liked the term "purple crying" and while not all of them could cite the acronym, they all understood the term. One respondent commented that the term purple crying is "an easy catch phrase (which) gives meaning to unexplained crying".

"The package of materials contained three main messages. These were: crying is normal; it is okay to walk away from your baby when he/she is crying; and never shake a crying baby."

"All of the respondents understood that it was okay to walk away from a crying baby; however, not all of them would feel comfortable doing so."

"Most of the participants did not understand the graph on page 6 and found it too complicated."

6.0 Review of Educational Materials and Rough-Cut of Film

Marilyn reviewed the final brochure with the committee pointing out the changes and addition of photos and the graph page taken out. The final film was shown and the committee was very impressed with both pieces and gave their approval for use of both.

7.0 Controlled Randomized Trail Research

Dr. Ron Barr presented the

8.0 Update on Funding of Research and Prevention Initiative

Marilyn indicated that the project had several funding partners. Certainly the Children's Hospital was the first and continues to support the project but additional financial support has additionally come from HELP, Community Cares Foundation (to translate the products in 5 languages) the Foresters and the Ministry of CFD. If Ministry of CFD provides a grant it will complete the funding for the randomized trial to begin in January.

9.0 Membership

Karen told the committee that Marianna Brusonni, Injury Prevention Unit, and former member of the steering committee had left Vancouver and she had been replaced by Ian Pike. The group discussed if Ian should now be invited to be on the steering committee. Bob Armstrong added that Ian was formerly the Director of the Red Cross. After a short discussion it was determined that he would be invited to the committee. Karen said that it may be a good idea, if the Ministry of CFD funds the project, to have a member of the committee from the Ministry. The group decided to wait until the funding situation was determined. Marilyn said that Lidia Kemeny had not been able to attend meetings in some time and maybe with her new responsibilities she was not able to serve. Sharon said she would check with Lidia about this.

10.0 Next Meeting: Not Determined

Shaken Baby Syndrome – Intentional Injury Prevention Program
Steering Committee Minutes

May 14th, 2004
1400 – 1600 hrs

Present:
Sharon Toohey, Karen Breau, Marilyn Sandberg, Barb Hestin, Jean Hlady, Mariana Brussoni

Excused: Dr. Bob Armstrong

1.0 Approval of the Agenda

Karen Breau opened the meeting and asked for approval of agenda as revised.
Approved

2.0 Approval of Minutes of February 4th, 2004

Karen then asked for approval of the minutes. Barb Hestrin motioned for approval.
Approved

3.0 Parent Focus Groups in BC

Marilyn indicated that Mariana Brussoni has moved from the area and wondered about replacing her with Ian Pike, the new Director of Injury Prevention. Karen proposed that we move membership issues to the end of the agenda. Bob Armstrong was unable to attend as he was out of the province.
Marilyn indicated that we now have a rough cut of film for the education material package for parents. The package includes a booklet, bib, magnet, instructions for caregivers and film. Marilyn reminded the group that there has been approval from the Ethics committee for the focus group phase. Currently we are still waiting on approval from the Ethics committee on the randomized trial phase.
There has been a meeting planned for with the Leadership group of the Health Authority who gave final authorization/approval to participate in focus groups and agreed they would be willing to participate in the randomized trials. For this meeting Marilyn has passed out a list of attendees from the Health Authority and the agenda from the meeting. (documents on file if needed). We also have letters of agreement from the Health Authority to proceed. The additional official documents are now approved for the first phase. These letters include Letter of Agreement, Informed Consent for Parents, Consent Form for contact by phone. Each local Health Authority received a training manual regarding the process and program titled: Public Health Nurse Information Guide, Period of PURPLE Crying Prevention Plan, April 20, 2004.
Parent recruitment is currently taking place. Currently there are 20 parents interested in participating and more added every day. A Schedule for the focus groups was distributed (on file if needed).

4.0 Review of Education Materials and rough-cut film

Marilyn handed out the revised samples of the booklet that will be part of the education package. She indicated that this is the 9th version, amended according to input from research people and other professionals. Marilyn also showed the group the design for the bib and the fridge magnet, as well as instructions for caregivers, all of which are in final version and will be ready for focus groups. Babies Day diary has had 4 revisions and will be used with both the test and control groups during the randomized trial (all on file). Marilyn showed several clips from the people on the film including Dr. Barr from

C& W that will be used in the film. This included: (1) Mom and dad who had extremely colicky baby. They tell how the dealt with an extremely frustrating situation and explained their feelings of inadequacy about being a good parent. (2) Clip from a young mom whose child was shaken to death by the biological father after the father lost control because the baby would not stop crying. (3) Clip from Dr. Ron Barr talking about:

- normal infant crying
- the crying curve, peaking about 2 months
- how parents get extremely frustrated
- what they can do
- dangers of shaking an infant

The next version of the film will be a 15 minute version shown to parents in the focus groups. Ultimately the film will be 8 minutes. Foresters and BC Children's hospital are 2 of the sponsors and will be recognized in the credits.

5.0 North American Conference

Marilyn reported that things are going well. Programs have been distributed and registration has begun. Two new sponsors have been added. Toronto Sick Kids Hospital has donated $5000. This money is designated for the key note address of Dr. Alex Leven. Montreal Children's Hospital has donated $5000 which is designated for the key note of Victor Litch.

7.0 Review of Coroners Autopsy report

Jean Hlady reported that a group of 4 doctors is reviewing a series of deaths among young children. They have approximately 96 cases in total, with about 1/3 of cases completed. Each review collects about 10 pages of data.

Jean asked if we could let MCFD know about the PURPLE program as they had been asking about what was occurring to prevent SBS due to the high profile cases in Vancouver. A discussion resulted about timelines, publicity and official announcements regarding the program.

1. Karen said the Programme Planning Committee Department heads from Women's needed to have a presentation about the programme and maybe Ron and Marilyn could do this. She had talked to Liz Wynot about it already.
2. Sharon said the same thing needed to happen at Children's Hospital.
3. Barb Hestin said it would be great to have grand rounds for family practice and maternity services.
4. Jean asked when a formal public announcement could take place and Marilyn said she thought the focus groups would be complete this summer and the trial could begin in the fall. Maybe October or November a press conference could occur.
5. Karen and Sharon said we need to coordinate this through Marisa Nichini, hospital communications director and develop a communications strategy. Marisa had already talked to Karen about this so a meeting with her needs to take place. Marilyn and Karen will meet with Marisa.
6. Everyone agreed that internally people at the hospital need to feel informed and Sharon said the hospital board will need to be included soon and updated. They will be part of the decision for announcements.

9.0 Next meeting.
The next meeting is September 24, 2004 at 2:00 P.M.

Meeting adjourned 3:30 P.M.

Shaken Baby Syndrome – Intentional Injury Prevention Program
Steering Committee Minutes

February 4th, 2004
1400 – 1600 hrs

Present:
Sharon Toohey, Karen Breau, Marilyn Sandberg, Barb Hestin, Bob Armstrong, Mariana Brussoni

Guest:
Dr. Ron Barr, Barbara Selwood

1.0 Approval of the Agenda

2.0 Approval of Minutes of September 26th, 2003

Karen opened the meeting and asked for approval of the minutes. There was a consensus to approve the minutes.

3.0 Status of funding for Shaken Baby Syndrome Project

3.1 Sharon reported that there is an "annual ask" to the foundation from hospital. The Executive committee would be meeting on Tuesday next week to prioritize what will be required. The foundation considers projects that meet their criteria. Some of these projects are short term and others are long term. Bridge funding is nine million dollars and the Foundation raises about 13 million a year. They used to fund projects for up to 5 years but now they are more likely to fund for only 2-3 years. It may be possible to get funding in this next year; however, the 05-06 year will be very difficult.

The foundation has committed to fund the non-labour education through the Foresters donation. If necessary the other labor costs may need to be funded out of operations but not quite at the level that is in the proposal. Sharon said operations does not fund research but the program could be funded this way though. She had hoped for replacement funds however, instead of using the operation funding. Marilyn said that when Ron Barr arrives he can explain the ideas about getting the research funded.

3.2 Marilyn reported that the foundation had informed her about the $90,000 donation over three years from the Foresters. They asked her to call Linton Carter at the Foresters National headquarters in Toronto to determine how to proceed. Linton informed Marilyn of the following:

- This donation is confidential for now until the news releases go out across the country. They funded other programs at children's hospitals throughout Canada and a new release will go out about all of them.
- Foresters have been funding child abuse programs for 30 years and they would like to fund a national effort in Canada but there really is not one focusing on child abuse. They have partnered with Prevent Child Abuse America for this reason although it is in the United States. They have

decided that the Children's Miracle Network, on behalf of Children's Hospitals, best meets their criteria.

- Linton said Foresters was very interested in the National Conference on Shaken Baby Syndrome and they would like to exhibit and may support in other ways.

Action: Marilyn will send on to her the program exhibit and information.

Marilyn said she was hopeful that there may be a possibility of getting their support to implement this B.C. program throughout Canada in future years.

Marilyn said her secretary, Ashleigh Salter, had offered to take notes at the focus groups as a volunteer. Marilyn also said that Joan Rieter (previously in Barbara Selwood's position) a Public Health Nurse offered to reduce her hourly rate to half the regular rate to help with the focus groups. Marilyn said there is a lot of support for this program.

4.0 Report on Progress of SBS Program

4.1 Barbara Selwood reported on the involvement of the Public Health Nurses.

- They are very interested in helping with this program and want to support it and help with the focus groups and the randomized trial.
- Marilyn has participated in conference calls and she and Ron Barr co-authored an article for their monthly publication *Perispectives.*
- The ground work has been laid with the nurses but we now need to get it authorized in each health district. Fraser Valley is ready to get going and there is a cross section of parents in this district so it will be a good testing area.
- Vancouver Costal may take more time as there are complications in getting all the levels of approval.

Sharon handed out a document called Demographics Trends which showed that the trend for growth is by far the highest in Fraser Valley so we have picked the right area.

4.2 Research for the Initiative

Ron Barr, principal investigator for this project, reported that there is a continued effort to get accurate statistics on the SBS cases. The agreement we have with the corner's office allows us to review case records, establish a data base and ultimately report the results. Drs. Ron Barr, Jean Hlady, Margaret Colbourn and Michelle Clark take turns and go out once a week to review these cases.

Ron said that first we will conduct parent focus groups to evaluate the educational materials. The next phase would include a randomized trial with 1,000 parents. Randomized Trials are the gold standard of research and the following goals will be tested.

(1) To change the *understanding* (i.e., knowledge and attitudes) and *reduce the frustration* of parents of new infants about the normality of the frustrating properties of crying;
(2) To change the *behavior* of parents to increase care giving contact in response to crying but to 'walk away' if frustrated or angry;
(3) To provide parents with the ability to educate other caregivers (relatives, baby-sitters) to reduce frustration induced by inconsolable crying and obtain help if needed;
(4) To provide parents with the knowledge to protect their infants from occasional caregivers who could harm their infants because of the frustrating nature of early crying;

(5) To provide effective knowledge, skills and teaching materials to regional health care providers in direct contact with parents concerning crying, shaking and abuse in the Province of British Columbia.

To fund the research Ron will either use part of his establish grant or submit a proposal to HELP. These funds will be used for on research assistant and two coders. He also plans to submit a grant to CIAR.

Barbara Selwood heard there were extensive funds available for aboriginal programs. North Surrey has the largest non-reserve population of aboriginals in B.C., there may be funds available under this area of service.

Ron thinks it is important to first "get it right" in English in Vancouver and then develop it in other languages and for various races and cultures.

Bob Armstrong said maybe the United Way could help with funding or the Vancouver Foundation through John Miller or Nancy Catany as they liked primary prevention programs. The group said that submissions to the Vancouver foundation can occur 3 times a year and there is a $50,000 limit. Next round is in April and the letter of intent is required by April.

The group then discussed other ideas to assist in this effort which included:

- Barbara Selwood: Baby's Best Chance Book will be updated soon. We may want to submit this to put in it.

- Barbara Selwood: Minister Linda Reid is very interested in these kinds of efforts maybe approach her. (Marilyn said she had had a lunch with Minister Reid and Dana Brynelsen, Provincial Advisor, and they were both very interested in it. Karen added that at the First Call dinner it was discussed with these two individuals again.)

- A discussion occurred about providing services to mothers suffering from post-natal depression and alcoholism. All agreed these were groups that should be considered for this program.

- Karen said it would be good to get the program some additional and new publicity. Ideas included the following and who suggested the idea is listed next to it:

    - New release to press (Marilyn)
    - Web site exposure on the B.C. Injury Prevention and Research Unit website (Marianna)
    - PHSA bulletin (High light Program) (Bob)
    - Ministry of Health Policy Rounds (Mariana)
    - Team Works: through community relations (Bob)
    - Program Planning groups at women's Hospital (Karen)
    - The Ambulatory Program

Action: Karen asked the steering committee if there was approval to go forward with the plans and get started on the focus groups. The committee gave unanimous approval to go forward.

6.0 Prevention Initiatives in other provinces

Marilyn and Ron told the committee that a group in Toronto had contacted Marilyn and was interested in implementing the B.C. program there. They had a contribution of $500,000 to go toward a SBS prevention initiative in Toronto. This grant was to be funded by the Ontario Nero-trauma Foundation. Ron, while in Toronto on other business, met with the group's representative Dr, Richard Volpe. After the meeting the Toronto group indicated they would be interested in doing the same project as we were going to do in B.C. Ron told Dr. Volpe that we (B.C) wanted to get it started first and then we would have the Toronto group come on as a site. They seemed agreeable to him.

7.0 Membership

Karen led a discussion about membership. Mariana is leaving in April and Ian Pyke will take her place. Should he serve in her place? Also, there was a suggestion that public nurses should be represented on the committee as they were in a key position with the project. Barbara Selwood has been Marilyn's primary contact and is interested in serving. A discussion followed about whether to have someone from Fraser Valley Health or to have that person serve on the local committee and have Barbara serve on the Steering committee.

Action: Marilyn will talk to Barbara bout this idea and get her feedback. In the mean time, Barbara should be invited, as a guest, to the next Steering committee meeting to report updates to the committee.

9.0 Next meeting.
The next meeting will be May 14, at 2:00 P.M.

Meeting adjourned 3:30 P.M.