

## Berkes, Andrea HLTH:EX

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**From:** DeLuca, Lori GCPE:EX  
**Sent:** Thursday, August 11, 2011 11:58 AM  
**To:** Stewart, Michelle GCPE:EX; Neufeld, Laura R GCPE:EX; Manning, Nichola SDSI:EX; Crickmore, Jane HLTH:EX; Kendall, Perry HLTH:EX; Hold - 160524 - Andrachuk, Andrea HLTH:EX  
**Cc:** May, Stephen GCPE:EX; Thistle-Walker, Carlene GCPE:EX; Higgs, Jeremy HLTH:EX  
**Subject:** RE: Vitamin D Public Awareness Campaign  
**Attachments:** IN Vitamin D testing Aug 20\_Updated Oct 6\_FINAL.DOCX

Jeremy Higgs confirmed that the protocols, as described in this issues note, were issued last Fall.

- The Ministry is involved in reducing the use of vitamin D testing by:
  - Reducing the physician fee for vitamin D testing (from \$93.63 per test to \$61.50 per test). This reduction was negotiated between the Ministry and the BC Medical Association and came into effect July 31, 2010.
  - Reminding physicians (in July 2009) that testing in most cases is unnecessary and that taking supplements is safe.

**Lori DeLuca** | Public Affairs Officer | Ministry of Health Communications | ☎ 250 952 3552 | ✉ 5-2 1515 Blanshard St. Victoria BC V8W 3C8

---

**From:** Stewart, Michelle GCPE:EX  
**Sent:** Thursday, August 11, 2011 11:49 AM  
**To:** Neufeld, Laura R GCPE:EX; Manning, Nichola HLTH:EX; Crickmore, Jane HLTH:EX; Kendall, Perry HLTH:EX; Andrachuk, Andrea HLTH:EX  
**Cc:** May, Stephen GCPE:EX; Thistle-Walker, Carlene GCPE:EX; DeLuca, Lori GCPE:EX  
**Subject:** RE: Vitamin D Public Awareness Campaign  
**Importance:** High

Before anyone engages with this fellow Andrea – I have significant concerns given that we have changed the protocols around paying for Vitamin D Testing and those need to be understood before anyone commits to anything.....

Michelle Stewart, Communications Director  
Ministry of Health, Government Communications & Public Engagement  
Phone: 250-952-1889 Cell: 250-812-5571 Fax: 250-952-1883  
[Michelle.Stewart@gov.bc.ca](mailto:Michelle.Stewart@gov.bc.ca)

Join the Healthy Families BC community...



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**From:** Neufeld, Laura R GCPE:EX  
**Sent:** Thursday, August 11, 2011 11:39 AM  
**To:** Stewart, Michelle GCPE:EX; Manning, Nichola HLTH:EX; Crickmore, Jane HLTH:EX  
**Cc:** May, Stephen GCPE:EX; Thistle-Walker, Carlene GCPE:EX; DeLuca, Lori GCPE:EX  
**Subject:** FW: Vitamin D Public Awareness Campaign

Further to this – Below is an email that Perry's office got indicating that MoH is a key stakeholder?

Just wanted to ensure you were aware and see that they are asking for PHO support as well...

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**From:** Berkes, Andrea HLTH:EX  
**Sent:** Wednesday, August 10, 2011 4:20 PM  
**To:** Neufeld, Laura R GCPE:EX  
**Subject:** FW: Vitamin D Public Awareness Campaign

Hi Laura – this fellow has contacted our office and the info below indicates that the Ministry is one of the key stakeholders in "sponsoring" this awareness campaign. Perry wants to know if PAB is aware of this?

---

**From:** s.22  
**Sent:** Wednesday, August 10, 2011 4:04 PM  
**To:** Berkes, Andrea HLTH:EX  
**Subject:** Vitamin D Public Awareness Campaign

Hi Andrea,

Further to our phone conversation here are the highlights of the Awareness Campaign. Research shows that up to 70% of BC citizens are Vitamin D deficient during a typical year. Further, taking Vitamin D supplementation reduces the incidence of cancer by 60%. It also follows that vitamin D supplementation could also impact lost work days through immune related maladies.

The outline of the program is as follows:

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Timing is planned for the month of November with a kick-off on November 2<sup>nd</sup>. The natural health companies are gearing up their newsletters and product specials to coincide with the awareness campaign. Inspire Health is promoting the campaign on its website with non-scientific language and facts that the lay person can readily understand. Further a Facebook page and twitter feeds will be created.

As I mentioned, it is important to create a baseline measurement of lost days and cancer incidence that we can measure against as we move forward. We believe this program to be of such benefit that it should run every November when we are sunlight deprived.

I am seeking an endorsement of the PHO with some reference on your web site under health related issues. Inspire Health can provide the necessary background information.

I look forward to hearing from you.

Kind regards

s.22

## ADVICE TO MINISTER

### CONFIDENTIAL ISSUES NOTE

Ministry: Health Services

Date: August 20, 2010

Minister Responsible: Kevin Falcon

## Vitamin D Testing

### ADVICE AND RECOMMENDED RESPONSE:

s.13

### BACKGROUND REGARDING THE ISSUE:

- Vitamin D testing in B.C has increased ten-fold over the past five years while evidence shows that routine vitamin D testing is not medically necessary in most circumstances.
  - Testing increased by 83 per cent between 2007/08 and 2008/09 (from 12,000 tests to 23,000) and cost the province over \$2 million in 2008/09.
- The media has shown interest in vitamin D studies and the steps provinces are taking to reduce the use (and cost) of testing.
- Media have also inquired about the protocol for testing and when it will take effect.
- B.C.'s Guidelines and Protocols Advisory Committee have developed a Vitamin D testing protocol and patient guide which will be available online as of October 8, 2010.
- The protocol was approved by the Medical Services Commission in September.
- A broadcast message will be sent via teleplan to all physicians who bill MSP advising them of the new protocol once it is posted. The summary protocol will also be inserted into the November 2010 issue of the British Columbia Medical Journal
- The Ministry is involved in reducing the use of vitamin D testing by:
  - Reducing the physician fee for vitamin D testing (from \$93.63 per test to \$61.50 per test). This reduction was negotiated between the Ministry and the BC Medical Association and came into effect July 31, 2010.
  - Reminding physicians (in July 2009) that testing in most cases is unnecessary and that taking supplements is safe.
- Below is a chart showing the cost and number of services provided each year since 2004:

	Expenditure	Service
2004/05	\$356,191	3,689

<b>2005/06</b>	<b>\$503,379</b>	<b>5,449</b>
<b>2006/07</b>	<b>\$702,738</b>	<b>7,659</b>
<b>2007/08</b>	<b>\$1,119,039</b>	<b>12,431</b>
<b>2008/09</b>	<b>\$2,073,544</b>	<b>22,748</b>

## DISCUSSION/ADVICE:

- British Columbians are at risk of low vitamin D levels during the winter months when there is insufficient UV radiation in sunlight for enough vitamin D production.
- Vitamin D is important for maintaining calcium levels for bone health.
- The amount of vitamin D produced by the skin is dependent on the surface area exposed, age, skin pigmentation, season, latitude and use of sun block.
- Studies have linked vitamin D deficiency to cancer, diabetes, heart disease and dementia.
- It is reasonable to take supplements without testing.
- Clinical evidence shows that routine vitamin D testing or screening is unnecessary, except for patients with certain conditions (such as kidney failure, unexplained bone pain, unusual fractures and other evidence of metabolic bone disease).
- Many commentators have urged people to get their vitamin D levels checked. There is even a correlation between an episode of Oprah where Dr. Oz recommends getting vitamin D levels tested and increases in testing in B.C.
- The fee for vitamin D testing varies among provinces due to different compensation frameworks for the delivery of laboratory services. For example, the cost in Ontario is \$51.70 while in B.C. it's \$61.50.

Communications Contact: Lori DeLuca

Program Area Contact: Jane Crickmore

File Created:

File Updated:

File Location: Z:\Medstrat 2010\Operations\Issues Notes\MSP\IN Vitamin D testing Aug 20 FINAL.docx

Minister's Office	Program Area	Deputy	Media Manager
	MSD- Jane Crickmore		Bernadette Murphy

## **Berkes, Andrea HLTH:EX**

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**From:** Berkes, Andrea HLTH:EX  
**Sent:** Wednesday, September 7, 2011 4:41 PM  
**To:** Kendall, Perry HLTH:EX; Neufeld, Laura R GCPE:EX; Stewart, Michelle GCPE:EX  
**Subject:** FW: Vitamin D Public Awareness Campaign  
**Attachments:** IN Vitamin D testing Aug 20\_Updated Oct 6\_FINAL.DOCX

s.22 has emailed again trying to determine whether the Ministry will support this. The last correspondence I have is from Lori DeLuca on Aug 25<sup>th</sup> stating:

Jeremy Higgs confirmed that the protocols, as described in this issues note, were issued last Fall.

- The Ministry is involved in reducing the use of vitamin D testing by:
  - Reducing the physician fee for vitamin D testing (from \$93.63 per test to \$61.50 per test). This reduction was negotiated between the Ministry and the BC Medical Association and came into effect July 31, 2010.
  - Reminding physicians (in July 2009) that testing in most cases is unnecessary and that taking supplements is safe.

---

**From:** s.22

**Sent:** Thursday, August 25, 2011 4:36 PM

**To:** Berkes, Andrea HLTH:EX

**Subject:** RE: Vitamin D Public Awareness Campaign

Hi Andrea,

Further to my e-mail on your questions, I will give you a brief telephone call on Friday.

Dr. Julius Halaschek-Wiener from Inspire Health discussed this with his contacts at the Ministry and some concern were expressed about the Ministry endorsing the campaign since vitamin D is thought to be controversial. I strongly suspect that the request to the Ministry was not framed appropriately. The medical health professionals at Coastal Health have the type of endorsement we were seeking on their web-site, so I am not sure where the confusion lies. You can check their article at the following link:

[http://www.vch.ca/about\\_us/news/archive/2010\\_news/is\\_vitamin\\_d\\_all\\_that\\_they\\_say](http://www.vch.ca/about_us/news/archive/2010_news/is_vitamin_d_all_that_they_say)

CCS is still reviewing our request and the person that David Adams is discussing with is Kate Carty. I am not sure where this is in the process.

BC Hydro is willing to incorporate this within their employee wellness campaign and have 100 wellness ambassadors getting the message out. I have similar requests in to Telus and ICBC and a few others.

The municipal governments have come out very strongly in favour of the promotions and the status so far is as follows:

Those that will issue a proclamation on November 2<sup>nd</sup> promoting the campaign.

Yes:

BC Fort St. John  
BC Kelowna  
BC Port Alberni  
BC Port Coquitlam  
BC Prince George  
BC Richmond  
BC Vancouver  
NB Bathurst  
ON Pickering  
SK Regina

Will issue proclamation if we have a rep appear before council. Working to secure this:

AB Calgary  
BC Dawson Creek  
BC Kamloops  
BC Nelson  
BC Squamish  
NL St. John's

Will approve in October:

BC Merrit  
BC Port Moody  
BC Surrey

Awaiting response:

AB Edmonton  
AB Lethbridge  
AB Red Deer  
AB Medicine Hat  
AB Banff  
AB Strathcona  
AB St. Albert  
AB Wood Buffalo  
AB Grande Prairie  
BC Burnaby  
BC Coquitlam  
BC Duncan  
BC Hope  
BC Nanaimo  
BC New Westminster  
BC North Vancouver  
BC Parksville  
BC Penticton  
BC Powell River  
BC Prince Rupert  
BC Revelstoke  
BC Salmon Arm  
BC Quesnel  
BC Victoria  
BC Whistler  
MB Winnipeg  
MB Brandon

MB Steinbach  
MB Thompson  
NB Fredericton  
NB Saint John  
NB Riverview  
NB Miramichi  
NB Rothesay  
NB Edmundston  
NL Gander  
NL Cornerbrook  
NL Paradise  
NL Mount Pearl  
NS Halifax  
NS Cape Breton  
NS New Glasgow  
NS Truro  
NT Yellowknife  
ON Ajax  
ON Belleville  
ON Brampton  
ON Brantford  
ON Burlington  
ON Cambridge  
ON Kitchener  
ON Markham  
ON New Market  
ON Niagara Falls  
ON Oakville  
ON Oshawa  
ON Richmond Hill  
ON Thunder Bay  
ON Vaughan  
ON Waterloo  
ON Ottawa  
ON Sudbury  
ON Toronto  
ON Windsor  
ON Hamilton  
PEI Charlottetown  
PEI Summerside  
QC Montreal  
QC Quebec City  
QC Laval  
QC Gatineau  
QC Longueuil  
SK Prince Albert  
SK Saskatoon  
SK Moose Jaw  
SK North Battleford  
SK Swift Current  
YT Whitehorse  
BC Cranbrook

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**From:** Berkes, Andrea HLTH:EX [mailto:Andrea.Berkes@gov.bc.ca]  
**Sent:** Thursday, August 11, 2011 2:44 PM  
**To:** s.22  
**Subject:** RE: Vitamin D Public Awareness Campaign

Thanks for your email <sup>s.22</sup> Hoping you could provide a couple more pieces of info.....who from the Canadian Cancer Agency and the Ministry of Health have confirmed the support of their organizations?

---

**From:** s.22  
**Sent:** Wednesday, August 10, 2011 4:04 PM  
**To:** Berkes, Andrea HLTH:EX  
**Subject:** Vitamin D Public Awareness Campaign

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s.22

## Berkes, Andrea HLTH:EX

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**From:** Sheikh, Umar HLTH:EX  
**Sent:** Thursday, September 8, 2011 12:01 PM  
**To:** Manning, Nichola SDSI:EX; Young, Eric R HLTH:EX; Stewart, Michelle GCPE:EX; Kendall, Perry HLTH:EX; Berkes, Andrea HLTH:EX; Neufeld, Laura R GCPE:EX; Forster-Coull, Lisa HLTH:EX; Woolfrey, Tim J HLTH:EX  
**Cc:** Taylor, Sheila A SDSI:EX  
**Subject:** RE: Vitamin D Public Awareness Campaign

Hello all,

The request from <sup>s.22</sup> on vitamin D did not come from InspireHealth. <sup>s.22</sup> InspireHealth does not have the purview nor desire to enter into the realm of policy setting, this was an unfortunate incident where one individual wrongly intimated an association with Inspire which simply is not there.

I have recently spoken with Dr. Eric Youg and confirmed that neither the members of the Healthy Lifestyles Prevention team nor InspireHealth are looking to endorse <sup>s.22</sup> suggestions. Eric and I agree that it is most appropriate that <sup>s.22</sup> or anyone else seeking endorsement on cancer prevention initiatives be directed to the BC Cancer Agency Prevention team.

Our message is and will continue to be and Provincial cancer policy and direction is best left to very capable experts at the BC Cancer Agency.

I hope that this helps close the loop as to the involvement of InspireHealth in <sup>s.22</sup> request.

Thanks

Umar

-----Original Message-----

**From:** Manning, Nichola HLTH:EX  
**Sent:** Thursday, September 8, 2011 10:41 AM  
**To:** Young, Eric R HLTH:EX; Stewart, Michelle GCPE:EX; Kendall, Perry HLTH:EX; Berkes, Andrea HLTH:EX; Neufeld, Laura R GCPE:EX; Forster-Coull, Lisa HLTH:EX  
**Cc:** Taylor, Sheila A HLTH:EX; Sheikh, Umar HLTH:EX  
**Subject:** RE: Vitamin D Public Awareness Campaign

Eric - Inspire was a component of the new Prevention Strategy that the Ministry supports. They promote complementary cancer care not a replacement of conventional cancer care. Umar Sheik and myself are the lead on this initiative. Both Sheila and I are in an all day meeting. Before calls are made Umar can you please connect with Eric? Thanks Nichola \_\_\_\_\_

**From:** Young, Eric R HLTH:EX  
**Sent:** September 8, 2011 10:32 AM  
**To:** Stewart, Michelle GCPE:EX; Kendall, Perry HLTH:EX; Berkes, Andrea HLTH:EX; Neufeld, Laura R GCPE:EX; Forster-Coull, Lisa HLTH:EX

Cc: Manning, Nichola HLTH:EX; Taylor, Sheila A HLTH:EX  
Subject: RE: Vitamin D Public Awareness Campaign

Hi Michelle,

According to the PHSA quote Inspire Health is complementary to BCCA, so I'll phone Dr. McLean and see what he thinks.

Eric

From: Stewart, Michelle GCPE:EX  
Sent: Thursday, September 8, 2011 10:28 AM  
To: Young, Eric R HLTH:EX; Kendall, Perry HLTH:EX; Berkes, Andrea HLTH:EX; Neufeld, Laura R GCPE:EX; Forster-Coull, Lisa HLTH:EX  
Cc: Manning, Nichola HLTH:EX; Taylor, Sheila A HLTH:EX  
Subject: RE: Vitamin D Public Awareness Campaign

Inspire Health has a relationship with the Ministry....that is why I'm ccing Nichola and Sheila – you folks need to talk about how you go forward

Michelle Stewart, Communications Director Ministry of Health, Government Communications & Public Engagement  
Phone: 250-952-1889 Cell: 250-812-5571 Fax: 250-952-1883 Michelle.Stewart@gov.bc.ca

Join the Healthy Families BC community...

[cid:image001.png@01CC6E12.8AE3BFB0] <<http://healthyfamiliesbc.ca/>>  
[cid:image002.png@01CC6E12.8AE3BFB0] <<https://www.facebook.com/HealthyFamiliesB>>  
[cid:image003.png@01CC6E12.8AE3BFB0] <<http://twitter.com/#!/Healthyfamilyb>>  
[cid:image004.png@01CC6E12.8AE3BFB0] <<http://www.youtube.com/user/healthyfamiliesb>>

From: Young, Eric R HLTH:EX  
Sent: Thursday, September 8, 2011 10:26 AM  
To: Kendall, Perry HLTH:EX; Berkes, Andrea HLTH:EX; Neufeld, Laura R GCPE:EX; Stewart, Michelle GCPE:EX; Forster-Coull, Lisa HLTH:EX  
Subject: RE: Vitamin D Public Awareness Campaign

Where is the evidence paper supporting this? By what independent authoritative agency has it been written? The idea that 60% of cancer could be prevented by increasing vitamin D consumption is pure nonsense.

From the information below it appears that the natural health companies are gearing up to push the sale of more vitamin D. Who is "Inspire Health" and what is the source of its funding? Is it industry funded?

I don't think the Office of the PHO or the Ministry of Health should be endorsing anything without a comprehensive review of the claims about Vitamin D by the BC Cancer Agency Prevention Group lead by Dr. David McLean.

I gather that the Canadian Cancer Society thinks many persons should increase vitamin D, but that isn't a scientific body, so I really think we need the evidence from BCAA.

Thanks  
Eric

From: Kendall, Perry HLTH:EX  
Sent: Thursday, September 8, 2011 10:15 AM  
To: Berkes, Andrea HLTH:EX; Neufeld, Laura R GCPE:EX; Stewart, Michelle GCPE:EX; Forster-Coull, Lisa HLTH:EX  
Cc: Kendall, Perry HLTH:EX; Young, Eric R HLTH:EX  
Subject: RE: Vitamin D Public Awareness Campaign

After reading the materials provided by Inspire Health I am still uncertain of what they want. Maybe Lisa could give us an opinion on whether we should be supporting Vit D supplementation- which seems to be the thrust. Though equally they may be asking for support for testing Vit D levels- which we do not support. I consider the VCH statement on Vit D to be equivocal i.e. it cannot hurt. It does not support the claim that 60% of cancers can be prevented by upping Vit D intake. We need clarity on that exact wording of what they want us to endorse and also info on what BCCA are saying/ Perry

P. R. W. Kendall  
OBC, MBBS, MSc, FRCPC  
Provincial Health Officer  
Ministry of Health  
4th Floor, 1515 Blanshard Street  
Victoria BC V8W 3C8  
Phone: 250 952-1330  
Fax: 250 952-1362  
perry.kendall@gov.bc.ca  
<http://www.healthservices.gov.bc.ca/pho>  
From: Berkes, Andrea HLTH:EX  
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BC	Vancouver
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ON	Pickering
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Will issue proclamation if we have a rep appear before council. Working to secure this:

AB	Calgary
BC	Dawson Creek
BC	Kamloops
BC	Nelson

BC Squamish  
NL St. John's

Will approve in October:

BC Merrit  
BC Port Moody  
BC Surrey

Awaiting response:

AB Edmonton  
AB Lethbridge  
AB Red Deer  
AB Medicine Hat  
AB Banff  
AB Strathcona  
AB St. Albert  
AB Wood Buffalo  
AB Grande Prairie  
BC Burnaby  
BC Coquitlam  
BC Duncan  
BC Hope  
BC Nanaimo  
BC New Westminster  
BC North Vancouver  
BC Parksville  
BC Penticton  
BC Powell River  
BC Prince Rupert  
BC Revelstoke  
BC Salmon Arm  
BC Quesnel  
BC Victoria  
BC Whistler  
MB Winnipeg  
MB Brandon  
MB Steinbach  
MB Thompson  
NB Fredericton  
NB Saint John  
NB Riverview  
NB Miramichi  
NB Rothesay  
NB Edmundston  
NL Gander  
NL Cornerbrook  
NL Paradise  
NL Mount Pearl  
NS Halifax  
NS Cape Breton

NS New Glasgow  
 NS Truro  
 NT Yellowknife  
 ON Ajax  
 ON Belleville  
 ON Brampton  
 ON Brantford  
 ON Burlington  
 ON Cambridge  
 ON Kitchener  
 ON Markham  
 ON New Market  
 ON Niagara Falls  
 ON Oakville  
 ON Oshawa  
 ON Richmond Hill  
 ON Thunder Bay  
 ON Vaughan  
 ON Waterloo  
 ON Ottawa  
 ON Sudbury  
 ON Toronto  
 ON Windsor  
 ON Hamilton  
 PEI Charlottetown  
 PEI Summerside  
 QC Montreal  
 QC Quebec City  
 QC Laval  
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**From:** McKellar, Lisa HLTH:EX  
**Sent:** Friday, September 9, 2011 8:59 AM  
**To:** Kendall, Perry HLTH:EX; Young, Eric R HLTH:EX  
**Cc:** Berkes, Andrea HLTH:EX; Forster-Coull, Lisa HLTH:EX  
**Subject:** FW: Vitamin D Public Awareness Campaign

Hello,

Lisa Forster-Coull has asked me to look into this.

At first glance, the highlights of the public awareness campaign noted below (in green) do not seem consistent with the recent IOM release of the DRIs for Vitamin D.

As per Health Canada's website..

*The U.S. Institute of Medicine (IOM) released its report on the review of the Dietary Reference Intakes (DRIs) for vitamin D and calcium on November 30, 2010. The review was jointly commissioned and funded by the U.S. and Canadian governments.*

*The recommended amount of vitamin D per day has increased for everyone. But this does not mean that Canadians need to change their current food or supplement intakes. Based on Health Canada's preliminary analysis of Canadians' vitamin D blood levels, most are currently meeting their needs for vitamin D.*

*The IOM report states that there is no additional health benefit associated with vitamin D intakes above the level of the new Recommended Dietary Allowance (RDA). Health Canada reminds Canadians that total vitamin D intake should remain below the level of the new Tolerable Upper Intake Level (UL) to avoid possible adverse effects.*

*The review found that despite the relatively large number of studies included, it was difficult to make any substantive statements on the effects of either vitamin D or calcium nutrient status on cancer, development of hypertension, heart disease, immunologic disorders, and pregnancy-related outcomes including pre-eclampsia.*

The current Health Canada/Canada's Food Guide recommendation is that everyone over the age of 50 should take a daily vitamin D supplement of 400IU.

The Canadian Cancer Society did recommend in June 2007 that:

- Adults living in Canada should consider taking Vitamin D supplementation of 1,000 international units (IU) a day during the fall and winter.
- Adults at higher risk of having lower Vitamin D levels should consider taking Vitamin D supplementation of 1,000 IU/day all year round. This includes people:
  - who are older;
  - with dark skin;
  - who don't go outside often, and
  - who wear clothing that covers most of their skin.

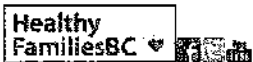
I will contact our colleagues at the BC Cancer Agency to find out what they are currently recommending for Vitamin D.

I expect we would align our recommendation with the Health Canada/Canada's Food Guide recommendation.

Thanks,  
Lisa

Lisa McKellar, RD  
Manager, Public Health Nutrition  
Population and Public Health  
BC Ministry of Health  
1515 Blanshard St, 4-2  
Victoria BC V8W 3C8  
Tel: (250) 952-1344 \*\*New Number\*\*  
Cell: (250) 589-2903  
Fax: (250) 952-1570

Join the Healthy Families BC community...



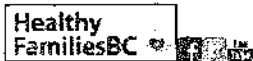
---

**From:** Forster-Coull, Lisa HLTH:EX  
**Sent:** Thursday, September 8, 2011 10:33 AM  
**To:** McKellar, Lisa HLTH:EX  
**Subject:** FW: Vitamin D Public Awareness Campaign

Lisa Forster-Coull  
Provincial Nutritionist  
Population and Public Health  
Ministry of Health  
1515 Blanshard Street, 4th floor  
Victoria, BC  
V8W 3C8

phone 250-952-1124  
fax 250-952-1570

Join the Healthy Families BC community...



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**From:** Kendall, Perry HLTH:EX  
**Sent:** Thursday, September 8, 2011 10:15 AM  
**To:** Berkes, Andrea HLTH:EX; Neufeld, Laura R GCPE:EX; Stewart, Michelle GCPE:EX; Forster-Coull, Lisa HLTH:EX  
**Cc:** Kendall, Perry HLTH:EX; Young, Eric R HLTH:EX  
**Subject:** RE: Vitamin D Public Awareness Campaign

After reading the materials provided by Inspire Health I am still uncertain of what they want. Maybe Lisa could give us an opinion on whether we should be supporting Vit D supplementation- which seems to be the thrust. Though equally they may be asking for support for testing Vit D levels- which we do not support. I consider the VCH statement on Vit D to be equivocal i.e. it cannot hurt. It does not support the claim that 60% of cancers can be prevented by upping Vit D intake.

We need clarity on that exact wording of what they want us to endorse and also info on what BCCA are saying/  
Perry

P. R. W. Kendall  
OBC, MBBS, MSc, FRCPC  
Provincial Health Officer  
Ministry of Health  
4th Floor, 1515 Blanshard Street  
Victoria BC V8W 3C8  
Phone: 250 952-1330  
Fax: 250 952-1362  
perry.kendall@gov.bc.ca  
<http://www.healthservices.gov.bc.ca/pho>

**From:** Berkes, Andrea HLTH:EX

**Sent:** Wednesday, September 7, 2011 4:41 PM

**To:** Kendall, Perry HLTH:EX; Neufeld, Laura R GCPE:EX; Stewart, Michelle GCPE:EX

**Subject:** FW: Vitamin D Public Awareness Campaign

s.22 has emailed again trying to determine whether the Ministry will support this. The last correspondence I have is from Lori DeLuca on Aug 25<sup>th</sup> stating:

Jeremy Higgs confirmed that the protocols, as described in this issues note, were issued last Fall.

- The Ministry is involved in reducing the use of vitamin D testing by:
  - Reducing the physician fee for vitamin D testing (from \$93.63 per test to \$61.50 per test). This reduction was negotiated between the Ministry and the BC Medical Association and came into effect July 31, 2010.
  - Reminding physicians (in July 2009) that testing in most cases is unnecessary and that taking supplements is safe.

s.22

**From:**

**Sent:** Thursday, August 25, 2011 4:36 PM

**To:** Berkes, Andrea HLTH:EX

**Subject:** RE: Vitamin D Public Awareness Campaign

Hi Andrea,

Further to my e-mail on your questions, I will give you a brief telephone call on Friday.

Dr. Julius Halaschek-Wiener from Inspire Health discussed this with his contacts at the Ministry and some concern were expressed about the Ministry endorsing the campaign since vitamin D is thought to be controversial. I strongly suspect that the request to the Ministry was not framed appropriately. The medical health professionals at Coastal Health have the type of endorsement we were seeking on their web-site, so I am not sure where the confusion lies. You can check their article at the following link:

[http://www.vch.ca/about\\_us/news/archive/2010\\_news/is\\_vitamin\\_d\\_all\\_that\\_they\\_say](http://www.vch.ca/about_us/news/archive/2010_news/is_vitamin_d_all_that_they_say)

CCS is still reviewing our request and the person that David Adams is discussing with is Kate Carty. I am not sure where this is in the process.

BC Hydro is willing to incorporate this within their employee wellness campaign and have 100 wellness ambassadors getting the message out. I have similar requests in to Telus and ICBC and a few others.

The municipal governments have come out very strongly in favour of the promotions and the status so far is as follows:

Those that will issue a proclamation on November 2<sup>nd</sup> promoting the campaign.

Yes:

BC Fort St. John  
BC Kelowna  
BC Port Alberni  
BC Port Coquitlam  
BC Prince George  
BC Richmond  
BC Vancouver  
NB Bathurst  
ON Pickering  
SK Regina

Will issue proclamation if we have a rep appear before council. Working to secure this:

AB Calgary  
BC Dawson Creek  
BC Kamloops  
BC Nelson  
BC Squamish  
NL St. John's

Will approve in October:

BC Merrit  
BC Port Moody  
BC Surrey

Awaiting response:

AB Edmonton  
AB Lethbridge  
AB Red Deer  
AB Medicine Hat  
AB Banff  
AB Strathcona  
AB St. Albert  
AB Wood Buffalo  
AB Grande Prairie  
BC Burnaby  
BC Coquitlam  
BC Duncan  
BC Hope  
BC Nanaimo  
BC New Westminster  
BC North Vancouver  
BC Parksville  
BC Penticton  
BC Powell River

BC Prince Rupert  
BC Revelstoke  
BC Salmon Arm  
BC Quesnel  
BC Victoria  
BC Whistler  
MB Winnipeg  
MB Brandon  
MB Steinbach  
MB Thompson  
NB Fredericton  
NB Saint John  
NB Riverview  
NB Miramichi  
NB Rothesay  
NB Edmundston  
NL Gander  
NL Cornerbrook  
NL Paradise  
NL Mount Pearl  
NS Halifax  
NS Cape Breton  
NS New Glasgow  
NS Truro  
NT Yellowknife  
ON Ajax  
ON Belleville  
ON Brampton  
ON Brantford  
ON Burlington  
ON Cambridge  
ON Kitchener  
ON Markham  
ON New Market  
ON Niagara Falls  
ON Oakville  
ON Oshawa  
ON Richmond Hill  
ON Thunder Bay  
ON Vaughan  
ON Waterloo  
ON Ottawa  
ON Sudbury  
ON Toronto  
ON Windsor  
ON Hamilton  
PEI Charlottetown  
PEI Summerside  
QC Montreal  
QC Quebec City  
QC Laval  
QC Gatineau

QC Longueuil  
SK Prince Albert  
SK Saskatoon  
SK Moose Jaw  
SK North Battleford  
SK Swift Current  
YT Whitehorse  
BC Cranbrook

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**From:** Berkes, Andrea HLTH:EX [mailto:Andrea.Berkes@gov.bc.ca]  
**Sent:** Thursday, August 11, 2011 2:44 PM  
**To:** 's.22  
**Subject:** RE: Vitamin D Public Awareness Campaign

Thanks for your email <sup>s.22</sup> Hoping you could provide a couple more pieces of info.....who from the Canadian Cancer Agency and the Ministry of Health have confirmed the support of their organizations?

---

**From:** s.22  
**Sent:** Wednesday, August 10, 2011 4:04 PM  
**To:** Berkes, Andrea HLTH:EX  
**Subject:** Vitamin D Public Awareness Campaign

Hi Andrea,

Further to our phone conversation here are the highlights of the Awareness Campaign. Research shows that up to 70% of BC citizens are Vitamin D deficient during a typical year. Further, taking Vitamin D supplementation reduces the incidence of cancer by 60%. It also follows that vitamin D supplementation could also impact lost work days through immune related maladies.

The outline of the program is as follows:

Principal stakeholders are Inspire Health, Canadian Cancer Society, Ministry of Health and potentially, the Provincial Health Officer. The goal is to make the citizens of BC aware of the facts of vitamin D supplementation in order to reduce the risk of cancer and reduce lost work days through immune related illnesses.

Secondary stakeholders are municipal governments in the larger centres, large companies, such as Telus, BC Hydro, ICBC etc., and the natural products companies and health media.

Timing is planned for the month of November with a kick-off on November 2<sup>nd</sup>. The natural health companies are gearing up their newsletters and product specials to coincide with the awareness campaign. Inspire Health is promoting the campaign on its website with non-scientific language and facts that the lay person can readily understand. Further a Facebook page and twitter feeds will be created.

As I mentioned, it is important to create a baseline measurement of lost days and cancer incidence that we can measure against as we move forward. We believe this program to be of such benefit that it should run every November when we are sunlight deprived.

I am seeking an endorsement of the PHO with some reference on your web site under health related issues. Inspire Health can provide the necessary background information.

I look forward to hearing from you.

Kind regards



## **Berkes, Andrea HLTH:EX**

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**From:** Berkes, Andrea HLTH:EX  
**Sent:** Friday, September 9, 2011 9:04 AM  
**To:** McKellar, Lisa HLTH:EX  
**Cc:** Young, Eric R HLTH:EX; Kendall, Perry HLTH:EX  
**Subject:** FW: RE: Vitamin D Public Awareness Campaign

Lisa – the following response was given to <sup>s.22</sup> yesterday. Therefore, not sure if you need to do anything further.

**From:** Sheikh, Umar HLTH:EX  
**Sent:** Thursday, September 8, 2011 2:48 PM  
**To:** s.22  
**Cc:** Berkes, Andrea HLTH:EX  
**Subject:** RE: Vitamin D Public Awareness Campaign

s.22

Thank you for your email. I have been asked to respond to your requests concerning an endorsement of Vitamin D. As you are aware, The BC Cancer Agency is responsible for helping shape policy direction in regards to cancer care and prevention in British Columbia. The Cancer Agency has a prevention committee chaired by Dr. David McLean. I would suggest that you contact the BC Cancer Agency and pursue your request with them.

Regards,

Umar Sheikh  
250-952-2351

## Berkes, Andrea HLTH:EX

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**From:** XT:HLTH Gustafson, Reka  
**Sent:** Thursday, February 5, 2015 5:24 PM  
**To:** Kendall, Perry HLTH:EX; Daly, Patty [VC]  
**Cc:** XT:Mu, Lisa HLTH:IN  
**Subject:** PureNorth

Hi Perry and Patty,

Lisa and I, and three dietitians met with the fantastically rich Alberta "oil man", (he has a Wikipedia page: [http://en.wikipedia.org/wiki/Allan\\_Markin](http://en.wikipedia.org/wiki/Allan_Markin)) about the high dose vitamins that his group was handing out at the food bank. He brought with him his team: a Naturopathic physician from BC, an MD from Alberta, who is not licensed to practice in BC, and I am not sure if he is licensed in Alberta; a PhD researcher and a "coordinator".

We discussed several issues:

1. That vitamin D at greater than 1000 IU is a prescription drug in BC. They did not know this.
2. That translating individual practice into a population level practice is not sanctioned by the college. The naturopath argued with this, and stated that his college sanctioned it. Fortunately, I had called them (thank you for the suggestion) and this was different from what the college said to me. We spent a fair amount of time explaining the authority required to practice public health and make recommendations for a population. I am not entirely sure if this sunk in.
3. Whether we are mandating them to stop handing out vitamins. We said that we didn't want to mandate them, but that we had the authority under the public health act to do so. (that was kind of fun)
4. They wanted to get into the details of evidence. Allan Markin is clearly very committed to this, and believes that he is doing right. We tried not to get too far into assessing their studies, because that is Health Canada's role. Our position was that if they wish to make a population level change, they would need to go through Health Canada. Even if they could convince us, we are not in a position to unilaterally change the recommended dose of Vitamin D for the population.

Another key issue that surfaced was that they are collecting a great deal of data on individuals, collating the results and publishing them. They are essentially doing research, but without an ethics approval, research protocol or appropriate consent.

We left the meeting with an understanding that if they wish to hand out vitamins at the food bank, the vitamins would need to meet all the regulatory requirements of vitamins sold at a grocery store.

Their next step is to address the issues we brought up, and I am assuming they will want to meet with us again. Lisa is going to look into their practice around data collection, because I think this is an issue that we did not get a chance to address formally. We also didn't get to their ads in the Globe and Mail.

Will keep you posted.

Thank you,

Reka

## **Berkes, Andrea HLTH:EX**

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**From:** XT:HLTH Gustafson, Reka  
**Sent:** Friday, February 6, 2015 7:28 AM  
**To:** Kendall, Perry HLTH:EX  
**Cc:** Henry, Bonnie HLTH:EX  
**Subject:** RE: PureNorth

I think the label is not permitted to say that you should take 6 a day, which is what PureNorth is doing. They are putting 4000 IU in one pill and 2000 IU in another, packaging it up in a single daily dose and giving it as a recommended daily supplement to anyone over 13 years old. This dose is both above the recommended daily dose by a factor of six and the tolerable upper daily limit by a factor of 1.5.

The spirit of our conversation with PureNorth was collaborative, as their intent is clearly to do good. Both Lisa and I were a bit more concerned about the naturopath from Fort St. John, who was tasked with implementing this in BC, and who seems to have gone ahead without due diligence.

Involving the provincial nutritionist would be very helpful.

Thank you,

Reka

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Sent: Thursday, February 05, 2015 5:58 PM  
To: Gustafson, Reka [VC]  
Cc: Henry, Bonnie HLTH:EX  
Subject: Re: PureNorth

Thank you Reka. Re the Rx needed for Vit D. In excess of 1000 IU. I bought a bottle of 240 pills of 1000 IU D3 OTC at my local Pharmacy. How does this compute?

I think I will engage the provincial nutritionist on this.

Perry

P. R. W. Kendall

OBC, MBBS, MSc, FRCPC

Provincial Health Officer

Ministry of Health

4th Floor, 1515 Blanshard Street

Victoria BC V8W 3C8

Phone: 250 952-1330

Fax: 250 952-1362

[perry.kendall@gov.bc.ca](mailto:perry.kendall@gov.bc.ca)

<http://www.health.gov.bc.ca/pho>

From: Gustafson, Reka [VC] [<mailto:Reka.Gustafson@vch.ca>]  
Sent: Thursday, February 05, 2015 05:24 PM  
To: Kendall, Perry HLTH:EX; Daly, Patty [VC] <[Patricia.Daly@vch.ca](mailto:Patricia.Daly@vch.ca)>  
Cc: XT:Mu, Lisa HLTH:IN  
Subject: PureNorth

Hi Perry and Patty,

Lisa and I, and three dietitians met with the fantastically rich Alberta “oil man”, (he has a Wikipedia page: [http://en.wikipedia.org/wiki/Allan\\_Markin](http://en.wikipedia.org/wiki/Allan_Markin)) about the high dose vitamins that his group was handing out at the food bank. He brought with him his team: a Naturopathic physician from BC, an MD from Alberta, who is not licensed to practice in BC, and I am not sure if he is licensed in Alberta, a PhD researcher and a “coordinator”.

We discussed several issues:

1. That vitamin D at greater than 1000 IU is a prescription drug in BC. They did not know this.
2. That translating individual practice into a population level practice is not sanctioned by the college. The naturopath argued with this, and stated that his college sanctioned it. Fortunately, I had called them (thank you for the suggestion) and this was different from what the college said to me. We spent a fair amount of time explaining the authority required to practice public health and make recommendations for a population. I am not entirely sure if this sunk in.
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Will keep you posted.

Thank you,

Reka

## **Berkes, Andrea HLTH:EX**

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**From:** XT:Allison, Sandra HLTH:IN  
**Sent:** Monday, March 2, 2015 11:51 AM  
**To:** XT:HLTH Daly, Patty; XT:Corneil, Trevor Dr. HLTH:IN; XT:Lee, Victoria HLTH:IN; XT:HLTH Stanwick, Richard  
**Cc:** Henry, Bonnie HLTH:EX; Kendall, Perry HLTH:EX  
**Subject:** Vitamin D and Pure North -- Letter from Dieticians of Canada  
**Attachments:** Feb2015\_Letter\_MinHealth\_VitaminD.PDF

Follow up on the CMHO call and the vitamin/foodbank issue.

See attached letter that was brought to my attention.

S

---

Dr. Sandra Allison, MPH CCFP FRCPC  
Chief Medical Health Officer  
Adjunct Professor, School of Health Sciences UNBC  
**Northern Health**  
Tel: 250.565.7424 Fax: 250.564.7198  
600, 299 Victoria Street, Prince George, BC, V2L 5B8  
[www.northernhealth.ca](http://www.northernhealth.ca)

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## **Berkes, Andrea HLTH:EX**

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**From:** Cramb, Lorrie HLTH:EX  
**Sent:** Tuesday, March 3, 2015 4:27 PM  
**To:** Kendall, Perry HLTH:EX; Henry, Bonnie HLTH:EX  
**Cc:** Herman, Matt HLTH:EX; Yandel, Margaret HLTH:EX; Cramb, Lorrie HLTH:EX  
**Subject:** Pure North  
**Attachments:** 2015-02-23 Mega Doses of Vitamin D\_Final.docx; Pure North Program Issue Summary 2015.docx; Feb2015\_Letter\_MinHealth\_VitaminD.pdf

Hi Perry and Bonnie

Please find attached an issue summary, along with an overview of concerns re Megadoses of Vitamin D (prepared by HLBC) and the Dietitians of Canada letter to the Federal Health Minister.

Our recommendations are to:

- Submit formal complaint to the Natural and Non Prescription Health Products Directorate about Pure North practices in BC.
- Send out an alert/communique to health authorities and other key stakeholders.
- Submit complaint to College of Naturopathic Physicians (<http://www.cnpbc.bc.ca/>) re: naturopathic physician in Prince George.
- Submit letter outlining our concerns to Pure North.

Please let me know if you have any questions or would like to discuss further.

Matt- I'm wondering if we need to also prepare an Information BN for the Minister?

-- Thanks, Lorrie--

Lorrie Cramb, MEd, RD  
A/Provincial Nutritionist  
Healthy Living Branch/Population and Public Health  
Ministry of Health  
Ph: 250-952-1124  
BB: 250-507-0256  
[Lorrie.cramb@gov.bc.ca](mailto:Lorrie.cramb@gov.bc.ca)

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## **Berkes, Andrea HLTH:EX**

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**From:** XT:HLTH Stanwick, Richard  
**Sent:** Tuesday, March 17, 2015 9:57 AM  
**To:** XT:Lee, Victoria HLTH:IN; Kendall, Perry HLTH:EX; Henry, Bonnie HLTH:EX; [VCH-PHC] Daly, Patty [VC]; XT:Allison, Sandra HLTH:IN; XT:Corneil, Trevor Dr. HLTH:IN  
**Subject:** RE: Andre Picard's take on high dose vit D - Fyi

This is the same William Grant who is largely funded by the indoor tanning industry (and appeared at the CRD hearings on our bylaw). Richard

---

**From:** Lee, Victoria <Victoria.Lee@fraserhealth.ca>  
**Sent:** Tuesday, March 17, 2015 7:35 AM  
**To:** Perry HLTH:EX Kendall; Bonnie.Henry@gov.bc.ca; [VCH-PHC] Daly, Patty [VC]; Stanwick, Richard (Dr); [NHA] Allison, Sandra; [IHA] Corneil, Dr. Trevor  
**Subject:** Andre Picard's take on high dose vit D - Fyi

Vitamin D supplements aren't all sunshine and lollipops Andre Picard Globe and Mail March 17, 2015

In recent weeks, an advertisement has been running prominently in The Globe and Mail that makes some eye-popping claims, among them that vitamin D deficiency is causing widespread illness and premature deaths, costing the health system \$20-billion a year.

The solution, according to the Pure North S'Energy Foundation, is to dramatically increase Canadians' intake of vitamin D from the current recommendation of 600 to 800 international units daily to 6,000 to 9,000 IUs a day.

Canadians can find "true happiness for pennies a day" by purchasing and consuming large quantities of vitamin D supplements, says one of the ads.

Perhaps the most surprising part of this story is that the ads are not sponsored by a vitamin-maker, but by a foundation that does not appear to stand to gain financially from supplement sales.

Rather, it seems to be a quixotic campaign by wealthy Calgary entrepreneur Allan Markin, who claims to have invested \$200-million in Pure North. Mr. Markin, a chemical engineer, credits taking 12,000 IUs of vitamin D daily for his own good health.

There is no question that vitamin D is an essential nutrient and important for bone health. There is also no doubt that its deficiency can have serious consequences, including rickets.

But the claims that it's a miracle drug that can prevent a wide range of illnesses – 13 types of cancer, diabetes, heart disease, kidney disease, multiple sclerosis, chronic obstructive pulmonary disease, asthma, arthritis, premenstrual syndrome and gum disease, according to a brief scan of published medical literature – have to be kept in context.

What this observational research shows is that people with adequate vitamin D levels have lower rates of a wide range of chronic illnesses. Stated simply, healthy people tend to be healthy.

Not long ago, scientists were pretty excited about vitamin D's potential, particularly when studies suggested that supplementation could cut mortality by about 7 per cent. But that enthusiasm has waned with disappointing clinical trials. In fact, there is increasing evidence that too much vitamin D can be as harmful as too little.

Our principal source of vitamin D is sunshine. About 10 minutes a day of exposure (a little more for people who are dark-skinned or obese) produces as much as the body needs, according to U.S. Institute of Medicine guidelines. Vitamin D can also be consumed in food. In Canada, milk is fortified with vitamin D, and so are some juices. Newborns are routinely given drops because breast milk is a poor source.

In northern climes like Canada, vitamin D levels can be low, particularly in winter. But definitions of adequacy, insufficiency and deficiency vary around the world.

This does not mean we should be measuring everyone's vitamin D levels, something that is in vogue in some circles. The U.S. Preventive Services Task Force, in its review, said there is no evidence to justify screening, except in a small number of high-risk patients with bone-related diseases. At roughly \$100 a test, the main harm would be to the wallet.

Health Canada nutritional guidelines suggest that 600 to 800 IUs of vitamin D is sufficient. In Canada, supplements cannot contain more than 1,000 IUs of vitamin D (the U.S. limit is 7,000 IUs), but nothing stops people from taking as many as they like. The principal risk of too much is kidney stones.

True North's campaign takes issue with the recommended daily allowance, claiming that it was established based on a mathematical error made by the IOM. That debate can be left to statisticians.

The more eyebrow-raising claims merit closer scrutiny, however. They derive principally from a 2010 paper by William Grant, a physicist who works for the Sunlight, Nutrition and Health Research Center in San Francisco.

Dr. Grant argued that insufficient vitamin D levels are responsible for 37,000 premature deaths in Canada every year – about one in six deaths. He calculated that resulting chronic illnesses cost the health system between \$8-billion and \$20-billion a year.

These are preposterous claims based on the dubious premise that by hiking the amount of vitamin D in our blood, a broad range of illness would disappear.

The fundamental error here is confusing correlation and causation. Yes, people with adequate vitamin D levels have less disease. But it does not follow that pumping everyone full of supplements will make them healthier. Enthusiasm for this panacea simply doesn't match the scientific evidence.

Sent from my iPhone

## **Berkes, Andrea HLTH:EX**

---

**From:** XT:HLTH Badenhorst  
**Sent:** Friday, March 20, 2015 4:47 PM  
**To:** XT:HLTH Gustafson, Reka  
**Cc:** Kendall, Perry HLTH:EX; Henry, Bonnie HLTH:EX; XT:Allison, Sandra HLTH:IN; Daly, Patty [VC]; XT:Mu, Lisa HLTH:IN; XT:HLTH Carsley, John Dr.  
**Subject:** Re: Pure North

Thank you Reka for this summary and again taking the time yesterday to discuss this issue with me.

I can support these views and we as MHOs in NH will discuss this and take the necessary actions in our areas.

As a last note, the funder of Pure North and his team visited me about 18 mo ago in FSJ and also walked out on us after I expressed the same concerns.

Charl.

On Mar 20, 2015, at 4:31 PM, "Gustafson, Reka [VC]" <[Reka.Gustafson@vch.ca](mailto:Reka.Gustafson@vch.ca)> wrote:

Dear All,

I'd like to summarize our communication with Pure North, as this issue is now becoming relevant for other regions in the province.

VCH dietitians brought the distribution of Pure North vitamins at our food banks to my attention in the fall. They had several concerns:

1. Supplements that were inadequately labeled were being provided to Food Bank clients.
2. One supplement had no Health Canada number.
3. The total daily Vitamin dose was 6000 IU, which is above the daily recommended allowance as well as the tolerable daily limit.

In November, VCH dietitians had a meeting with Allan Markin, the funder. He walked out of this meeting in anger.

In February, Lisa Mu, myself and a number of VCH and FHA dietitians met with the Pur North team consisting of a naturopath, Allan Markin, a physician of integrated medicine, who is not licensed in BC, and a PhD researcher. They are clearly very passionate about this issue, and were keen to convince us of the evidence for the need for high doses of Vitamin D. We did not argue the evidence, because that wasn't our issue. We kept our message to three things:

1. The **current** dose of Vitamin D they were providing was a scheduled substance and required a prescription. So they were essentially providing a prescription medication to a population, without individual assessment. This was essentially practicing public health medicine, which in this province is done by public health physicians with an Order in Council. The Naturopath said he'd contact his college to confirm. He did, and the lawyer from the College of Naturopathic Medicine of BC contacted me yesterday. She is tasked with providing him with a response, and I was quite surprised to learn that the naturopath was pressuring her to give a response that she was not comfortable giving. I shared with her the Public Health act, explained our role, and the committee structures that we use to make public health recommendations. She understood and was happy with being able to inform the registrant about what is and is not within the scope of his practice.

2. The claim that the recommended dose of Vitamin D is incorrect, because IOM made a statistical error in the analysis that lead to their current recommendations. Our position was that if this was the case, the error should be brought to the attention of the IOM, so that the bodies which make these recommendations can re-assess the entire body of evidence. This is apparently already happening through Dr. Paul J Veugelers, a Canada Research Chair in Population Health and Alberta Research Chair in Nutrition and Disease Prevention at the University of Alberta. He told John that he attended a meeting called by and chaired by the federal minister of health with representatives from Health Canada and Pure North also attending . At this meeting Health Canada clarified they had ask the IOM to comment on his paper. Health Canada also assured them that if the error he had identified appeared a true error, they would revisit their recommendations. The meeting was end of January. So they are awaiting a response from the IOM and Health Canada. This to me seems like the appropriate channel to address this issue. In the meantime, the recommendations remain the same.
3. The actual packaging and distribution of the vitamins was not according to existing standards. There were initially no ingredients on the package, no recommended ages for consumption, and one part of the product had no Health Canada number. On this issue, our position was that the Food Bank is a food premise, which is inspected by EHOs, and therefore food or supplements distributed there have to meet the standards of a grocery store. Unlabeled supplements were not ok.

In VCH and FHA, the Food Bank has voluntarily parted ways with Pur North. This was not upon our request, but they were clearly aware of our concerns. So for now, in VCH and FHA, the issue appears to be resolved. I understand from Charl, that the naturopath is still practicing in Fort St. John.  
Thank you if you read this far!

My best,

Reka

## **Berkes, Andrea HLTH:EX**

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**From:** Cramb, Lorrie HLTH:EX  
**Sent:** Sunday, March 22, 2015 12:25 PM  
**To:** Kendall, Perry HLTH:EX; Henry, Bonnie HLTH:EX  
**Cc:** Herman, Matt HLTH:EX  
**Subject:** FW: Globe and Mail - Pure North

Fyi...a rebuttal from Andre Picard.

### **Lorrie Cramb, MEd, RD**

A/Provincial Nutritionist

Healthy Living Branch, Population and Public Health

BC Ministry of Health

PLEASE NOTE NEW ADDRESS - PO Box 9646 STN PROV GOV'T | Victoria BC V8W 9P1

Phone: (250) 952-1124

Cell: (250) 507-0256

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---

**From:** Yandel, Margaret HLTH:EX  
**Sent:** Tuesday, March 17, 2015 8:44 AM  
**To:** Cramb, Lorrie HLTH:EX  
**Subject:** Globe and Mail - Pure North

FYI

<http://www.theglobeandmail.com/globe-debate/vitamin-d-supplements-arent-all-sunshine-and-lollipops/article23482364/>

**Margaret Yandel, RD**

Manager Public Health Nutrition / Ministry of Health / PO Box 9646 Stn Prov Gov't Victoria BC V8W 9P1 / Population and Public Health / Healthy Living Branch / (250) 952-2186 [margaret.yandel@gov.bc.ca](mailto:margaret.yandel@gov.bc.ca)

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## Berkes, Andrea HLTH:EX

---

**From:** Cramb, Lorrie HLTH:EX  
**Sent:** Tuesday, March 24, 2015 12:20 PM  
**To:** Kendall, Perry HLTH:EX; Henry, Bonnie HLTH:EX; Herman, Matt HLTH:EX; Yandel, Margaret HLTH:EX  
**Subject:** FW: FPTGN e-Bulletin 2015-05 March 24, 2015 / Cyberbulletin du GFPTN 2014-05, 24 mars, 2015  
**Attachments:** Background on DRIs for vit D.docx

fyi

### Lorrie Cramb, MEd, RD

A/Provincial Nutritionist

Healthy Living Branch, Population and Public Health

BC Ministry of Health

PLEASE NOTE NEW ADDRESS - PO Box 9646 STN PROV GOV'T|Victoria BC V8W 9P1

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---

**From:** Anna Mota [mailto:Anna.Mota@hc-sc.gc.ca]  
**Sent:** Tuesday, March 24, 2015 11:38 AM  
**To:** Hasan Hutchinson; AMacRury@GOV.NU.CA; Kim.Neufeld@gov.yk.ca; elsie\_deroose@gov.nt.ca; Cramb, Lorrie HLTH:EX; Riddhi.Shukla@gov.ab.ca; Naomi.Shanks@health.gov.sk.ca; Paul.Fieldhouse@gov.mb.ca; elizabeth.pagacz@ontario.ca; martine.pageau@msss.gouv.qc.ca; teri.emrich@gnb.ca; Amy.MacDonald@novascotia.ca; tina.swinamer@novascotia.ca; kimberley.hernandez@novascotia.ca; mracorn@gov.pe.ca; glendoramboland@gov.nl.ca; William Yan; Alfred Aziz; Mary Trifonopoulos; Marianne Van Oosten; David S. Martin; Saskia Ramsay; Anna Mota  
**Cc:** Forster-Coull, Lisa HLTH:EX; ghislaine.blanchet@msss.gouv.qc.ca; Libbie Wallace; Kelly Bagg; XT:HLTH Lawlor, Brent; Kelly Connor; Elaine De Grandpré; Deborah Gibson; Cheryl Jitta; Jennifer Giurgevich; Deborah Nordstrom  
**Subject:** FPTGN e-Bulletin 2015-05 March 24, 2015 / Cyberbulletin du GFPTN 2014-05, 24 mars, 2015

Dear FPTGN Members:

*(French version to follow in a couple days)*

There has been some media attention about the Veugelers and Ekwaru (2014) paper. This paper was published as a letter in an open journal, asserting that the Institute of Medicine (IOM) made a statistical error when deriving the standards for vitamin D intake. Pure North S'Energy Foundation has been sponsoring ads in major newspapers across the country supporting this assertion.

Health Canada formally asked the IOM to review and respond to this assertion. Health Canada also conducted an assessment of the paper, which took into consideration the IOM response as well as external expert advice from both Canadian and International vitamin D experts. Health Canada has concluded that its analysis is consistent with the IOM's response: there is no statistical error in the vitamin D standards.

We also wanted to share key messages related to this issue, along with some background information on vitamin D, in case you get asked for information. For the background information, refer to the attached document.

## Key messages on vitamin D

- Health Canada and the Institute of Medicine (IOM) have each reviewed and analyzed the information provided by Pure North S'Energy Foundation, and have both concluded that there was no statistical error made in deriving the Dietary Reference Intake (DRI) vitamin D standards, and that the authors of the research have misinterpreted the meaning of the recommended intake level in the 2011 IOM report.
- The IOM recently issued a public response to provide clarification on the approach that the IOM committee took in determining the Recommended Dietary Allowance (RDA) for vitamin D. This information can be found at this address: <http://www.iom.edu/Global/News%20Announcements/How-the-RDA-for-Vitamin-D-Was-Determined>
- Health Canada continues to have confidence in the IOM's rigorous process and ability to provide the department with solid scientific advice and intends to continue to use the DRI standards as the basis for nutrition policies and programs.
- During the development of the vitamin D standards, the IOM considered the totality of evidence available on vitamin D from two systematic reviews conducted by the Agency for Healthcare Research and Quality (AHRQ). In 2014, the AHRQ released an updated systematic review which reconfirmed the conclusions from the IOM that bone health was the only health outcome demonstrating a cause-and-effect relationship. This report can be found at this address: <http://www.effectivehealthcare.ahrq.gov/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productID=1953>
- According to the IOM, there are no additional health benefits associated with vitamin D intakes above the level of the RDA. Canadians should keep their total nutrient intake below the Tolerable Upper Intake Level (UL) to avoid possible adverse effects.
- Health Canada continues to recommend that Canadians follow the advice in *Eating Well with Canada's Food Guide*. Canada's Food Guide recommends that all Canadians over the age of two, including pregnant and lactating women, consume 500mL (two cups) of milk or fortified soy beverages every day to contribute to adequate vitamin D. Health Canada also recommends that, in addition to following Canada's Food Guide, everyone over the age of 50 take a daily vitamin D supplement of 10 µg (400 IU).

(See attached file: *Background on DRIs for vit D.docx*)

Anna

---

**Anna Mota- Stakeholder Relations Officer**

Office of Nutrition Policy & Promotion

Health Products & Food Branch

Ottawa, Ontario K1A 0K9

[anna.mota@hc-sc.gc.ca](mailto:anna.mota@hc-sc.gc.ca)

Tel: (613) 948-6318 Fax: (613) 941-2432

Health Canada

## **Background: Dietary Reference Intakes for vitamin D**

In 2008, the Canadian and the U.S. government jointly commissioned the Institute of Medicine (IOM) to establish Dietary Reference Intakes (DRIs) for vitamin D and calcium. A comprehensive, independent, scientific expert review and evaluation process was conducted by the IOM which built upon the analyses from two systematic reviews conducted by the Agency for Healthcare Research and Quality (AHRQ).

A risk assessment framework was used to consider a wide range of health outcomes, including chronic diseases, upon which recommendations could be based. Given the available evidence, the indicator of bone health was selected as the basis of the DRIs for calcium and vitamin D for all life stage groups.

For all other potential indicators examined (including cancer, cardiovascular disease, diabetes, metabolic syndrome, infectious diseases, falls and physical performance, neuro-psychological condition, and autoimmune disorders), the IOM concluded that the collective scientific evidence was inconsistent, inconclusive as to causality, and insufficient to serve as a basis for informing nutritional requirements. In 2014, the AHRQ released an updated systematic review which reconfirmed these conclusions.

The 2011 IOM report set reference values for recommended dietary intakes for various life stage groups. The DRI values are nutrient reference values for healthy populations to prevent nutrient deficiencies and are not intended for therapeutic uses.

The report states that there are no additional health benefits associated with vitamin D intakes above the level of the Recommended Dietary Allowance (RDA). Furthermore, it is emphasized that the Tolerable Upper Intake Level (UL) is not intended to be a recommended level of intake. The definition of the UL states that the term "tolerable" was chosen to avoid implying a possible beneficial effect. Instead, the term is intended to specify a level of intake with a high probability of being tolerated biologically.

The availability of significant, new, and relevant scientific research would be required to warrant a re-examination of the existing values. Any new research would be subject to a rigorous quality of evidence evaluation before it could be considered in the context of the totality of scientific evidence which is the basis for the setting of DRIs. Generally, the level of evidence to establish the DRI values requires human studies with high quality designs, studies that permit determination of a dose-response relationship between intake and outcome, and studies in more than one life-stage group.

Health Canada continues to have confidence in the IOM's rigorous process and ability to provide the department with solid scientific advice and intends to continue to use the DRI standards as the basis for nutrition policies and programs.

## **Berkes, Andrea HLTH:EX**

---

**From:** Cramb, Lorrie HLTH:EX  
**Sent:** Tuesday, April 14, 2015 10:20 AM  
**To:** Henry, Bonnie HLTH:EX; Yandel, Margaret HLTH:EX  
**Cc:** Kendall, Perry HLTH:EX  
**Subject:** RE: RE: Pure North Supplement Program IBN

Hi Bonnie- I would be happy to send a communique to our stakeholders from our branch if you would prefer that route. Marg can follow up with VCH and NH re the other recommendations.  
Thanks, Lorrie

---

**From:** Henry, Bonnie HLTH:EX  
**Sent:** Tuesday, April 14, 2015 9:32 AM  
**To:** Yandel, Margaret HLTH:EX  
**Cc:** Cramb, Lorrie HLTH:EX; Kendall, Perry HLTH:EX  
**Subject:** RE: RE: Pure North Supplement Program IBN

Hello Margaret,  
Yes, we supported these actions but did not feel it was our role to do most of them. We did forward the concern to all health authorities so they were aware but I understand it was VCH and NH who were addressing the complaints to the College and Health Canada. I would connect with them to see if these actions have been done. Dr Reka Gustafson from VCH and Dr Sandra Allison from the north were involved.

My best,

bonnie

*Dr Bonnie Henry  
Deputy Provincial Health Officer  
Office of the PHO  
Ministry of Health  
4<sup>th</sup> floor, 1515 Blanshard St  
Mailing address: PO Box 9648, STN PROV GOVT  
Victoria, BC  
V8W 9P4  
[Bonnie.henry@gov.bc.ca](mailto:Bonnie.henry@gov.bc.ca)*

Phone: 250 952-1330

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---

**From:** Yandel, Margaret HLTH:EX  
**Sent:** Tuesday, April 14, 2015 9:06 AM  
**To:** Henry, Bonnie HLTH:EX  
**Cc:** Cramb, Lorrie HLTH:EX  
**Subject:** RE: Pure North Supplement Program IBN

Good morning Bonnie,

I am writing an Information briefing note for the Minister on the Pure North Supplement Program to outline the concerns of the program. In the conclusion we listed the recommendations that were included in the issue summary on Pure North that was sent to your office from Lorrie Cramb . These were:

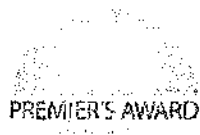
- Submit a formal complaint to Health Canada's Natural and Non-prescription Health Products Directorate about Pure North practices in BC.
- Communicate concerns regarding Pure North practices to health authorities and other key stakeholders.
- Submit a complaint to the College of Naturopathic Physicians regarding the naturopathic physician responsible for leading the supplement program in BC.
- Submit a letter to Pure North S'Energy Foundation outlining concerns.

Arlene asked whether the PHO has accepted these recommendations? Can you please inform me as to their status so that I can provide her with an answer and complete the IBN.

Thanks  
Marg

**Margaret Yandel, BHE, RD**  
Manager, Public Health Nutrition

Healthy Living Branch | Population and Public Health | Ministry of Health | NEW MAILING ADDRESS - PO Box 9646 Stn  
Prov Gov't | Victoria BC V8W 9P1 | 250-952-2186 | [Margaret.Yandel@gov.bc.ca](mailto:Margaret.Yandel@gov.bc.ca)



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## **Berkes, Andrea HLTH:EX**

---

**From:** Henry, Bonnie HLTH:EX  
**Sent:** Wednesday, June 3, 2015 1:52 PM  
**To:** Cramb, Lorrie HLTH:EX; 'Jayne Thirsk'; 'Hasan Hutchinson'; Kendall, Perry HLTH:EX  
**Subject:** RE: Pure North in Latest Maclean's Magazine

Clearly passionate, if somewhat misdirected!  
Too bad we couldn't get him interested in smoking cessation or mental health...

Dr Bonnie Henry  
Deputy Provincial Health Officer  
Office of the PHO  
Ministry of Health  
4<sup>th</sup> floor, 1515 Blanshard St  
Mailing address: PO Box 9648, STN PROV GOVT  
Victoria, BC  
V8W 9P4  
[Bonnie.henry@gov.bc.ca](mailto:Bonnie.henry@gov.bc.ca)

Phone: 250 952-1330

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---

**From:** Cramb, Lorrie HLTH:EX  
**Sent:** Tuesday, June 2, 2015 9:42 AM  
**To:** 'Jayne Thirsk'; 'Hasan Hutchinson'; Henry, Bonnie HLTH:EX; Kendall, Perry HLTH:EX  
**Subject:** FW: Pure North in Latest Maclean's Magazine

FYI...

**Lorrie Cramb, MEd, RD**  
Provincial Dietitian  
Healthy Living Branch, Population and Public Health  
BC Ministry of Health  
PLEASE NOTE NEW ADDRESS - PO Box 9646 STN PROV GOV'T | Victoria BC V8W 9P1  
Phone: (250) 952-1124  
Cell: (250) 507-0256

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---

**From:** Yandel, Margaret HLTH:EX  
**Sent:** Friday, May 29, 2015 2:44 PM  
**To:** Cramb, Lorrie HLTH:EX  
**Subject:** FW: Pure North in Latest Maclean's Magazine

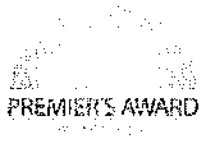
FYI . Sent by Barb Crocker. Interesting Read about Oilman Marking and what motivates him

Here is the link: <http://www.macleans.ca/society/health/vitamin-determination-an-oilman-becomes-a-health-care-renegade/> .

**Margaret Yandel, BHE, RD**

Manager, Public Health Nutrition

Healthy Living Branch | Population and Public Health | Ministry of Health | NEW MAILING ADDRESS - PO Box 9646 Stn  
Prov Gov't | Victoria BC V8W 9P1 | 250-952-2186 | [Margaret.Yandel@gov.bc.ca](mailto:Margaret.Yandel@gov.bc.ca)



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## **Berkes, Andrea HLTH:EX**

---

**From:** XT:HLTH Gustafson, Reka  
**Sent:** Wednesday, November 4, 2015 8:30 PM  
**To:** Kendall, Perry HLTH:EX  
**Cc:** Daly, Patty [VC]; XT:Mu, Lisa HLTH:IN; Newhouse, Emily [VC]  
**Subject:** Pure North

Hello Everyone,

I wanted to update you about a meeting I had with Pure North today. This is the vitamin and supplement company that distributed large doses of Vitamin D through a number of outlets in Fraser and VCH, including the food bank. There were a number of concerns raised about their operations, which lead the Food Bank to part ways with them.

1. Some of their products did not have Natural Product Numbers.
2. Packaging and labeling was inadequate.
3. They were providing a dose of Vitamin supplements that would require a prescription in BC.

They have addressed all three of these concerns. They now only distribute products with natural product numbers that are appropriately labeled. They now operate in one community clinic at St. Michael's Church twice a week. They continue to provide the service to people who go to the church for free food. All their products are now provided by a prescribing naturopathic physician, who sees each patient individually for an initial consult and for q6 month follow-up. They still provide the high dose vitamin D, but do so by a naturopathic physicians.

I said that I would convey this information to you, and that based on the information provided, I no longer have a role as an MHO. I did of course not endorse the practice, because I am not aware of any evidence that this is needed or even appropriate, but as they are a regulated health profession in BC, and they seem to be practicing within their scope, I think we are done.

They did ask whether ordinary supplements (ones that could be on a shelf at Safeway) could be distributed through the food bank, and I said I did not know, but I would check.

Of course if any organization asked me whether they partner with them to involve people with a naturopathic doctor, I would say no. I did advise them that we would continue to respond to complaints.

Please let me know if you have concerns or questions.

Thank you,

Reka

Page 001 to/à Page 023

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Loraina

Loraina Stephen B.Sc., M.Sc., RD  
Population Health Registered Dietitian, NH Lead for External Food Policy and Food Security Northern  
Health Centre for Healthy Living  
1788 Diefenbaker Dr.  
Prince George, BC V2N 4V7  
phone: (250) 565-7341  
fax: (250) 612-0810  
[loraina.stephen@northernhealth.ca](mailto:loraina.stephen@northernhealth.ca)  
"The northern way of caring"

"Poverty is the single largest determinant of health" (WHO, 2010)

Page 025 to/à Page 032

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## Codner, Tamara A HLTH:EX

---

**From:** Anna Mota <Anna.Mota@hc-sc.gc.ca>  
**Sent:** Tuesday, March 24, 2015 11:38 AM  
**To:** Hasan Hutchinson; AMacRury@GOV.NU.CA; Kim.Neufeld@gov.yk.ca; elsie\_deroose@gov.nt.ca; Cramb, Lorrie HLTH:EX; Riddhi.Shukla@gov.ab.ca; Naomi.Shanks@health.gov.sk.ca; Paul.Fieldhouse@gov.mb.ca; elizabeth.pagacz@ontario.ca; martine.pageau@msss.gouv.qc.ca; teri.emrich@gnb.ca; Amy.MacDonald@novascotia.ca; tina.swinamer@novascotia.ca; kimberley.hernandez@novascotia.ca; mracorn@gov.pe.ca; glendoramboland@gov.nl.ca; William Yan; Alfred Aziz; Mary Trifonopoulos; Marianne Van Oosten; David S. Martin; Saskia Ramsay; Anna Mota  
**Cc:** Forster-Coull, Lisa HLTH:EX; ghislaine.blanchet@msss.gouv.qc.ca; Libbie Wallace; Kelly Bagg; XT:HLTH Lawlor, Brent; Kelly Connor; Elaine De Grandpré; Deborah Gibson; Cheryl Jitta; Jennifer Giurgevich; Deborah Nordstrom  
**Subject:** FPTGN e-Bulletin 2015-05 March 24, 2015 / Cyberbulletin du GFPTN 2014-05, 24 mars, 2015  
**Attachments:** Background on DRIs for vit D.docx

Dear FPTGN Members:

*(French version to follow in a couple days)*

There has been some media attention about the Veugelers and Ekwaru (2014) paper. This paper was published as a letter in an open journal, asserting that the Institute of Medicine (IOM) made a statistical error when deriving the standards for vitamin D intake. Pure North S'Energy Foundation has been sponsoring ads in major newspapers across the country supporting this assertion.

Health Canada formally asked the IOM to review and respond to this assertion. Health Canada also conducted an assessment of the paper, which took into consideration the IOM response as well as external expert advice from both Canadian and International vitamin D experts. Health Canada has concluded that its analysis is consistent with the IOM's response: there is no statistical error in the vitamin D standards.

We also wanted to share key messages related to this issue, along with some background information on vitamin D, in case you get asked for information. For the background information, refer to the attached document.

### Key messages on vitamin D

- Health Canada and the Institute of Medicine (IOM) have each reviewed and analyzed the information provided by Pure North S'Energy Foundation, and have both concluded that there was no statistical error made in deriving the Dietary Reference Intake (DRI) vitamin D standards, and that the authors of the research have misinterpreted the meaning of the recommended intake level in the 2011 IOM report.
- The IOM recently issued a public response to provide clarification on the approach that the IOM committee took in determining the Recommended Dietary Allowance (RDA) for vitamin D. This information can be found at this address: <http://www.iom.edu/Global/News%20Announcements/How-the-RDA-for-Vitamin-D-Was-Determined>
- Health Canada continues to have confidence in the IOM's rigorous process and ability to provide the department with solid scientific advice and intends to continue to use the DRI standards as the basis for nutrition policies and programs.
- During the development of the vitamin D standards, the IOM considered the totality of evidence available on vitamin D

from two systematic reviews conducted by the Agency for Healthcare Research and Quality (AHRQ). In 2014, the AHRQ released an updated systematic review which reconfirmed the conclusions from the IOM that bone health was the only health outcome demonstrating a cause-and-effect relationship. This report can be found at this address:  
<http://www.effectivehealthcare.ahrq.gov/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productID=1953>

- According to the IOM, there are no additional health benefits associated with vitamin D intakes above the level of the RDA. Canadians should keep their total nutrient intake below the Tolerable Upper Intake Level (UL) to avoid possible adverse effects.
- Health Canada continues to recommend that Canadians follow the advice in *Eating Well with Canada's Food Guide*. Canada's Food Guide recommends that all Canadians over the age of two, including pregnant and lactating women, consume 500mL (two cups) of milk or fortified soy beverages every day to contribute to adequate vitamin D. Health Canada also recommends that, in addition to following Canada's Food Guide, everyone over the age of 50 take a daily vitamin D supplement of 10 µg (400 IU).

(See attached file: *Background on DRIs for vit D.docx*)

**Anna**

---

**Anna Mota- Stakeholder Relations Officer**

Office of Nutrition Policy & Promotion

Health Products & Food Branch

Ottawa, Ontario K1A 0K9

[anna.mota@hc-sc.gc.ca](mailto:anna.mota@hc-sc.gc.ca)

Tel: (613) 948-6318 Fax: (613) 941-2432

Health Canada

## Codner, Tamara A HLTH:EX

---

**From:** Leslie, Barbara HLBC:EX  
**Sent:** Tuesday, February 24, 2015 3:02 PM  
**To:** Cramb, Lorrie HLTH:EX  
**Cc:** Simmons, Dean HLBC:EX; Yandel, Margaret HLTH:EX  
**Subject:** FW: mega dose Vitamin D  
**Attachments:** 2015-02-23 Mega Doses of Vitamin D\_Final.docx; 2015-02-23 Mega Doses of Vitamin D\_Final.pdf

Hi Lorrie and Marg;  
Dean has prepared a response for you.  
Best,  
Barb

**Barb Leslie, MA-IS, RD**  
Director, Dietitian Services  
Office: 604-215-5138 Fax: 604-215-5105

**HealthLinkBC**  
Health Advice You Can Trust 24/7



Administrative Assistant: Karen Murphy  
Office: 604-215-5136  
[Karen.Murphy@gov.bc.ca](mailto:Karen.Murphy@gov.bc.ca)

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---

**From:** Simmons, Dean HLBC:EX  
**Sent:** February-24-15 2:00 PM  
**To:** Leslie, Barbara HLBC:EX  
**Subject:** RE: mega dose Vitamin D

Hi Barb,

Please find the revised copy of the vitamin D evidence brief attached.

Sincerely,

Dean

**Dean Simmons, MSc, RD**  
Provincial Food Policy Dietitian, Dietitian Services  
Phone: 8-1-1 (Toll free within BC), or (604) 732-9191 (if calling from outside of BC)  
Fax: (604) 215-5105  
[FoodPolicy@gov.bc.ca](mailto:FoodPolicy@gov.bc.ca)

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8-1-1



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BC Health Service  
Locator App

Administrative Assistant: Karen Murphy

Office: 604-215-5136

[Karen.Murphy@gov.bc.ca](mailto:Karen.Murphy@gov.bc.ca)

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---

**From:** Leslie, Barbara HLBC:EX

**Sent:** February-20-15 7:01 PM

**To:** Cramb, Lorrie HLTH:EX; Baker-French, Sophia HLTH:EX; Ngai, Adrienne HLBC:EX; Simmons, Dean HLBC:EX; Smart, Lori HLBC:EX

**Cc:** Yandel, Margaret HLTH:EX

**Subject:** Re: mega dose Vitamin D

Can do

---

**From:** Cramb, Lorrie HLTH:EX

**Sent:** Friday, February 20, 2015 05:51 PM

**To:** Leslie, Barbara HLBC:EX; Baker-French, Sophia HLTH:EX; Ngai, Adrienne HLBC:EX; Simmons, Dean HLBC:EX

**Cc:** Yandel, Margaret HLTH:EX

**Subject:** mega dose Vitamin D

Hi all- wondering if we or Health Canada have any information ready or if you can pull together a quick summary of risks associated with excess doses of Vitamin D supplements, as well as outlining the DRI requirements, etc? We have been notified by Perry Kendall and VCH that a company called Pure North has been providing FREE supplements to the food banks in Vancouver. This company is based out of Alberta so I have also put a call to my AB colleague. VCH has managed to get GVFBs to pull the supplements but there are several concerns including violation of labelling regs, doses being supplied without prescription, mini research study being conducted without ethics, the list goes on! The Chief MHOs have been informed and s.13

s.13

s.13 .there were recent ads in the globe and mail of the company advertising their products as part of a healthy living program...a naturopath in PG is also involved... anything you can pull asap would be greatly appreciated!

Marg is following up with VCH as well. Happy to chat next week if necessary.

Thanks, Lorrie

Lorrie Cramb, MEd, RD

A/Provincial Nutritionist

Healthy Living Branch/Population and Public Health

Ministry of Health

Ph: 250-952-1124

BB: 250-507-0256

[Lorrie.cramb@gov.bc.ca](mailto:Lorrie.cramb@gov.bc.ca)

**Codner, Tamara A HLTH:EX**

---

**From:** Yeung, Helen [NS] <Helen.Yeung@vch.ca>  
**Sent:** Friday, October 23, 2015 2:57 PM  
**To:** XT:HLTH Crocker, Barbara; Cramb, Lorrie HLTH:EX; XT:HLTH Martiquet, Paul  
**Subject:** FW: Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

Hi Lorrie,  
Here's the e-mail that Barbara forwarded to us VCH dietitians.

Barbara, I mentioned this to Lorrie, and wondered if anyone from VCH had followed up? In any case, I thought it would be beneficial for Lorrie to receive this e-mail. Lorrie said that if you have already forwarded to her, it may be buried in her mountain of e-mails!

Thanks,  
Helen Yeung, MHSc, RD  
Public Health Dietitian  
Vancouver Coastal Health

---

From: Crocker, Barbara [VC]  
Sent: September 23, 2015 10:18 AM  
To: VCH PUBLIC HEALTH DIETITIANS  
Subject: Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

Hi Everyone,  
I got this message below regarding above at the end of August.  
I just got a follow up message from Emily Pratt with Pure North.  
Is there any interest in discussing/meeting with Emily with anyone? Home Health, Primary Care?  
Could we add this to our meeting for this afternoon Kathy?  
Thanks  
Barb

Barbara Crocker, RD, MA  
Public Health Dietitian  
City-wide 0-5 Program  
Public Health Program  
Raven Song Community Health Centre  
2450 Ontario Street  
Vancouver BC V5T 4T7  
Ph: 604-709-6427

From: Jason Boxtart [<mailto:Jason.Boxtart@purenorth.ca>]  
Sent: Monday, August 31, 2015 11:58 AM  
To: [FHA] Mu, Lisa; Gustafson, Reka [VC]; [FHA] LeGresley, Susan; Crocker, Barbara [VC]  
Cc: Emily Pratt  
Subject: Pure North Distribution

Hello,

As a service to vulnerable populations within Vancouver, Pure North S'Energy Foundation is planning to distribute a limited supply of nutritional supplements. There will be approximately 1000 boxes of vitamin packs. Each box is meant to be a 3 month supply. We would like to commence distribution in September.

In accordance with previous communications with you and Health Canada regulation, all supplements have a registered NPN and are labelled in accordance to regulation.

For your information the NPNs for all contents are provided below.

Natural Product Number (NPN): 80046745<tel:80046745> Current Status: Active Brand Name(s): Vital 2 Platinum Licence Holder: Bioclinic Naturals Inc.

Dosage Form: Tablet

Recommended Route of Administration: Oral Natural Product Number (NPN):

80056089<tel:80056089> Current Status: Active Brand Name(s): Pure Synergy Cell Protector Licence

Holder: The Synergy Company of Utah, LLC/Synergy Productions Laboratories Dosage Form: Capsule

Recommended Route of Administration: Oral

Natural Product Number (NPN): 80027042<tel:80027042> Current Status: Active Brand Name(s):

Vitamin B12 Licence Holder: Natural Factors Nutritional Products Limited Dosage Form: Tablet

Recommended Route of Administration: Sublingual

We would appreciate the opportunity for dialogue on the matter. We appreciate your previous concerns and have made adjustments based on that information you provided to us.

I look forward to speaking with you again.

Dr. Jason Boxtart, ND

Dr. Emily Pratt, ND

Dr. Jason Boxtart, ND.

Pure North S'Energy Foundation

Direct 250-961-1444

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## Codner, Tamara A HLTH:EX

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**From:** Kendall, Perry HLTH:EX  
**Sent:** Monday, March 2, 2015 11:56 AM  
**To:** Cramb, Lorrie HLTH:EX  
**Cc:** Henry, Bonnie HLTH:EX  
**Subject:** FW: Vitamin D and Pure North -- Letter from Dieticians of Canada  
**Attachments:** Feb2015\_Letter\_MinHealth\_VitaminD.PDF

FYI

P. R. W. Kendall  
OBC, MBBS, MSc, FRCPC  
Provincial Health Officer  
Ministry of Health  
*Physical Address:* 4th Floor, 1515 Blanshard Street  
*Mailing Address:* PO Box 9648, STN PROV GOVT  
Victoria BC V8W 9P4  
Phone: 250 952-1330 Fax: 250 952-1362  
Email: [perry.kendall@gov.bc.ca](mailto:perry.kendall@gov.bc.ca)  
<http://www.health.gov.bc.ca/pho/>

---

**From:** Allison, Sandra [<mailto:Sandra.Allison@northernhealth.ca>]  
**Sent:** Monday, March 2, 2015 11:51 AM  
**To:** XT:HLTH Daly, Patty; XT:Corneil, Trevor Dr. HLTH:IN; XT:Lee, Victoria HLTH:IN; XT:HLTH Stanwick, Richard  
**Cc:** Henry, Bonnie HLTH:EX; Kendall, Perry HLTH:EX  
**Subject:** Vitamin D and Pure North -- Letter from Dieticians of Canada

Follow up on the CMHO call and the vitamin/foodbank issue.

See attached letter that was brought to my attention.

S

Dr. Sandra Allison, MPH CCFP FRCPC  
Chief Medical Health Officer  
Adjunct Professor, School of Health Sciences UNBC  
Northern Health  
Tel: 250.565.7424 Fax: 250.564.7198  
600, 299 Victoria Street, Prince George, BC, V2L 5B8  
[www.northernhealth.ca](http://www.northernhealth.ca)

## Codner, Tamara A HLTH:EX

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**From:** Cramb, Lorrie HLTH:EX  
**Sent:** Monday, February 23, 2015 6:19 PM  
**To:** Herman, Matt HLTH:EX; Yandel, Margaret HLTH:EX  
**Subject:** FW: follow-up from the CMHO call

Hi Marg- can we try to pull something together by Friday? I can follow up with HLBC and Simon if that helps.  
Thanks, Lorrie

---

**From:** Henry, Bonnie HLTH:EX  
**Sent:** Monday, February 23, 2015 4:27 PM  
**To:** XT:Allison, Sandra HLTH:IN; XT:Lee, Victoria HLTH:IN; [VCH-PHC] Daly, Patty [VC]; XT:HLTH Stanwick, Richard; XT:Corneil, Trevor Dr. HLTH:IN; XT:Adams, Evan HLTH:IN; Kendall, Perry HLTH:EX  
**Cc:** Cramb, Lorrie HLTH:EX; XT:HLTH Waters, Shannon HLTH:IN  
**Subject:** RE: follow-up from the CMHO call

Hi All,

I have copied the provincial nutritionist Lorrie Cramb here. We have discussed issuing an alert for all health authorities and yes, that would include the FNHA. Lorrie is investigating the issue with our colleagues in Alberta; I forwarded the pictures to her as well. <sup>s.13</sup>

s.13

My best,  
Bonnie

*Dr Bonnie Henry  
Deputy Provincial Health Officer  
Office of the PHO  
Ministry of Health  
4<sup>th</sup> floor, 1515 Blanshard St  
Mailing address: PO Box 9648, STN PROV GOVT  
Victoria, BC  
V8W 9P4  
[Bonnie.henry@gov.bc.ca](mailto:Bonnie.henry@gov.bc.ca)*

Phone: 250 952-1330

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**From:** Allison, Sandra [<mailto:Sandra.Allison@northernhealth.ca>]  
**Sent:** Monday, February 23, 2015 4:17 PM  
**To:** XT:Lee, Victoria HLTH:IN; Henry, Bonnie HLTH:EX; [VCH-PHC] Daly, Patty [VC]; XT:HLTH Stanwick, Richard; XT:Corneil, Trevor Dr. HLTH:IN  
**Subject:** RE: follow-up from the CMHO call

As we start to look into the vitamin debacle in the north, I have been made aware that there are food banks in FN communities.

Will we share the information on the Pure North initiative to distribute vitamins and perform health studies on the recipients with our partners in FNHA?

Thanks,  
S

Dr. Sandra Allison  
Chief Medical Health Officer  
Adjunct Professor, School of Health Sciences UNBC  
Northern Health  
Tel: 250.565.7424

---

**From:** Lee, Victoria [<mailto:Victoria.Lee@fraserhealth.ca>]  
**Sent:** Monday, February 23, 2015 12:09 PM  
**To:** Henry, Bonnie HLTH:EX; [VCH-PHC] Daly, Patty [VC]; XT:HLTH Stanwick, Richard; Allison, Sandra; [IHA] Corneil, Dr. Trevor  
**Subject:** follow-up from the CMHO call

Hello all,

I have a few items to follow up with:

- HCW policy evaluation:
  - o Bonnie -> please send me the names/contact information from BCCDC and UBC that we should connect with
  - Richard, Sandra and Trevor -> please let me know who the rep(s) should be from your respective health authorities. Patty, I've Reka for VCH but please let me know if I should include anyone else
- Pure North Vitamins:
  - o Bonnie, could you please send the contact info for the provincial nutritionist?

Thank you,  
Victoria

Victoria Lee MD MPH MBA CCFP FRCPC  
Interim Chief Medical Health Officer and  
Vice President Population and Public Health  
Fraser Health Authority  
Suite 400, Central City Tower  
13450 - 102nd Avenue  
Surrey, BC  
V3T 0H1  
Office: 604.587.7891  
Fax: 604.930.5414  
email: [Victoria.lee@fraserhealth.ca](mailto:Victoria.lee@fraserhealth.ca)

---

**From:** Henry, Bonnie HLTH:EX [<mailto:Bonnie.Henry@gov.bc.ca>]  
**Sent:** Friday, February 20, 2015 11:12 AM  
**To:** [VCH-PHC] Daly, Patty [VC]; XT:HLTH Stanwick, Richard; [NHA] Allison, Sandra; Lee, Victoria; [IHA] Corneil, Dr. Trevor  
**Subject:** RE: Pure North vitamins

Thanks Patty,

I have passed this on to the provincial nutritionist and they are working with Alberta to obtain more information. It does not look like these have a DIN or are approved by the Natural Health Products Directory at Health Canada so they will follow up on that as well. We will put some information together on the potential side effects from large doses of Vit D

s.13

My best,  
Bonnie

Dr Bonnie Henry  
Deputy Provincial Health Officer  
Office of the PHO  
Ministry of Health  
4<sup>th</sup> floor, 1515 Blanshard St  
Mailing address: PO Box 9648, STN PROV GOVT  
Victoria, BC  
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[Bonnie.henry@gov.bc.ca](mailto:Bonnie.henry@gov.bc.ca)

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---

**From:** Daly, Patty [VC] [<mailto:Patricia.Daly@vch.ca>]  
**Sent:** Thursday, February 19, 2015 5:26 PM  
**To:** XT:HLTH Stanwick, Richard; XT:Allison, Sandra HLTH:IN; XT:Lee, Victoria HLTH:IN; XT:Corneil, Trevor Dr. HLTH:IN; Henry, Bonnie HLTH:EX  
**Subject:** Pure North vitamins

The first picture is the bags with 5 unmarked pills/capsules in each – a variety of different vitamins and supplements, including at total of 6000 IU vit D. After we told them we couldn't distribute them this way, they came up with a plastic bottle (second picture) which contains the bags. This does list what the pills supposedly contain. Apparently they are manufactured by a naturopath – we are following up on this Richard.

Patricia Daly MD, FRCPC  
Vice-President, Public Health and  
Chief Medical Health Officer  
Vancouver Coastal Health  
#800-601 West Broadway  
Vancouver, BC V5Z 4C2  
Phone: 604-675-3924  
Fax: 604-731-2756  
E-mail: [Patricia.Daly@vch.ca](mailto:Patricia.Daly@vch.ca)  
Assistant: Mavis Chu  
Phone: 604-675-3918  
E-mail: [Mavis.Chu@vch.ca](mailto:Mavis.Chu@vch.ca)

## Codner, Tamara A HLTH:EX

---

**From:** Cramb, Lorrie HLTH:EX  
**Sent:** Monday, March 23, 2015 8:48 AM  
**To:** Yandel, Margaret HLTH:EX  
**Subject:** FW: Pure North

Lorrie Cramb, MEd, RD  
A/Provincial Nutritionist  
Healthy Living Branch, Population and Public Health  
BC Ministry of Health  
PLEASE NOTE NEW ADDRESS - PO Box 9646 STN PROV GOV'T|Victoria BC V8W 9P1  
Phone: (250) 952-1124  
Cell: (250) 507-0256

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**From:** Kendall, Perry HLTH:EX  
**Sent:** Monday, March 23, 2015 8:05 AM  
**To:** Cramb, Lorrie HLTH:EX  
**Cc:** Henry, Bonnie HLTH:EX  
**Subject:** FW: Pure North

FYI

P. R. W. Kendall  
OBC, MBBS, MSc, FRCPC  
Provincial Health Officer  
Ministry of Health  
*Physical Address:* 4th Floor, 1515 Blanshard Street  
*Mailing Address:* PO Box 9648, STN PROV GOVT  
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Phone: 250 952-1330 Fax: 250 952-1362  
Email: [perry.kendall@gov.bc.ca](mailto:perry.kendall@gov.bc.ca)  
<http://www.health.gov.bc.ca/pho/>

---

**From:** Gustafson, Reka [VC] [<mailto:Reka.Gustafson@vch.ca>]  
**Sent:** Friday, March 20, 2015 4:32 PM  
**To:** Kendall, Perry HLTH:EX; Henry, Bonnie HLTH:EX; XT:Allison, Sandra HLTH:IN; Daly, Patty [VC]; XT:HLTH Badenhorst; XT:Mu, Lisa HLTH:IN; XT:HLTH Carsley, John Dr.  
**Subject:** Pure North

Dear All,

I'd like to summarize our communication with Pure North, as this issue is now becoming relevant for other regions in the province.

VCH dietitians brought the distribution of Pure North vitamins at our food banks to my attention in the fall. They had several concerns:

1. Supplements that were inadequately labeled were being provided to Food Bank clients.
2. One supplement had no Health Canada number.
3. The total daily Vitamin dose was 6000 IU, which is above the daily recommended allowance as well as the tolerable daily limit.

In November, VCH dietitians had a meeting with Allan Markin, the funder. He walked out of this meeting in anger. In February, Lisa Mu, myself and a number of VCH and FHA dietitians met with the Pur North team consisting of a naturopath, Allan Markin, a physician of integrated medicine, who is not licensed in BC, and a PhD researcher. They are clearly very passionate about this issue, and were keen to convince us of the evidence for the need for high doses of Vitamin D. We did not argue the evidence, because that wasn't our issue. We kept our message to three things:

1. The **current** dose of Vitamin D they were providing was a scheduled substance and required a prescription. So they were essentially providing a prescription medication to a population, without individual assessment. This was essentially practicing public health medicine, which in this province is done by public health physicians with an Order in Council. The Naturopath said he'd contact his college to confirm. He did, and the lawyer from the College of Naturopathic Medicine of BC contacted me yesterday. She is tasked with providing him with a response, and I was quite surprised to learn that the naturopath was pressuring her to give a response that she was not comfortable giving. I shared with her the Public Health act, explained our role, and the committee structures that we use to make public health recommendations. She understood and was happy with being able to inform the registrant about what is and is not within the scope of his practice.
2. The claim that the recommended dose of Vitamin D is incorrect, because IOM made a statistical error in the analysis that lead to their current recommendations. Our position was that if this was the case, the error should be brought to the attention of the IOM, so that the bodies which make these recommendations can re-assess the entire body of evidence. This is apparently already happening through Dr. Paul J Veugelers, a Canada Research Chair in Population Health and Alberta Research Chair in Nutrition and Disease Prevention at the University of Alberta. He told John that he attended a meeting called by and chaired by the federal minister of health with representatives from Health Canada and Pure North also attending . At this meeting Health Canada clarified they had ask the IOM to comment on his paper. Health Canada also assured them that if the error he had identified appeared a true error, they would revisit their recommendations. The meeting was end of January. So they are awaiting a response from the IOM and Health Canada. This to me seems like the appropriate channel to address this issue. In the meantime, the recommendations remain the same.
3. The actual packaging and distribution of the vitamins was not according to existing standards. There were initially no ingredients on the package, no recommended ages for consumption, and one part of the product had no Health Canada number. On this issue, our position was that the Food Bank is a food premise, which is inspected by EHOs, and therefore food or supplements distributed there have to meet the standards of a grocery store. Unlabeled supplements were not ok.

In VCH and FHA, the Food Bank has voluntarily parted ways with Pur North. This was not upon our request, but they were clearly aware of our concerns. So for now, in VCH and FHA, the issue appears to be resolved. I understand from Charl, that the naturopath is still practicing in Fort St. John.

Thank you if you read this far!

My best,

Reka

## Codner, Tamara A HLTH:EX

---

**From:** Yeung, Helen [NS] <Helen.Yeung@vch.ca>  
**Sent:** Thursday, February 26, 2015 1:55 PM  
**To:** Yandel, Margaret HLTH:EX  
**Subject:** FW: Question about supplements - HC

Marg, this is a related note to the one I sent you earlier. It's a summary of my note to my VCH colleagues about the phone call I had with Jenny and Anthony. FYI only.

Thanks,  
Helen Yeung, RD

---

**From:** Yeung, Helen [NS]  
**Sent:** 12 January, 2015 11:59 AM  
**To:** Crocker, Barbara [VC]; Dunham, Rebecca [VC]; [FHA] LeGresley, Susan; Gustafson, Reka [VC]  
**Subject:** FW: Question about supplements

Hello Reka, Barbara, Rebecca, and Susan,  
Below is an e-mail from Anthony and Jenny, from Health Canada. I didn't respond to their e-mail.

I got a call from Health Canada Jan. 9 from Jenny McLaughlin and colleague Anthony. Klara Richer is required to forward any inquiries from the public to Ottawa, so Jenny and Anthony received the e-mail that I sent to Klara (cc'd Jan. 8th). I told them that we were gathering more information about the Pure North supplements being provided to food bank recipients, which is why I had contacted Klara in the first place. From the info about the Pure North supplements I attached to my e-mail to Klara, Anthony could find NPNs on all the products EXCEPT for the combined C&D (4000 IU). This high-dose vitamin D supplement is a concern because it requires a physician prescription (over 1000 IU). I explained that we (public health) want to maintain good working relationships with our food bank partners, and even with a company or group who wants to help vulnerable populations. Jenny said that any information I provided to her is confidential and protected. I suggested that she review the Pure North web site and Google their supplements program, as the internet has several articles and news reports about Pure North, especially related to Alberta. Then, Health Canada could take responsibility for finding their own information. Jenny did ask about the packaging and labelling of the supplements at the food bank, and I said that I thought the supplements were in sealed, clear plastic bags. She said that all supplements (provided free or sold to public) must be labelled with instructions for use, contents, etc. I asked that Jenny contact Barbara, and I gave her your number Barb, as I wasn't sure how the products were labelled (even though it's mentioned in our summary of concerns memo). I hope that you are able to give a better description of how the products are packaged? At the December meeting, did the Pure North staff show or describe in detail the packaging of their products?

I told Jenny that I'm not making a formal complaint, but that first we would discuss our concerns with our MHO, and later if we want Health Canada's help then I would contact them again. If you want to speak to Jenny or Anthony, you are welcome to phone them at 613-948-8466. I think that it is important that we work together with HC, as they have a regulatory function in protecting the public's health, and they may be helpful in the future if the food bank wants to support health-promoting supplements (while reducing risks).

I look forward to talking to more about the Pure North issue next Monday.

Thanks,  
Helen Yeung, MHSc, RD  
Public Health Dietitian  
Vancouver Coastal Health  
604-418-2139

---

**From:** Anthony Sabourin [mailto:anthony.sabourin@hc-sc.gc.ca] On Behalf Of CTU-UCT  
**Sent:** 09 January, 2015 12:17 PM  
**To:** Yeung, Helen [NS]

Cc: Anthony Sabourin; Jenny McLaughlin  
Subject: Re: Fw: Question about supplements

Dear Ms. Yeung,

Thank you for taking the time to talk to us today regarding Pure North.

The information you have provided helps Health Canada deliver our national compliance and enforcement program. Personal information is protected under the provisions of the Privacy Act. The Act provides you with a right of access and to change incorrect information. Should you require clarification about this statement, please refer to our website <http://hc-sc.gc.ca/ahc-asc/activit/atip-aiarp/index-eng.php>.

We invite you to visit the Health Canada website to learn how the Inspectorate meets its mandate [http://www.hc-sc.gc.ca/dhp-mps/compli-conform/index\\_e.html](http://www.hc-sc.gc.ca/dhp-mps/compli-conform/index_e.html).

Health Canada prioritizes its work according to the risk to health that the incident may pose to Canadians. Incidents that present a potentially higher risk to health will be actioned first. Incidents of low or nominal risk will be assessed and entered into our tracking system for possible future compliance action as deemed appropriate. Please note that we may need to contact you to obtain additional information. If you wish to provide additional information regarding this matter, please quote the reference number above when contacting our office.

Health Canada resolves incidents of non-compliance with the *Food and Drugs Act* and its associated *Regulations* that are brought to its attention using various regulatory tools. The tools used are based on the risk associated with the product and may include recommending a recall of the product, publishing an advisory to inform Canadians of the action taken, seizure of the product to remove it from the market, refusal of entry of the product into Canada, and in certain cases, the referral of serious matters to the Public Prosecution Service of Canada for prosecution as per the Compliance and Enforcement Policy. [http://www.hc-sc.gc.ca/dhp-mps/compli-conform/gmp-bpf/pol/pol\\_1\\_tc-tm-eng.php](http://www.hc-sc.gc.ca/dhp-mps/compli-conform/gmp-bpf/pol/pol_1_tc-tm-eng.php)

We thank you again for taking the time to bring your complaint to our attention. Please do not hesitate to contact us if you wish to share further information.

Yours truly,

Anthony Sabourin  
Central Triage Unit,  
Health Products and Food Branch Inspectorate

From: Klara Richer/HC-SC/GC/CA  
To: CTU-UCT/GEN/HC-SC/GC/CA@HWC  
Cc: Klara Richer/HC-SC/GC/CA@HWC  
Date: 2015-01-08 04:20 PM  
Subject: Fw: Question about supplements

---

----- Forwarded by Klara Richer/HC-SC/GC/CA on 2015-01-08 01:15 PM -----

From: "Yeung, Helen [NS]"  
To: "klara.richer@hc-sc.gc.ca" <klara.richer@hc-sc.gc.ca>  
Cc: "Crocker, Barbara [VC]", "Dunham, Rebecca [VC]", "[FHA] LeGresley, Susan"  
Date: 2015-01-08 11:56 AM  
Subject: Question about supplements

---

Hello Klara,

In Vancouver and some of the surrounding areas, Pure North is distributing some supplements at food banks. Have you heard about the Pure North program? A few of my colleagues and I are trying to learn more about the supplements being provided to food bank recipients to discuss more with our medical health officers. Attached is some information from Pure North, and below is additional information.

[http://www.purenorth.ca/?page\\_id=1168](http://www.purenorth.ca/?page_id=1168) Super D Pack supplement

[http://www.purenorth.ca/?page\\_id=1129](http://www.purenorth.ca/?page_id=1129) Comparison chart

<http://www.cbc.ca/news/canada/calgary/pure-north-health-program-spurs-alternative-public-care-debate-1.2287199>

Our understanding is that the supplements are produced by two separate companies, Bioclinic Naturals, and The Synergy Company (trademarked). At the food bank depots, the supplements are distributed in packaging different than in retail stores (supplements are in plastic bags, not containers). Some concerns we had include the high levels of nutrients in some supplements, the product labeling, the research evidence especially behind the vitamin D supplements, and some other health concerns. We are trying to work collaboratively with our partners in the food bank and Pure North to meet the common goal of promoting the health of vulnerable populations.

My question for you is whether the supplements (Super D Pack, Vital 2 Platinum, Bone Renewal) have NPNs, and whether Health Canada is aware of the Pure North program. Are the supplements in the attached a regulated product? I would be happy to discuss this by phone if that is more convenient. I can be reached at 604-418-2139.

Thank you,  
Helen Yeung, MHSc, RD  
Public Health Dietitian, North Shore  
Vancouver Coastal Health  
Parkgate Community Health Centre  
3625 Banff Court, 2nd Floor  
North Vancouver, BC V7H 2Z8  
Ph: 604-904-6458; Fax: 904-6470  
Cell: 604-418-2139  
[Helen.Yeung@vch.ca](mailto:Helen.Yeung@vch.ca)

[attachment "Pure North Super D Pack Nov 2014.pdf" deleted by Anthony Sabourin/HC-SC/GC/CA]

[attachment "Pure North brochure at Food bank.pdf" deleted by Anthony Sabourin/HC-SC/GC/CA]

Page 048

Withheld pursuant to/removal as

Copyright

## Codner, Tamara A HLTH:EX

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**From:** Yeung, Helen [NS] <Helen.Yeung@vch.ca>  
**Sent:** Thursday, February 26, 2015 12:31 PM  
**To:** Yandel, Margaret HLTH:EX; XT:HLTH Gustafson, Reka  
**Cc:** XT:HLTH Crocker, Barbara; Tran, Rebecca [VC]; XT:HLTH Legresley, Susan  
**Subject:** Health Canada contacts

Hi Marg and Reka, here are the names of the two people from Health Canada I spoke with in early January. Below is our correspondence, for your information. I initially spoke with Klara Richer who referred my inquiry to the Central Triage Unit in Ottawa.

I had suggested that Anthony Sabourin and Jenny McLaughlin check the Pure North web site and Google their supplements program since you can find several media reports about Pure North. As I did not have first-hand knowledge about the Pure North program (I normally don't visit the food bank depot on the North Shore), I suggested that they contact Barbara find out more about the program in Vancouver's food bank depots. Health Canada is concerned about the lack of compliance with the Food and Drugs Act and associated Regulations. I did not share with Anthony and Jenny the summary of concerns (the document prepared for Reka by the VCH dietitians & Susan LeGresley). I am sure that they would be pleased to hear from you as Medical Health Officers and Ministry of Health.

Thanks for following up.

Helen Yeung, MHSc, RD  
Public Health Dietitian  
Vancouver Coastal Health

---

**From:** Anthony Sabourin [mailto:anthony.sabourin@hc-sc.gc.ca] **On Behalf Of** CTU-UCT  
**Sent:** 09 January, 2015 12:17 PM  
**To:** Yeung, Helen [NS]  
**Cc:** Anthony Sabourin; Jenny McLaughlin  
**Subject:** Re: Fw: Question about supplements

Dear Ms. Yeung,

Thank you for taking the time to talk to us today regarding Pure North.

The information you have provided helps Health Canada deliver our national compliance and enforcement program. Personal information is protected under the provisions of the Privacy Act. The Act provides you with a right of access and to change incorrect information. Should you require clarification about this statement, please refer to our website <http://hc-sc.gc.ca/ahc-asc/activit/atip-aiprp/index-eng.php>.

We invite you to visit the Health Canada website to learn how the Inspectorate meets its mandate [http://www.hc-sc.gc.ca/dhp-mps/compli-conform/index\\_e.html](http://www.hc-sc.gc.ca/dhp-mps/compli-conform/index_e.html).

Health Canada prioritizes its work according to the risk to health that the incident may pose to Canadians. Incidents that present a potentially higher risk to health will be actioned first. Incidents of low or nominal risk will be assessed and entered into our tracking system for possible future compliance action as deemed appropriate. Please note that we may need to contact you to obtain additional information. If you wish to provide additional information regarding this matter, please quote the reference number above when contacting our office.

Health Canada resolves incidents of non-compliance with the *Food and Drugs Act* and its associated *Regulations* that are brought to its attention using various regulatory tools. The tools used are based on the risk associated with the product and may include recommending a recall of the product, publishing an advisory to inform Canadians of the action taken, seizure of the product to remove it from the market, refusal of entry of the product into Canada, and in certain cases, the referral of serious matters to the Public Prosecution Service of Canada for prosecution as per the Compliance and Enforcement Policy. [http://www.hc-sc.gc.ca/dhp-mps/compli-conform/gmp-bpf/pol/pol\\_1\\_tc-tm-eng.php](http://www.hc-sc.gc.ca/dhp-mps/compli-conform/gmp-bpf/pol/pol_1_tc-tm-eng.php)

We thank you again for taking the time to bring your complaint to our attention. Please do not hesitate to contact us if you wish to share further information.

Yours truly,

Anthony Sabourin  
Central Triage Unit,  
Health Products and Food Branch Inspectorate

From: Klara Richer/HC-SC/GC/CA  
To: CTU-UCT/GEN/HC-SC/GC/CA@HWC  
Cc: Klara Richer/HC-SC/GC/CA@HWC  
Date: 2015-01-08 04:20 PM  
Subject: Fw: Question about supplements

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----- Forwarded by Klara Richer/HC-SC/GC/CA on 2015-01-08 01:15 PM -----

From: "Yeung, Helen [NS]"  
To: "klara.richer@hc-sc.gc.ca" <klara.richer@hc-sc.gc.ca>  
Cc: "Crocker, Barbara [VC]", "Dunham, Rebecca [VC]", "[FHA] LeGresley, Susan"  
Date: 2015-01-08 11:56 AM  
Subject: Question about supplements

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Hello Klara,

In Vancouver and some of the surrounding areas, Pure North is distributing some supplements at food banks. Have you heard about the Pure North program? A few of my colleagues and I are trying to learn more about the supplements being provided to food bank recipients to discuss more with our medical health officers. Attached is some information from Pure North, and below is additional information.

[http://www.purenorth.ca/?page\\_id=1168](http://www.purenorth.ca/?page_id=1168) Super D Pack supplement

[http://www.purenorth.ca/?page\\_id=1129](http://www.purenorth.ca/?page_id=1129) Comparison chart

<http://www.cbc.ca/news/canada/calgary/pure-north-health-program-spurs-alternative-public-care-debate-1.2287199>

Our understanding is that the supplements are produced by two separate companies, Bioclinic Naturals, and The Synergy Company (trademarked). At the food bank depots, the supplements are distributed in packaging different than in retail stores (supplements are in plastic bags, not containers). Some concerns we had include the high levels of nutrients in some supplements, the product labeling, the research evidence especially behind the vitamin D supplements, and some other health concerns. We are trying to work collaboratively with our partners in the food bank and Pure North to meet the common goal of promoting the health of vulnerable populations.

My question for you is whether the supplements (Super D Pack, Vital 2 Platinum, Bone Renewal) have NPNs, and whether Health Canada is aware of the Pure North program. Are the supplements in the attached a regulated product? I would be happy to discuss this by phone if that is more convenient. I can be reached at 604-418-2139.

Thank you,  
Helen Yeung, MHSc, RD

Public Health Dietitian, North Shore  
Vancouver Coastal Health  
Parkgate Community Health Centre  
3625 Banff Court, 2nd Floor  
North Vancouver, BC V7H 2Z8  
Ph: 604-904-6458; Fax: 904-6470  
Cell: 604-418-2139  
[Helen.Yeung@vch.ca](mailto:Helen.Yeung@vch.ca)

[attachment "Pure North Super D Pack Nov 2014.pdf" deleted by Anthony Sabourin/HC-SC/GC/CA]

[attachment "Pure North brochure at Food bank.pdf" deleted by Anthony Sabourin/HC-SC/GC/CA]

Page 052 to/à Page 060

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**Codner, Tamara A HLTH:EX**

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**From:** Yandel, Margaret HLTH:EX  
**Sent:** Wednesday, April 22, 2015 4:57 PM  
**To:** XT:HLTH Stephen, Loraina  
**Cc:** Schilling, Tanya; Levesque, Mandy; XT:HLTH Badenhorst; XT:Luppens, Lise HLTH:IN; XT:Bloudoff, Marianne HLTH:IN; XT:Moulechkova, Emilia HLTH:IN; XT:HLTH Crocker, Barbara  
**Subject:** RE: Feedback request on 2 documents re: Pure North Supplement Program in Ft St. John Shelter  
**Attachments:** 2015-02-23 Mega Doses of Vitamin D\_Final.docx; Food Bank and Shelter Supplement Provision Questions April 21, 2015\_my.docx; Understanding Vit D risks FINAL April 21 2015 LS\_my.docx

Hi Loraina

Thanks for asking for my feedback. I have reviewed the 2 documents as requested and did provide some comments via track changes . No other additions to suggest to your process. I have also included a Summary of Megadoses of Vit D that was prepared for us by HLBC.

Look forward to hearing about the outcome.

Regards  
Marg

Margaret Yandel, BHE, RD  
Manager, Public Health Nutrition

Healthy Living Branch | Population and Public Health | Ministry of Health | NEW MAILING ADDRESS - PO Box 9646 Stn Prov Gov't | Victoria BC V8W 9P1 | 250-952-2186 | Margaret.Yandel@gov.bc.ca

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-----Original Message-----

From: Stephen, Loraina [mailto:Loraina.Stephen@northernhealth.ca]  
Sent: Wednesday, April 22, 2015 4:09 PM  
To: XT:HLTH Crocker, Barbara; Yandel, Margaret HLTH:EX  
Cc: Schilling, Tanya; Levesque, Mandy; XT:HLTH Badenhorst; XT:Luppens, Lise HLTH:IN; XT:Bloudoff, Marianne HLTH:IN; XT:Moulechkova, Emilia HLTH:IN  
Subject: RE: Feedback request on 2 documents re: Pure North Supplement Program in Ft St. John Shelter

Thanks so much for this feedback Barb.

I agree, our community partners are very interested in doing the best they are able to for the vulnerable populations they are working with.

Our 'duty to inquire' and support common understandings around topics such as this one are an important health promotion approach. Thank you again for your suggestions in this area around relationship building.

I am feeling better about my understanding of this topic area as well as the various health risks and safety concerns that can arise with a program such as this in these specific settings.

Best,  
Loraina

-----Original Message-----

From: Crocker, Barbara [VC] [mailto:Barbara.Crocker@vch.ca]

Sent: Wednesday, April 22, 2015 3:18 PM

To: Stephen, Loraina; 'Yandel, Margaret HLTH:EX (Margaret.Yandel@gov.bc.ca)'

Cc: Schilling, Tanya; Levesque, Mandy; Badenhorst, Charl; Luppens, Lise; Bloudoff, Marianne; Moulechkova, Emilia

Subject: Feedback request on 2 documents re: Pure North Supplement Program in Ft St. John Shelter

Thank you Loraina for sharing your 2 documents I reviewed both briefly and have no specific comments. Good job on summarizing supplement topic and developing the screening tool.

My one suggestion with regards to the shelter is the key role of relationships with our community collaborators.

As we all know, developing a good working relationship with our community agencies is so important for receptive dialogue on our mutual public health interests.

Thanks again for the opportunity to collaborate with your team.

Sincerely

Barb

Barbara Crocker, RD, MA  
Public Health Dietitian  
City-wide 0-5 Program  
Public Health Program  
Raven Song Community Health Centre  
2450 Ontario Street  
Vancouver BC V5T 4T7  
Ph: 604-709-6427

-----Original Message-----

From: Stephen, Loraina [mailto:Loraina.Stephen@northernhealth.ca]

Sent: Tuesday, April 21, 2015 3:57 PM

To: Crocker, Barbara [VC]; Yandel, Margaret HLTH:EX (Margaret.Yandel@gov.bc.ca)

Cc: Schilling, Tanya; Levesque, Mandy; Badenhorst, Charl; Luppens, Lise; Bloudoff, Marianne; Moulechkova, Emilia

Subject: Feedback request on 2 documents re: Pure North Supplement Program in Ft St. John Shelter

Hi everyone,

So sorry.... I did not give you the most recent version of the one document - Understanding Vit D risks. Here it is....along with the other 2.

Thank you so much for your patience.

Cheers,  
Loraina

-----Original Message-----

From: Stephen, Loraina

Sent: Tuesday, April 21, 2015 2:23 PM

To: 'Crocker, Barbara [VC]'; Yandel, Margaret HLTH:EX (Margaret.Yandel@gov.bc.ca)

Cc: Schilling, Tanya; Levesque, Mandy; Badenhorst, Charl; Luppens, Lise; Bloudoff, Marianne;

Moulechkova, Emilia; Stephen, Loraina

Subject: Feedback request on 2 documents re: Pure North Supplement Program in Ft St. John Shelter

Hi Barbara and Margaret,

Our NH Population Health Nutrition team has been asked by Dr. Sandra Allison (NH CMHO) to scan the 3 HSDA's in northern BC to determine if there are any Food Banks with Pure North Supplement Programs and we have completed this scan. Although we did not find that any of the 34 Food Banks that we scanned were currently supporting this practice, I did find one Shelter in Fort. St. John that was.

We are now moving forward with the next steps in this process under the direction of Tanya Shilling, Regional Manager of Population Health and Charl Badenhorst, NEast MHO. Thank you so much Barb for sharing your process with us in the south with regards to concerns regarding supplements offered by Pure North S'Energy Foundation to clients served by the Greater Vancouver Food Bank Society. This has been very helpful

We have now developed 2 documents that we think will be helpful for us in our process moving forward and would like to share them with you to get your feedback.

The 2 documents are;

1. Understanding health risks and safety concerns associated with Supplement Use - Vitamin D. This document is the start to our own professional backgrounder to support our common messaging on this topic and could potentially be a handout at a site visit. Thoughts....

2. Understanding Supplement Provisions in NH Food Banks and Shelters. This document is meant to provide us with guidance on the questions we need to ask at a site visit or at a group meeting with the Shelter to gather the key information on this topic. The breath of topic areas in this document are the ones that came up during your process Barb. I hope I have captured the breath here. Thoughts...

I have also included the 1 pager that Pure North has created on Vitamin D3 Supplementation and provides on their website for the Public, for reference. This handout articulates their approach, philosophy, and emphasis around increasing dose amounts of Vitamin D above UL's.

Your feedback on these documents and any additional process steps we will need to consider is greatly appreciated,

Thanks so much,

Loraina

Loraina Stephen B.Sc., M.Sc., RD  
Population Health Registered Dietitian, NH Lead for External Food Policy and Food Security Northern  
Health Centre for Healthy Living  
1788 Diefenbaker Dr.  
Prince George, BC V2N 4V7  
phone: (250) 565-7341  
fax: (250) 612-0810  
loraina.stephen@northernhealth.ca  
"The northern way of caring"

"Poverty is the single largest determinant of health" (WHO, 2010)

**Codner, Tamara A HLTH:EX**

---

**From:** Cramb, Lorrie HLTH:EX <Lorrie.Cramb@gov.bc.ca>  
**Sent:** Sunday, March 29, 2015 3:40 PM  
**To:** 'nutrition@doctorsofbc.ca'  
**Subject:** Follow up to March 27th Meeting  
**Attachments:** 2015-02-23 Mega Doses of Vitamin D\_Final.pdf; Dietitians of Canada.pdf; Feb2015\_Letter\_MinHealth\_VitaminD.pdf; FW: FPTGN e-Bulletin 2015-05 March 24, 2015 / Cyberbulletin du GFPTN 2014-05, 24 mars, 2015

As promised- please find attached documents re the Pure North and Vitamin D as well as articles from Dietitians of Canada re Primary Care, Chronic Disease Management and Extended Health Care Coverage.

Regards, Lorrie

Lorrie Cramb, MEd, RD  
A/Provincial Nutritionist  
Healthy Living Branch, Population and Public Health BC Ministry of Health PLEASE NOTE NEW ADDRESS - PO Box 9646 STN PROV GOV'T|Victoria BC V8W 9P1  
Phone: (250) 952-1124  
Cell: (250) 507-0256

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# Vitamin D status of Canadians employed in northern latitudes

**Y. -S. Chao<sup>1</sup>, L. Brunel<sup>2</sup>, P. Faris<sup>3</sup> and P. J. Veugelers<sup>1</sup>**

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**Codner, Tamara A HLTH:EX**

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**From:** Jayne Thirsk <jayne.thirsk@dietitians.ca>  
**Sent:** Monday, March 2, 2015 2:47 PM  
**To:** Cramb, Lorrie HLTH:EX  
**Cc:** XT:HLTH Crocker, Barbara; Karen Boyd; XT:HLTH Legresley, Susan; Tran, Rebecca [VC]; XT:HLTH Yeung, Helen; Yandel, Margaret HLTH:EX; XT:Kupka, Sonya HLTH:IN  
**Subject:** Re: Pure North Activities in BC  
**Attachments:** finalpreventative-health-care-emery-dutton-mullie-zwicker\_0.pdf; Letter re FSEDLL Final.pdf

Thank you all for your attention to this issue. It is good to learn of some successes. Karen Boyd responded to an earlier 2013 report by this group on behalf of DC but we received no response (see attached). The latest report (alluded to in our letter to the Minister and also attached) published once again by the University of Calgary's School of Public Policy raises similar alarms in terms of poor quality evidence being used to promote an extensive supplementation program as part of a primary care initiative. This or a related program is receiving some funding from Alberta Health.

We in Alberta have a steep mountain to climb on this one, knowing that others are raising concerns and successfully challenging the approaches used with vulnerable groups is encouraging.

Jayne

On Mon, Mar 2, 2015 at 2:18 PM, Cramb, Lorrie HLTH:EX <[Lorrie.Cramb@gov.bc.ca](mailto:Lorrie.Cramb@gov.bc.ca)> wrote:

Thanks Barb- just an fyi that I am preparing a summary of this issue for our Provincial Health Officer, Perry Kendall. It has been discussed with Chief MHOs in our province. We hope to provide a communique to health authorities and key stakeholders re our concerns. We were pleased to see the letter from DC to the Health Minister.

Cheers, Lorrie

**Lorrie Cramb, MEd, RD**

A/Provincial Nutritionist

Healthy Living Branch, Population and Public Health

BC Ministry of Health

PLEASE NOTE NEW ADDRESS - PO Box 9646 STN PROV GOV'T|Victoria BC V8W 9P1

Phone: [\(250\) 952-1124](tel:(250)952-1124)

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*anyone else is strictly prohibited. If you have received this in error, please telephone or e-mail the sender immediately and delete the message.*

---

**From:** Crocker, Barbara [VC] [mailto:[Barbara.Crocker@vch.ca](mailto:Barbara.Crocker@vch.ca)]

**Sent:** Monday, March 2, 2015 12:35 PM

**To:** 'Jayne Thirsk'; Karen Boyd

**Cc:** XT:HLTH Legresley, Susan; Tran, Rebecca [VC]; XT:HLTH Yeung, Helen; Yandel, Margaret HLTH:EX; Cramb, Lorrie HLTH:EX

**Subject:** Pure North Activities in BC

Hi Jayne and Karen,

Great to hear from you both.

Here is a timeline of events:

- We have been working on this since the spring of 2014 when we learned the Food Bank was handing out PN supplements for free at the 14 food bank depots.

At that time we worked with Jennifer Black, PhD, RD at UBC and one of her masters students, discussed over conference call and then I called CEO at food bank to discuss. This was mid-July.

- From there, the CEO recommended Jennifer and I learn more about PN foundation/program. We then waited for the meeting. I followed up in Sept, then brought it to a Food Bank committee that I sit on in October. This helped to move forward the need to meet.
- Nov 26<sup>th</sup>, we had a face to face meeting with 5 reps from PN at the food bank. (This included Alan Markin Founder of PN)

RDs at meeting: Jennifer Black(UBC), Rebecca Tran (VCH), Susan LeGresley (Fraser Health Authority), Helen Yeung (VCH over the phone for part of meeting) and myself.

Also at meeting – 3 Food Bank staff – including CEO.

- As a follow up, we sent a summary memo to our VCH Medical Health Officer. I met her Jan 7<sup>th</sup>. Updated our memo in a format that she preferred along with a draft letter to food bank.
- Jan 20<sup>th</sup>, attending food bank meeting – PN on agenda again. At this meeting, discussed our activities and Director of Food and Education committee recommended Food Bank suspend program until public health concerns met. All members of the Food and Education committee agreed with this action item.
- Jan 21<sup>st</sup>, first thing in morning, I followed up with another email to Director of Food and Ed committee to confirm that this action was to go forward.
- Jan 21<sup>st</sup> at 4pm I had a call from food bank CEO. He stated that PN program was immediately suspended until all public health issues dealt with.
- Jan 22<sup>nd</sup> am, I had a call from Naturopathic doctor with PN. I sent his request to our Medical Health Officer.
- Feb 13<sup>th</sup> conference call was booked with him right away
- Feb 5<sup>th</sup>, PN executive came to BC for face to face meeting at VCH Public Health head office. Five PN staff including Allan Markin attended. As well, 2 Medical health officers and 3 Dietitians.
- Feb 13<sup>th</sup> conference call with Medical Health officers, Naturopathic doctor and 2 dietitians occurred.
- Feb 17<sup>th</sup>, I mentioned this to our Provincial Nutritionist Lorrie Cramb during a call on another matter.

- Feb 26<sup>th</sup> follow up contact with a Ministry of Health Manager of Public Health Nutrition – Marg Yandel who will follow up with Provincially.

There are many steps, details in between but hopefully this fills you in somewhat. Contact with Health Canada too.

We do have documents we prepared, and there are many attachments from PN etc.

I have copied the other dietitians too who may have further comment for you.

Let us know if further info is needed at this time.

Sincerely

Barb

*Barbara Crocker, RD, MA*

*Public Health Dietitian*

*Public Health Program*

*Raven Song Community Health Centre*

*2450 Ontario Street*

*Vancouver BC V5T 4T7*

*Ph: 604-709-6427*

---

**From:** Jayne Thirsk [<mailto:jayne.thirsk@dietitians.ca>]

**Sent:** 02 March, 2015 12:08 PM

**To:** Crocker, Barbara [VC]

**Cc:** Karen Boyd

**Subject:** Pure North

Dear Barb,

Your note to Janice and Sonya was passed along to me. I'm delighted to learn that you've been successful with confronting this organization. I'd be most appreciative if you would be willing to share your advocacy efforts and information. Karen Boyd (DC Regional Executive Director for AB) and myself have been doing some work in the area and welcome any additional support.

Kind regards,

Jayne

--

Jayne Thirsk RD PhD FDC

Director, Practice-based Evidence in Nutrition [PEN]

Dietitians of Canada

Phone: 403 217 5211 Email: jayne.thirsk@dietitians.ca

Website: www.pennutrition.com Twitter @PENNutrition.com Facebook: www.facebook.com/PENNutrition

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Website: www.pennutrition.com Twitter @PENNutrition.com Facebook:  
www.facebook.com/PENNutrition

January 19, 2015

To: Reka Gustafson, MHO

From: Barbara Crocker, Rebecca Dunham, Susan LeGresley and Helen Yeung, Public Health Dietitians

Re: Summary of Concerns regarding Supplements offered by Pure North S'Energy Foundation to Clients Served by the Greater Vancouver Food Bank Society

**Program Description:**

Greater Vancouver Food Bank Society (GVFBS) provides a space at each depot for Pure North S'Energy Foundation to offer free supplements to clients (adults and youth) participating in the food distribution depots (15 depots located in North Vancouver, Vancouver, Burnaby and New Westminster)

"Pure North Super D Pack" supplements include: a 30 day supply of five different daily vitamin/mineral supplements and iodine drops, produced by two separate companies: Bioclinic Naturals™ and The Synergy Company™.

Supplements include a multivitamin and mineral supplement (Vital 2 Platinum 1 or 2 tablets daily), vitamin A or bone renewal supplement (1 capsule daily), vitamin B12 (1 tablet daily), Vitamin C 1000 mg with Vitamin D 4000 IU (1 tablet daily) (this supplement does not have a Health Canada designated Natural Health Products number), Cell protector with selenium and organic ingredients (1 capsule daily) and iodine drops in a 'super greens' smoothie. Total of 5 or 6 tablets/capsules in each "Pure North Super D Pack". The combination of the five supplements includes 5000-6000 IU vitamin D which is over the Tolerable Upper Limit of 4000 IU.

Clients sign an "Informed Consent Agreement" and complete a "toxicity symptom list".

**Health Hazards**

- Vitamin D – supplements provide a total of 5000-6000 IU daily which is above the upper tolerable level recommended of 4000IU. The vitamin C 1000mg with Vitamin D 4000 IU supplement does not have a Natural Health Products number from Health Canada.

Vitamin D toxicity can cause non-specific symptoms such as anorexia, weight loss, polyuria, and heart arrhythmias. More seriously, it can also raise blood levels of calcium which leads to vascular and tissue calcification, with subsequent damage to the heart, blood vessels, and kidneys [1]...

Long-term intakes above the UL increase the risk of adverse health effects [1] ... While symptoms of toxicity are unlikely at daily intakes below 10,000 IU/day, the FNB (Institute of Medicine, Food and Nutrition Board) pointed to emerging science from national survey data, observational studies, and clinical trials suggesting that even lower vitamin D intakes and serum 25(OH)D levels might have adverse health effects over time. The FNB concluded that serum 25(OH)D levels above approximately 125–150 nmol/L (50–60 ng/mL) should be avoided, as even lower serum levels (approximately 75–120 nmol/L or 30–48 ng/mL) are associated with increases in all-cause mortality, greater risk of cancer at some sites like the pancreas, greater risk of cardiovascular events, and more falls and fractures among the elderly. The FNB committee cited research which found that vitamin D intakes of 5,000 IU/day achieved serum 25(OH)D concentrations between 100–150 nmol/L (40–60 ng/mL), but no greater. Applying an uncertainty factor of 20% to this intake value gave a UL of 4,000 IU which the FNB applied to children aged 9 and older, with corresponding lower amounts for younger children.

Source: sited from <http://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/> on January 7, 2015, National Institutes of Health Office of Dietary Supplements Vitamin D Fact Sheet for Health Professionals, November 2014.

### Standards of Practice Issues

- This program is a population health intervention that is provided without individual assessments, counseling and monitoring as would be offered in a primary health care setting.
- Informed consent – benefits, cautions and potential medication/nutrient side effects are not explained.
- Toxicity symptom list completed each month is not reviewed nor is interpretation or counseling provided.
- Client's medical history is not obtained.
- Staffing – Non-licensed nurses and holistic nutritionist work at the food bank depots. No BC College registered health professionals participate at the depots where clients are provided supplements by Pure North reps yet they appear as though they are health professionals (foreign trained nurses).
- Lack of any labeling on supplement packs – this is in contravention of federal labeling laws for Natural Health Products <http://www.hc-sc.gc.ca/dhp-mps/prodnatur/legislation/docs/label-list-etiquet-eng.php>.
- Lack of safety seal and tamper –proof containers for the 30 day supply of supplements.
- Lack of disclosure that the Vitamin D supplements provided exceed the current Institute of Medicine Dietary Reference Intakes for Tolerable Upper Levels (UL) of 4000IUs (2010).
- Lack of disclosure that a prescription from a physician is required to buy vitamin D in a dosage form of greater than 1000IU as provided by the “Vitamin C 1000mg with Vitamin D 4000 IU” supplement. According to the College of Pharmacists of BC Drug Scheduling, Aug 2012. Sited from [http://library.bcparmacists.org/D-Legislation\\_Standards/D-4\\_Drug\\_Distribution/5012-Drug\\_Schedules\\_Regulation.pdf](http://library.bcparmacists.org/D-Legislation_Standards/D-4_Drug_Distribution/5012-Drug_Schedules_Regulation.pdf).
- Lack of Natural Health Products Number from Health Canada for the Vitamin C 1000mg with Vitamin D 4000 IU.  
(From a Health Canada web page about Natural Health Products (NHP): “Evidence requirements for safety and efficacy  
The safety and efficacy of NHPs and their health claims must be supported by proper evidence so that consumers and Health Canada know the products are indeed safe and effective. Evidence may include clinical trial data or references to published studies, journals, pharmacopoeias and traditional resources. The type and amount of supporting evidence required depends on the proposed health claim of the product and its overall risks.”
- Iodine supplement – amount provided not known. UL is 1100 micrograms/day. High iodine intakes in excess of UL from food, water, and supplements have been associated with the following adverse effects: thyroiditis, goiter, hypothyroidism, hyperthyroidism, sensitivity reactions, thyroid papillary cancer, acute effects of iodine poisoning such as burning of the mouth, throat, and stomach; abdominal pain; fever; nausea; vomiting; diarrhea; weak pulse; cardiac irritability; coma; cyanosis – usually associated with doses of many grams. IOM DRI, 2006.

### Possible Actions to address public health concerns

Given our mutual goals of improving the health of the Greater Vancouver Food Bank clients participating in the Pure North Program, we support offering vitamin/mineral supplements with the following recommended modifications:

- Lower the amounts of nutrients in the supplements to equal, or below, the tolerable upper levels as recommended by the Dietary Reference Intakes, IOM
- Remove the Vitamin C 1000 mg with Vitamin D 4000 IU supplement as it does not have a Natural Health Products Number from Health Canada.
- Address federal labeling requirements for the daily supplement packets
- Offer clients a safety, tamper-proof container for the 30 day supply of supplements
- Revise the informed consent form and toxicity symptom list form that clients complete to more thoroughly reflect the program, including a disclaimer that this is not a GVFB program and is not offered or monitored by regulated health care practitioners
- Direct participants to their health care provider to monitor their health status and assess the impact of these supplements



## Codner, Tamara A HLTH:EX

---

**From:** Henry, Bonnie HLTH:EX  
**Sent:** Tuesday, April 14, 2015 9:32 AM  
**To:** Yandel, Margaret HLTH:EX  
**Cc:** Cramb, Lorrie HLTH:EX; Kendall, Perry HLTH:EX  
**Subject:** RE: RE: Pure North Supplement Program IBN

Hello Margaret,

Yes, we supported these actions but did not feel it was our role to do most of them. We did forward the concern to all health authorities so they were aware but I understand it was VCH and NH who were addressing the complaints to the College and Health Canada. I would connect with them to see if these actions have been done. Dr Reka Gustafson from VCH and Dr Sandra Allison from the north were involved.

My best,  
bonnie

*Dr Bonnie Henry  
Deputy Provincial Health Officer  
Office of the PHO  
Ministry of Health  
4<sup>th</sup> floor, 1515 Blanshard St  
Mailing address: PO Box 9648, STN PROV GOVT  
Victoria, BC  
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[Bonnie.henry@gov.bc.ca](mailto:Bonnie.henry@gov.bc.ca)*

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**From:** Yandel, Margaret HLTH:EX  
**Sent:** Tuesday, April 14, 2015 9:06 AM  
**To:** Henry, Bonnie HLTH:EX  
**Cc:** Cramb, Lorrie HLTH:EX  
**Subject:** RE: Pure North Supplement Program IBN

Good morning Bonnie,

I am writing an Information briefing note for the Minister on the Pure North Supplement Program to outline the concerns of the program. In the conclusion we listed the recommendations that were included in the issue summary on Pure North that was sent to your office from Lorrie Cramb . These were:

- Submit a formal complaint to Health Canada's Natural and Non-prescription Health Products Directorate about Pure North practices in BC.
- Communicate concerns regarding Pure North practices to health authorities and other key stakeholders.
- Submit a complaint to the College of Naturopathic Physicians regarding the naturopathic physician responsible for leading the supplement program in BC.
- Submit a letter to Pure North S'Energy Foundation outlining concerns.

Arlene asked whether the PHO has accepted these recommendations? Can you please inform me as to their status so that I can provide her with an answer and complete the IBN.

Thanks  
Marg

**Margaret Yandel, BHE, RD**  
Manager, Public Health Nutrition

Healthy Living Branch | Population and Public Health | Ministry of Health | NEW MAILING ADDRESS - PO Box 9646 Stn  
Prov Gov't | Victoria BC V8W 9P1 | 250-952-2186 | [Margaret.Yandel@gov.bc.ca](mailto:Margaret.Yandel@gov.bc.ca)



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## Codner, Tamara A HLTH:EX

---

**From:** Crocker, Barbara [VC] <Barbara.Crocker@vch.ca>  
**Sent:** Wednesday, April 15, 2015 8:32 AM  
**To:** XT:HLTH Gustafson, Reka; Yandel, Margaret HLTH:EX; XT:Allison, Sandra HLTH:IN  
**Cc:** Cramb, Lorrie HLTH:EX; Henry, Bonnie HLTH:EX; XT:Mu, Lisa HLTH:IN; XT:HLTH Legresley, Susan  
**Subject:** Pure North Supplement Program IBN

Thank you for sharing Reka,  
The only addition I have is the request for information I received from Northern Health in March.  
I had a conference call with a small group on April 1<sup>st</sup>.  
No broader communication with health authorities has occurred.  
Sincerely  
Barb

*Barbara Crocker, RD, MA  
Public Health Dietitian  
City-wide 0-5 Program  
Public Health Program  
Raven Song Community Health Centre  
2450 Ontario Street  
Vancouver BC V5T 4T7  
Ph: 604-709-6427*

---

**From:** Gustafson, Reka [VC]  
**Sent:** Tuesday, April 14, 2015 6:36 PM  
**To:** Yandel, Margaret HLTH:EX; XT:Allison, Sandra HLTH:IN  
**Cc:** Cramb, Lorrie HLTH:EX; Henry, Bonnie HLTH:EX; [FHA] Mu, Lisa; Crocker, Barbara [VC]; [FHA] LeGresley, Susan  
**Subject:** RE: RE: Pure North Supplement Program IBN

Hi Margaret,

We did none of those things at VCH. What we did do were:

- Met with the Pure North team and outlined our concerns regarding both the product (too much Vitamin D, and no HC Natural Product number for one product). We did this three times.
- Our dietitians communicated their concerns to the food bank.
- Called the College of Naturopathic medicine to explore scope of practice for Naturopaths; I also responded to their request for an interview with their lawyer, do discuss the role of MHOs to make population level recommendations versus individual practitioners and that the latter need to see their patient. The College agreed with my assessment. I never made a formal complaint, or for that matter named the practitioner.
- The CEO of the Greater Vancouver Food Bank informed us that Pure North will no longer be distributing vitamins there.

I've copied Dr. Lisa Mu and Susan LeGresley from FHA, as they were also involved.

Thanks,

Reka

---

**Sent:** 14 April, 2015 1:35 PM

**To:** Gustafson, Reka [VC]; XT:Allison, Sandra HLTH:IN

**Cc:** Cramb, Lorrie HLTH:EX; Henry, Bonnie HLTH:EX

**Subject:** FW: RE: Pure North Supplement Program IBN

Hello Reka and Sandra

We are completing a briefing note for the Minister on the Pure North Supplement Program issue. I have been asked to include the actions that were taken based on a list of recommendations that were included in an issue summary that was circulated by the PHO to the health authorities. These were:

- Submit a formal complaint to Health Canada's Natural and Non-prescription Health Products Directorate about Pure North practices in BC.
- Communicate concerns regarding Pure North practices to health authorities and other key stakeholders.
- Submit a complaint to the College of Naturopathic Physicians regarding the naturopathic physician responsible for leading the supplement program in BC.
- Submit a letter to Pure North S'Energy Foundation outlining concerns.

As both VCH and NH were involved with this issue, can you update me on whether you took any of these actions in your respective health authorities?

Thank you

Marg

**Margaret Yandel, BHE, RD**

Manager, Public Health Nutrition

Healthy Living Branch | Population and Public Health | Ministry of Health | NEW MAILING ADDRESS - PO Box 9646 Stn Prov Gov't | Victoria BC V8W 9P1 | 250-952-2186 | [Margaret.Yandel@gov.bc.ca](mailto:Margaret.Yandel@gov.bc.ca)



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---

**From:** Henry, Bonnie HLTH:EX

**Sent:** Tuesday, April 14, 2015 9:32 AM

**To:** Yandel, Margaret HLTH:EX

**Cc:** Cramb, Lorrie HLTH:EX; Kendall, Perry HLTH:EX

**Subject:** RE: RE: Pure North Supplement Program IBN

Hello Margaret,

Yes, we supported these actions but did not feel it was our role to do most of them. We did forward the concern to all health authorities so they were aware but I understand it was VCH and NH who were addressing the complaints to the College and Health Canada. I would connect with them to see if these actions have been done. Dr Reka Gustafson from VCH and Dr Sandra Allison from the north were involved.

My best,

bonnie

*Dr Bonnie Henry*

*Deputy Provincial Health Officer*

*Office of the PHO*

*Ministry of Health*

*4<sup>th</sup> floor, 1515 Blanshard St*

*Mailing address: PO Box 9648, STN PROV GOVT*

*Victoria, BC*

*V8W 9P4*

[Bonnie.henry@gov.bc.ca](mailto:Bonnie.henry@gov.bc.ca)

Phone: 250 952-1330

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**From:** Yandel, Margaret HLTH:EX

**Sent:** Tuesday, April 14, 2015 9:06 AM

**To:** Henry, Bonnie HLTH:EX

**Cc:** Cramb, Lorrie HLTH:EX

**Subject:** RE: Pure North Supplement Program IBN

Good morning Bonnie,

I am writing an Information briefing note for the Minister on the Pure North Supplement Program to outline the concerns of the program. In the conclusion we listed the recommendations that were included in the issue summary on Pure North that was sent to your office from Lorrie Cramb . These were:

- Submit a formal complaint to Health Canada's Natural and Non-prescription Health Products Directorate about Pure North practices in BC.
- Communicate concerns regarding Pure North practices to health authorities and other key stakeholders.
- Submit a complaint to the College of Naturopathic Physicians regarding the naturopathic physician responsible for leading the supplement program in BC.
- Submit a letter to Pure North S'Energy Foundation outlining concerns.

Arlene asked whether the PHO has accepted these recommendations? Can you please inform me as to their status so that I can provide her with an answer and complete the IBN.

Thanks

Marg

**Margaret Yandel, BHE, RD**

Manager, Public Health Nutrition

Healthy Living Branch | Population and Public Health | Ministry of Health | NEW MAILING ADDRESS - PO Box 9646 Stn  
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## Codner, Tamara A HLTH:EX

---

**From:** Crocker, Barbara [VC] <Barbara.Crocker@vch.ca>  
**Sent:** Wednesday, May 27, 2015 2:33 PM  
**To:** XT:HLTH Legresley, Susan; Tran, Rebecca [VC]; XT:HLTH Stephen, Loraina; 'Black, Jennifer'; Yandel, Margaret HLTH:EX; XT:Kupka, Sonya HLTH:IN  
**Subject:** Pure North in Latest Maclean's Magazine

Hi Everyone,

I saw this in my latest issue of Maclean's magazine last night.

Here is the link: <http://www.macleans.ca/society/health/vitamin-determination-an-oilman-becomes-a-health-care-renegade/> .

Barb

*Barbara Crocker, RD, MA  
Public Health Dietitian  
City-wide 0-5 Program  
Public Health Program  
Raven Song Community Health Centre  
2450 Ontario Street  
Vancouver BC V5T 4T7  
Ph: 604-709-6427*

**Codner, Tamara A HLTH:EX**

---

**From:** Cramb, Lorrie HLTH:EX  
**Sent:** Tuesday, March 3, 2015 4:27 PM  
**To:** Kendall, Perry HLTH:EX; Henry, Bonnie HLTH:EX  
**Cc:** Herman, Matt HLTH:EX; Yandel, Margaret HLTH:EX; Cramb, Lorrie HLTH:EX  
**Subject:** Pure North  
**Attachments:** 2015-02-23 Mega Doses of Vitamin D\_Final.docx; Pure North Program Issue Summary 2015.docx; Feb2015\_Letter\_MinHealth\_VitaminD.pdf

Hi Perry and Bonnie

Please find attached an issue summary, along with an overview of concerns re Megadoses of Vitamin D (prepared by HLBC) and the Dietitians of Canada letter to the Federal Health Minister.

Our recommendations are to:

- Submit formal complaint to the Natural and Non Prescription Health Products Directorate about Pure North practices in BC.
- Send out an alert/communique to health authorities and other key stakeholders.
- Submit complaint to College of Naturopathic Physicians (<http://www.cnpbc.bc.ca/>) re: naturopathic physician in Prince George.
- Submit letter outlining our concerns to Pure North.

Please let me know if you have any questions or would like to discuss further.

Matt- I'm wondering if we need to also prepare an Information BN for the Minister?

Thanks, Lorrie

Lorrie Cramb, MEd, RD  
A/Provincial Nutritionist  
Healthy Living Branch/Population and Public Health  
Ministry of Health  
Ph: 250-952-1124  
BB: 250-507-0256  
[Lorrie.cramb@gov.bc.ca](mailto:Lorrie.cramb@gov.bc.ca)

Page 097

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Copyright

## Codner, Tamara A HLTH:EX

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**From:** Yandel, Margaret HLTH:EX  
**Sent:** Tuesday, April 14, 2015 9:06 AM  
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**Cc:** Cramb, Lorrie HLTH:EX  
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Arlene asked whether the PHO has accepted these recommendations? Can you please inform me as to their status so that I can provide her with an answer and complete the IBN.

Thanks  
Marg

**Margaret Yandel, BHE, RD**  
Manager, Public Health Nutrition

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**From:** Jayne Thirsk <jayne.thirsk@dietitians.ca>  
**Sent:** Tuesday, March 17, 2015 7:04 AM  
**To:** Cramb, Lorrie HLTH:EX  
**Subject:** Re: Follow up

Thank you for your time and for sharing this information.

I will of course treat your summary and our conversation as confidential. I would like to explore the "consent form" with a colleague with a background in ethics. I won't indicate how I came to be in possession of it.

Appreciatively,

Jayne

On Tue, Mar 17, 2015 at 12:19 AM, Cramb, Lorrie HLTH:EX <[Lorrie.Cramb@gov.bc.ca](mailto:Lorrie.Cramb@gov.bc.ca)> wrote:

Hi Jayne- pls find attached the consent letter provided to us by VCH. I will contact Perry when I return from vacation to see if he plans on following up on my recommendations! Thanks for taking the time with me today and look forward to seeing you in a few weeks here in Victoria! Here is some information that we pulled together to help brief Perry Kendall and our Minister (please treat this confidentially as this is only in draft form and not approved internally):

Between February 2014 and January 21, 2015 the Greater Vancouver Food Bank Society (GVFBS) provided a space at depots for Pure North staff to offer free supplements to clients (adults and youth) participating in 15 food distribution depots located in North Vancouver, Vancouver, Burnaby and New Westminster. Clients were asked to sign an "Informed Consent Agreement" and complete a "toxicity symptom list". Benefits, cautions and potential medication/nutrition side effects were not explained.

The "Pure North Super D Pack" provided a 30 day supply of five different daily vitamin/mineral supplements and iodine drops packaged in plastic bags. Supplements included a multivitamin and mineral supplement, vitamin A or bone renewal supplement, vitamin B12 tablet, Vitamin C 1000 mg with Vitamin D 4000 IU tablet, Cell protector with selenium and organic ingredients capsule and iodine drops in a 'super greens' smoothie. The "Pure North Super D Pack" provided 5000-6000 IU vitamin D /day.

Vancouver Coastal Health became aware of this supplement distribution program in June 2014 and in winter 2015 met with the Greater Vancouver Food Bank Society and Pure North to discuss their concerns about product and public safety.

#### DISCUSSION:

Vancouver Coastal Health identified the following concerns with the Pure North Supplement Program:

- There were contraventions to the federal labelling and packaging laws for Natural Health Products.
- The combined Vitamin C & D (4000 IU) supplement did not have a NPN (Natural Product Number).

- In B.C., a prescription is required to buy vitamin D in a dosage form of greater than 1000 IU and is provided to the public by a pharmacist, according to the College of Pharmacists of BC Drug Scheduling, Aug 2012 .
- Supplements provided a total of 5000-6000 IU vitamin D daily which is above the upper tolerable level of 4000 IU daily recommended by Health Canada.
- The program is a population health intervention that is provided without individual assessments, counselling and monitoring as would be offered in a primary health care setting.
- B.C. College of Naturopathic Physicians does not sanction translating individual practice into population level practice.
- Pure North had approached other Vancouver Coastal Health agencies working with vulnerable families to be involved in the program. Also, Pure North stated involvement in communities of Fort St John and Cranbrook.

#### CONCLUSION:

As of March 5, 2015 the Greater Vancouver Food Bank Society terminated the distribution of supplements by Pure North at all of its depots.

The Office of the Provincial Nutritionist has recommended the Provincial Health Officer take the following actions:

- Submit a formal complaint to the Natural and Non -prescription Health Products Directorate about Pure North practices in B.C.
- Send out a communique to health authorities and other key stakeholders.
- Submit a complaint to College of Naturopathic Physicians re: Prince George naturopathic physician responsible for leading the supplement program.
- Submit a letter to Pure North S'Energy Foundation outlining concerns.

Cheers, Lorrie

Lorrie Cramb, MEd, RD

A/Provincial Nutritionist

Healthy Living Branch/Population and Public Health

Ministry of Health

Ph: 250-952-1124

BB: 250-507-0256

Lorrie.cramb@gov.bc.ca

--  
Jayne Thirsk RD PhD FDC  
Director, Practice-based Evidence in Nutrition [PEN]  
Dietitians of Canada  
Phone: 403 217 5211 Email: [jayne.thirsk@dietitians.ca](mailto:jayne.thirsk@dietitians.ca)  
Website: [www.pennutrition.com](http://www.pennutrition.com) Twitter @PENNutrition.com Facebook:  
[www.facebook.com/PENNutrition](https://www.facebook.com/PENNutrition)

## Codner, Tamara A HLTH:EX

---

**From:** Jayne Thirsk <jayne.thirsk@dietitians.ca>  
**Sent:** Tuesday, April 14, 2015 9:18 PM  
**To:** Cramb, Lorrie HLTH:EX  
**Subject:** Re: Follow up

Hi Lorrie,

As I mentioned to you when we were together in Victoria, we are continuing to pursue some advocacy regarding The Pure North group here in Alberta. We've written to the Minister of Health, Medical Officer and a few other well placed folks in academia and government. We've also been exploring the ethical approval angle. Would you be ok if I passed along the Consent form you sent to me to the Alberta Ethics Review Board? I won't say where I got it (and I suspect there are hundreds of them in circulation), but it illustrates our concerns about this groups failure to adhere to established research standards. I'm not sure if you saw that they presented to the House of Commons Health Committee - referring to their "research".

<http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=7881199&Language=e&Mode=1&Parl=41&Ses=2>

Thanks,

Jayne

**Jayne Thirsk RD PhD FDC**

Director,

PEN: Practice-based Evidence in Nutrition

Dietitians of Canada

T: 403 217 5211 E: [jayne.thirsk@dietitians.ca](mailto:jayne.thirsk@dietitians.ca)



On Tue, Mar 17, 2015 at 12:19 AM, Cramb, Lorrie HLTH:EX <[Lorrie.Cramb@gov.bc.ca](mailto:Lorrie.Cramb@gov.bc.ca)> wrote:

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- Submit a letter to Pure North S’Energy Foundation outlining concerns.

Cheers, Lorrie

Lorrie Cramb, MEd, RD

A/Provincial Nutritionist

Healthy Living Branch/Population and Public Health

Ministry of Health

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[Lorrie.cramb@gov.bc.ca](mailto:Lorrie.cramb@gov.bc.ca)

## Codner, Tamara A HLTH:EX

---

**From:** Yandel, Margaret HLTH:EX  
**Sent:** Tuesday, April 14, 2015 3:17 PM  
**To:** XT:Allison, Sandra HLTH:IN  
**Cc:** XT:HLTH Gustafson, Reka; Cramb, Lorrie HLTH:EX; Henry, Bonnie HLTH:EX  
**Subject:** RE: Pure North Supplement Program IBN

Thanks so much . As this is still an issue in your area this IBN is needed.

**Margaret Yandel, BHE, RD**  
Manager, Public Health Nutrition

Healthy Living Branch | Population and Public Health | Ministry of Health | NEW MAILING ADDRESS - PO Box 9646 Stn  
Prov Gov't | Victoria BC V8W 9P1 | 250-952-2186 | [Margaret.Yandel@gov.bc.ca](mailto:Margaret.Yandel@gov.bc.ca)



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---

**From:** Allison, Sandra [<mailto:Sandra.Allison@northernhealth.ca>]  
**Sent:** Tuesday, April 14, 2015 3:08 PM  
**To:** Yandel, Margaret HLTH:EX  
**Cc:** XT:HLTH Gustafson, Reka; Cramb, Lorrie HLTH:EX; Henry, Bonnie HLTH:EX  
**Subject:** Re: Pure North Supplement Program IBN

Dr. Charl Badenhorst's response:

Hello

No we did not take any of these steps. We are in the process of gathering relevant information ie what is done elsewhere in BC - we consulted with Reka and her group as well as with Barb from VC – we have a follow-up meeting today at 15h15 in order to develop a strategy to approach Salvation Army in FSJ as part of a first step to make them aware of our PH concerns as well as to provide education. We hope this will encourage them to withdraw from PureNorth.

cb

Dr. Sandra Allison MPH CCFP FRCPC  
Chief Medical Health Officer  
Northern Health

Sent from my iPhone

On Apr 14, 2015, at 1:35 PM, Yandel, Margaret HLTH:EX <[Margaret.Yandel@gov.bc.ca](mailto:Margaret.Yandel@gov.bc.ca)> wrote:

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Thank you  
Marg

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**Cc:** Cramb, Lorrie HLTH:EX; Kendall, Perry HLTH:EX  
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Hello Margaret,  
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My best,  
bonnie

Dr Bonnie Henry  
Deputy Provincial Health Officer  
Office of the PHO  
Ministry of Health  
4<sup>th</sup> floor, 1515 Blanshard St  
Mailing address: PO Box 9648, STN PROV GOVT  
Victoria, BC  
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[Bonnie.henry@gov.bc.ca](mailto:Bonnie.henry@gov.bc.ca)

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## Codner, Tamara A HLTH:EX

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**From:** Herman, Matt HLTH:EX  
**Sent:** Tuesday, April 14, 2015 6:37 PM  
**To:** Cramb, Lorrie HLTH:EX  
**Cc:** Yandel, Margaret HLTH:EX  
**Subject:** Re: Pure North Supplement Program IBN

Did Perry sign off on the BN that had options for pho to communicate out?

On Apr 14, 2015, at 17:05, Cramb, Lorrie HLTH:EX <[Lorrie.Cramb@gov.bc.ca](mailto:Lorrie.Cramb@gov.bc.ca)> wrote:

s.13

---

**From:** Allison, Sandra [<mailto:Sandra.Allison@northernhealth.ca>]  
**Sent:** Tuesday, April 14, 2015 3:08 PM  
**To:** Yandel, Margaret HLTH:EX  
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**Subject:** RE: RE: Pure North Supplement Program IBN

Hello Margaret,

Yes, we supported these actions but did not feel it was our role to do most of them. We did forward the concern to all health authorities so they were aware but I understand it was VCH and NH who were addressing the complaints to the College and Health Canada. I would connect with them to see if these actions have been done. Dr Reka Gustafson from VCH and Dr Sandra Allison from the north were involved.

My best,

bonnie

*Dr Bonnie Henry*

*Deputy Provincial Health Officer*

*Office of the PHO*

*Ministry of Health*

*4<sup>th</sup> floor, 1515 Blanshard St*

*Mailing address: PO Box 9648, STN PROV GOVT*

*Victoria, BC*

*V8W 9P4*

[Bonnie.henry@gov.bc.ca](mailto:Bonnie.henry@gov.bc.ca)

Phone: 250 952-1330

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---

**From:** Yandel, Margaret HLTH:EX

**Sent:** Tuesday, April 14, 2015 9:06 AM

**To:** Henry, Bonnie HLTH:EX

**Cc:** Cramb, Lorrie HLTH:EX

**Subject:** RE: Pure North Supplement Program IBN

Good morning Bonnie,

I am writing an Information briefing note for the Minister on the Pure North Supplement Program to outline the concerns of the program. In the conclusion we listed the recommendations that were included in the issue summary on Pure North that was sent to your office from Lorrie Cramb . These were:

- Submit a formal complaint to Health Canada's Natural and Non-prescription Health Products Directorate about Pure North practices in BC.
- Communicate concerns regarding Pure North practices to health authorities and other key stakeholders.
- Submit a complaint to the College of Naturopathic Physicians regarding the naturopathic physician responsible for leading the supplement program in BC.
- Submit a letter to Pure North S'Energy Foundation outlining concerns.

Arlene asked whether the PHO has accepted these recommendations? Can you please inform me as to their status so that I can provide her with an answer and complete the IBN.

Thanks

Marg

**Margaret Yandel, BHE, RD**

Manager, Public Health Nutrition

Healthy Living Branch | Population and Public Health | Ministry of Health | NEW MAILING ADDRESS - PO Box 9646 Stn Prov Gov't | Victoria BC V8W 9P1 | 250-952-2186 | [Margaret.Yandel@gov.bc.ca](mailto:Margaret.Yandel@gov.bc.ca)

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## Codner, Tamara A HLTH:EX

---

**From:** Yandel, Margaret HLTH:EX  
**Sent:** Tuesday, April 14, 2015 10:19 AM  
**To:** Henry, Bonnie HLTH:EX  
**Cc:** Cramb, Lorrie HLTH:EX; Kendall, Perry HLTH:EX  
**Subject:** RE: RE: Pure North Supplement Program IBN

Thanks Bonnie for your reply. And thanks Perry for forwarding those emails from Drs. Charl Badenhurst and Reka G.

**Margaret Yandel, BHE, RD**  
Manager, Public Health Nutrition

Healthy Living Branch | Population and Public Health | Ministry of Health | NEW MAILING ADDRESS - PO Box 9646 Stn  
Prov Gov't | Victoria BC V8W 9P1 | 250-952-2186 | [Margaret.Yandel@gov.bc.ca](mailto:Margaret.Yandel@gov.bc.ca)



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---

**From:** Henry, Bonnie HLTH:EX  
**Sent:** Tuesday, April 14, 2015 9:32 AM  
**To:** Yandel, Margaret HLTH:EX  
**Cc:** Cramb, Lorrie HLTH:EX; Kendall, Perry HLTH:EX  
**Subject:** RE: RE: Pure North Supplement Program IBN

Hello Margaret,

Yes, we supported these actions but did not feel it was our role to do most of them. We did forward the concern to all health authorities so they were aware but I understand it was VCH and NH who were addressing the complaints to the College and Health Canada. I would connect with them to see if these actions have been done. Dr Reka Gustafson from VCH and Dr Sandra Allison from the north were involved.

My best,  
bonnie

*Dr Bonnie Henry  
Deputy Provincial Health Officer  
Office of the PHO  
Ministry of Health  
4<sup>th</sup> floor, 1515 Blanshard St  
Mailing address: PO Box 9648, STN PROV GOVT  
Victoria, BC  
V8W 9P4*

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**Cc:** Cramb, Lorrie HLTH:EX  
**Subject:** RE: Pure North Supplement Program IBN

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- Submit a formal complaint to Health Canada's Natural and Non-prescription Health Products Directorate about Pure North practices in BC.
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- Submit a letter to Pure North S'Energy Foundation outlining concerns.

Arlene asked whether the PHO has accepted these recommendations? Can you please inform me as to their status so that I can provide her with an answer and complete the IBN.

Thanks  
Marg

**Margaret Yandel, BHE, RD**  
Manager, Public Health Nutrition

Healthy Living Branch | Population and Public Health | Ministry of Health | NEW MAILING ADDRESS - PO Box 9646 Stn  
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**Codner, Tamara A HLTH:EX**

---

**From:** Yeung, Helen [NS] <Helen.Yeung@vch.ca>  
**Sent:** Monday, October 26, 2015 7:49 AM  
**To:** Cramb, Lorrie HLTH:EX; XT:HLTH Crocker, Barbara; XT:HLTH Martiquet, Paul  
**Cc:** Yandel, Margaret HLTH:EX  
**Subject:** RE: Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

I did a search at Health Canada's Database, where you can see the composition/dosage of supplements--  
<http://www.hc-sc.gc.ca/dhp-mps/prodnatur/applications/licen-prod/lnhpd-bdpsnh-eng.php>  
(click on the box, "Access the Licensed Natural Health Products Database")

Jason refers to product #80046745 which is the revised "Vital 2 Platinum; Vital 2":  
<http://webprod5.hc-sc.gc.ca/lnhpd-bdpsnh/info.do?licence=80061668&lang=eng>

Date of Licensing:  
2015-06-08  
Revised Date of Licence:  
2015-08-04

I don't think any of the VCH dietitians followed up with Pure North, but Barbara may know more than I.  
Thanks,  
Helen

---

From: Cramb, Lorrie HLTH:EX [Lorrie.Cramb@gov.bc.ca]  
Sent: October 23, 2015 3:23 PM  
To: Yeung, Helen [NS]; Crocker, Barbara [VC]; Martiquet, Paul [SC]  
Cc: Yandel, Margaret HLTH:EX  
Subject: RE: Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

Thanks Helen,...I would be interested to know if VCH has been in touch again with Pure North or the Greater Vancouver Food Bank re Pure North's new approach. Can you tell me what the dosages are in the supplements?

Lorrie Cramb, MEd, RD  
Provincial Dietitian  
Healthy Living Branch, Population and Public Health BC Ministry of Health PLEASE NOTE NEW ADDRESS - PO Box 9646 STN PROV GOV'T|Victoria BC V8W 9P1  
Phone: (250) 952-1124  
Cell: (250) 507-0256

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-----Original Message-----

From: Yeung, Helen [NS] [mailto:Helen.Yeung@vch.ca]

Sent: Friday, October 23, 2015 2:57 PM

To: XT:HLTH Crocker, Barbara; Cramb, Lorrie HLTH:EX; XT:HLTH Martiquet, Paul

Subject: FW: Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

Hi Lorrie,

Here's the e-mail that Barbara forwarded to us VCH dietitians.

Barbara, I mentioned this to Lorrie, and wondered if anyone from VCH had followed up? In any case, I thought it would be beneficial for Lorrie to receive this e-mail. Lorrie said that if you have already forwarded to her, it may be buried in her mountain of e-mails!

Thanks,

Helen Yeung, MHSc, RD

Public Health Dietitian

Vancouver Coastal Health

---

From: Crocker, Barbara [VC]

Sent: September 23, 2015 10:18 AM

To: VCH PUBLIC HEALTH DIETITIANS

Subject: Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

Hi Everyone,

I got this message below regarding above at the end of August.

I just got a follow up message from Emily Pratt with Pure North.

Is there any interest in discussing/meeting with Emily with anyone? Home Health, Primary Care?

Could we add this to our meeting for this afternoon Kathy?

Thanks

Barb

Barbara Crocker, RD, MA

Public Health Dietitian

City-wide 0-5 Program

Public Health Program

Raven Song Community Health Centre

2450 Ontario Street

Vancouver BC V5T 4T7

Ph: 604-709-6427

From: Jason Boxtart [mailto:Jason.Boxtart@purenorth.ca]

Sent: Monday, August 31, 2015 11:58 AM

To: [FHA] Mu, Lisa; Gustafson, Reka [VC]; [FHA] LeGresley, Susan; Crocker, Barbara [VC]

Cc: Emily Pratt

Subject: Pure North Distribution

Hello,

As a service to vulnerable populations within Vancouver, Pure North S'Energy Foundation is planning to distribute a limited supply of nutritional supplements. There will be approximately 1000 boxes of vitamin packs. Each box is meant to be a 3 month supply. We would like to commence distribution in September.

In accordance with previous communications with you and Health Canada regulation, all supplements have a registered NPN and are labelled in accordance to regulation.

For your information the NPNs for all contents are provided below.

Natural Product Number (NPN): 80046745<tel:80046745> Current Status: Active Brand Name(s): Vital 2 Platinum Licence Holder: Bioclinic Naturals Inc.

Dosage Form: Tablet

Recommended Route of Administration: Oral Natural Product Number (NPN):

80056089<tel:80056089> Current Status: Active Brand Name(s): Pure Synergy Cell Protector Licence

Holder: The Synergy Company of Utah, LLC/Synergy Productions Laboratories Dosage Form: Capsule

Recommended Route of Administration: Oral

Natural Product Number (NPN): 80027042<tel:80027042> Current Status: Active Brand Name(s):

Vitamin B12 Licence Holder: Natural Factors Nutritional Products Limited Dosage Form: Tablet

Recommended Route of Administration: Sublingual

We would appreciate the opportunity for dialogue on the matter. We appreciate your previous concerns and have made adjustments based on that information you provided to us.

I look forward to speaking with you again.

Dr. Jason Boxtart, ND

Dr. Emily Pratt, ND

Dr. Jason Boxtart, ND.

Pure North S'Energy Foundation

Direct 250-961-1444

---

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**Codner, Tamara A HLTH:EX**

---

**From:** Sarbazi, Sepideh [RH & VC] <Sepideh.Sarbazi@vch.ca>  
**Sent:** Monday, October 26, 2015 8:58 AM  
**To:** XT:HLTH Crocker, Barbara; XT:HLTH Yeung, Helen; Cramb, Lorrie HLTH:EX; XT:HLTH Martiquet, Paul  
**Cc:** Yandel, Margaret HLTH:EX  
**Subject:** RE: Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

Thank you Barb,  
I spoke with Emily and reported to our Home Health Monthly meeting about this and no special concerns were raised against this.

Emily has connected me with the Clinic they have here in Mt. Pleasant which I will connect with to determine which one of their supplements are realistically Beneficial for our clients.  
I will also liaise with my manager to assure this is not against any VCH policy and standards.  
Once we were given access to supplements I will notify you all of updates.

Sepi

Sepideh Sarbazi, MSc.RD.  
Registered Dietitian  
Community Home Health Program, (Adults & Older Adults)  
Vancouver Coastal Health  
Three Bridges Community Health Centre  
Phone: 604-714-3484 xtn. 4403  
Fax: 604-844-1685  
Email: sepideh.sarbazi@vch.ca

-----Original Message-----

**From:** Crocker, Barbara [VC]  
**Sent:** Monday, October 26, 2015 8:52 AM  
**To:** Yeung, Helen [NS]; Cramb, Lorrie HLTH:EX; Martiquet, Paul [SC]  
**Cc:** Yandel, Margaret HLTH:EX; Sarbazi, Sepideh [RH & VC]  
**Subject:** Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

Hi Everyone,  
I did receive a few more telephone messages and emails from Emily Pratt and referred her to Home Health Dietitian Sepi Sarbazi.

Here is an update:  
The Greater Vancouver Food Bank stopped distributing Pure North supplements at depots last January (Food Bank staff may still be participating in the Pure North program). I am not aware of any further involvement with the Food Bank.

Since that time, a clinic was set up in Mt Pleasant area of Vancouver. I became aware of this in June.

In July, I was contacted by a dietitian who works with church groups in the downtown area - she had questions about Pure North as a guest speaker was attending one of her church dinners.  
Then in August I received the email below.

I have copied Sepi on this email so that she can be in touch with Lorrie or Marg as needed.  
Please let me know if there are any further questions.  
Sincerely  
Barb

Barbara Crocker, RD, MA  
Public Health Dietitian  
City-wide 0-5 Program  
Public Health Program  
Raven Song Community Health Centre  
2450 Ontario Street  
Vancouver BC V5T 4T7  
Ph: 604-709-6427

-----Original Message-----

From: Yeung, Helen [NS]  
Sent: Monday, October 26, 2015 7:49 AM  
To: Cramb, Lorrie HLTH:EX; Crocker, Barbara [VC]; Martiquet, Paul [SC]  
Cc: Yandel, Margaret HLTH:EX  
Subject: RE: Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

I did a search at Health Canada's Database, where you can see the composition/dosage of supplements--  
<http://www.hc-sc.gc.ca/dhp-mps/prodnatur/applications/licen-prod/lnhpd-bdpsnh-eng.php>  
(click on the box, "Access the Licensed Natural Health Products Database")

Jason refers to product #80046745 which is the revised "Vital 2 Platinum; Vital 2":  
<http://webprod5.hc-sc.gc.ca/lnhpd-bdpsnh/info.do?licence=80061668&lang=eng>

Date of Licensing:  
2015-06-08  
Revised Date of Licence:  
2015-08-04

I don't think any of the VCH dietitians followed up with Pure North, but Barbara may know more than I.  
Thanks,  
Helen

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From: Cramb, Lorrie HLTH:EX [Lorrie.Cramb@gov.bc.ca]  
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Cc: Yandel, Margaret HLTH:EX  
Subject: RE: Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

Thanks Helen,...I would be interested to know if VCH has been in touch again with Pure North or the Greater Vancouver Food Bank re Pure North's new approach. Can you tell me what the dosages are in the supplements?

Lorrie Cramb, MEd, RD  
Provincial Dietitian  
Healthy Living Branch, Population and Public Health BC Ministry of Health PLEASE NOTE NEW ADDRESS - PO Box 9646  
STN PROV GOV'T | Victoria BC V8W 9P1  
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-----Original Message-----

From: Yeung, Helen [NS] [mailto:Helen.Yeung@vch.ca]  
Sent: Friday, October 23, 2015 2:57 PM  
To: XT:HLTH Crocker, Barbara; Cramb, Lorrie HLTH:EX; XT:HLTH Martiquet, Paul  
Subject: FW: Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

Hi Lorrie,  
Here's the e-mail that Barbara forwarded to us VCH dietitians.

Barbara, I mentioned this to Lorrie, and wondered if anyone from VCH had followed up? In any case, I thought it would be beneficial for Lorrie to receive this e-mail. Lorrie said that if you have already forwarded to her, it may be buried in her mountain of e-mails!

Thanks,  
Helen Yeung, MHSc, RD  
Public Health Dietitian  
Vancouver Coastal Health

---

From: Crocker, Barbara [VC]  
Sent: September 23, 2015 10:18 AM  
To: VCH PUBLIC HEALTH DIETITIANS  
Subject: Request from Pure North re: Distribution of Vitamins to Vulnerable in Vancouver

Hi Everyone,  
I got this message below regarding above at the end of August.  
I just got a follow up message from Emily Pratt with Pure North.  
Is there any interest in discussing/meeting with Emily with anyone? Home Health, Primary Care?  
Could we add this to our meeting for this afternoon Kathy?  
Thanks  
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City-wide 0-5 Program  
Public Health Program  
Raven Song Community Health Centre  
2450 Ontario Street  
Vancouver BC V5T 4T7

Ph: 604-709-6427

From: Jason Boxtart [mailto:Jason.Boxtart@purenorth.ca]  
Sent: Monday, August 31, 2015 11:58 AM  
To: [FHA] Mu, Lisa; Gustafson, Reka [VC]; [FHA] LeGresley, Susan; Crocker, Barbara [VC]  
Cc: Emily Pratt  
Subject: Pure North Distribution

Hello,

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For your information the NPNs for all contents are provided below.

Natural Product Number (NPN): 80046745<tel:80046745> Current Status: Active Brand Name(s): Vital 2 Platinum  
Licence Holder: Bioclinic Naturals Inc.  
Dosage Form: Tablet

Recommended Route of Administration: Oral Natural Product Number (NPN): 80056089<tel:80056089> Current Status:  
Active Brand Name(s): Pure Synergy Cell Protector Licence Holder: The Synergy Company of Utah, LLC/Synergy  
Productions Laboratories Dosage Form: Capsule Recommended Route of Administration: Oral

Natural Product Number (NPN): 80027042<tel:80027042> Current Status: Active Brand Name(s): Vitamin B12 Licence  
Holder: Natural Factors Nutritional Products Limited Dosage Form: Tablet Recommended Route of Administration:  
Sublingual

We would appreciate the opportunity for dialogue on the matter. We appreciate your previous concerns and have made adjustments based on that information you provided to us.

I look forward to speaking with you again.

Dr. Jason Boxtart, ND  
Dr. Emily Pratt, ND

Dr. Jason Boxtart, ND.  
Pure North S'Energy Foundation  
Direct 250-961-1444

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## Codner, Tamara A HLTH:EX

---

**From:** Gustafson, Reka [VC] <Reka.Gustafson@vch.ca>  
**Sent:** Thursday, March 5, 2015 4:46 PM  
**To:** XT:HLTH Crocker, Barbara; Tran, Rebecca [VC]; XT:HLTH Yeung, Helen; Yandel, Margaret HLTH:EX; Cramb, Lorrie HLTH:EX; XT:Mu, Lisa HLTH:IN  
**Cc:** XT:HLTH Legresley, Susan  
**Subject:** RE: Update from GVFBS - Pure North

I think you have sent it to the provincial nutritionist. If everyone agrees, I can send it to Perry and Bonnie, who have taken this on, and Lisa and I can communicate it to our chiefs. I would be very interested in knowing what made him change his mind. In any case, I think from a regional perspective, we are done. Great work everyone and thank you for persevering.

---

**From:** Crocker, Barbara [VC]  
**Sent:** 05 March, 2015 4:05 PM  
**To:** Gustafson, Reka [VC]; Tran, Rebecca [VC]; Yeung, Helen [NS]; 'Yandel, Margaret HLTH:EX'; 'Cramb, Lorrie HLTH:EX'  
**Cc:** [FHA] LeGresley, Susan  
**Subject:** Update from GVFBS - Pure North  
**Importance:** High

Hi Everyone,  
See below reply from Aart.  
Who else do we need to communicate this with?  
Susan, please notify your team too.  
Thanks  
Barb

---

**From:** Aart Schuurman Hess [<mailto:aartsh@foodbank.bc.ca>]  
**Sent:** 05 March, 2015 4:03 PM  
**To:** Crocker, Barbara [VC]; [FHA] LeGresley, Susan  
**Cc:** Kay Thody  
**Subject:** GVFBS - Pure North

Dear Barbara and Susan,

Further to discussions between the Greater Vancouver Food Bank Society (GVFBS) and Pure North S'Energy Foundation, please be advised that effective immediately the GVFBS will no longer facilitate the distribution of vitamins and supplements by Pure North through depots and/or Community Food Hubs.

I would appreciate if you could internally inform your team, managers and those involved with the discussions with the Pure North team about the above decision.

Thank you for your continued support in this matter.

Best regards, Aart

--

**Aart Schuurman Hess**

Chief Executive Officer

Greater Vancouver Food Bank Society

[aartsh@foodbank.bc.ca](mailto:aartsh@foodbank.bc.ca)

Office: [604.876.3601](tel:604.876.3601)

Direct: [604.216.2311](tel:604.216.2311)

[www.foodbank.bc.ca](http://www.foodbank.bc.ca)

## Codner, Tamara A HLTH:EX

---

**From:** Yandel, Margaret HLTH:EX  
**Sent:** Friday, March 6, 2015 9:54 AM  
**To:** Cramb, Lorrie HLTH:EX  
**Subject:** RE: Update from GVFBS - Pure North

Are you still wanting the Info BN?

**Margaret Yandel, RD**

Manager Public Health Nutrition / Ministry of Health / PO Box 9646 Stn Prov Gov't Victoria BC V8W 9P1 / Population and Public Health / Healthy Living Branch / (250) 952-2186 [margaret.yandel@gov.bc.ca](mailto:margaret.yandel@gov.bc.ca)

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**From:** Cramb, Lorrie HLTH:EX  
**Sent:** Thursday, March 5, 2015 5:01 PM  
**To:** XT:HLTH Gustafson, Reka; XT:HLTH Crocker, Barbara; Tran, Rebecca [VC]; XT:HLTH Yeung, Helen; Yandel, Margaret HLTH:EX; XT:Mu, Lisa HLTH:IN  
**Cc:** XT:HLTH Legresley, Susan  
**Subject:** RE: Update from GVFBS - Pure North

Hi Reka

I have let Perry and Bonnie know that GVFBS has pulled its supplements. I have made some specific recommendations and have pulled together several different pieces regarding this issue for the PHO so will keep you posted with next steps...a more formal communique may be developed and sent to health authorities and other stakeholders. Thanks again for bringing this to our attention...

Cheers, Lorrie

---

**From:** Gustafson, Reka [VC] [<mailto:Reka.Gustafson@vch.ca>]  
**Sent:** Thursday, March 5, 2015 4:46 PM  
**To:** XT:HLTH Crocker, Barbara; Tran, Rebecca [VC]; XT:HLTH Yeung, Helen; Yandel, Margaret HLTH:EX; Cramb, Lorrie HLTH:EX; XT:Mu, Lisa HLTH:IN  
**Cc:** XT:HLTH Legresley, Susan  
**Subject:** RE: Update from GVFBS - Pure North

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**Sent:** 05 March, 2015 4:05 PM  
**To:** Gustafson, Reka [VC]; Tran, Rebecca [VC]; Yeung, Helen [NS]; 'Yandel, Margaret HLTH:EX'; 'Cramb, Lorrie HLTH:EX'  
**Cc:** [FHA] LeGresley, Susan

**Subject:** Update from GVFBS - Pure North

**Importance:** High

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Susan, please notify your team too.  
Thanks  
Barb

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**Sent:** 05 March, 2015 4:03 PM

**To:** Crocker, Barbara [VC]; [FHA] LeGresley, Susan

**Cc:** Kay Thody

**Subject:** GVFBS - Pure North

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Thank you for your continued support in this matter.

Best regards, Aart

--

**Aart Schuurman Hess**

Chief Executive Officer  
Greater Vancouver Food Bank Society  
[aartsh@foodbank.bc.ca](mailto:aartsh@foodbank.bc.ca)  
Office: [604.876.3601](tel:604.876.3601)  
Direct: [604.216.2311](tel:604.216.2311)  
[www.foodbank.bc.ca](http://www.foodbank.bc.ca)

## Codner, Tamara A HLTH:EX

---

**From:** LeGresley, Susan <Susan.LeGresley@fraserhealth.ca>  
**Sent:** Thursday, February 26, 2015 12:27 PM  
**To:** Yandel, Margaret HLTH:EX  
**Subject:** RE: Memo Re Concerns about Pure North Supplement Program at Greater Vancouver Food Bank

Thank you, Marg.

Just in case you are wondering why Dr. Lisa Mu, Fraser Health MHO and I are involved in the Pure North issue. The Greater Vancouver Food Bank provides food to depots in Burnaby and New West. Lisa is the MHO responsible for Burnaby and New West. And of course, I work in Burnaby.

Susan

**Susan LeGresley, RD**  
Public Health Dietitian

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**From:** Yandel, Margaret HLTH:EX [<mailto:Margaret.Yandel@gov.bc.ca>]  
**Sent:** Thursday, February 26, 2015 11:50 AM  
**To:** [VCH-PHC] Crocker, Barbara [VC]  
**Cc:** LeGresley, Susan; [VCH-PHC] Yeung, Helen [NS]; Tran, Rebecca [VC]  
**Subject:** RE: Memo Re Concerns about Pure North Supplement Program at Greater Vancouver Food Bank

Thanks everyone for your time this morning to update me on the Pure North issue. We will keep you in the loop about what we prepare for the PHO and actions taken. Attached is the HealthlinkBC summary on mega doses of Vitamin D as promised.

M

**Margaret Yandel, RD**

Manager Public Health Nutrition / Ministry of Health / PO Box 9646 Stn Prov Gov't Victoria BC V8W 9P1 / Population and Public Health / Healthy Living Branch / (250) 952-2186 [margaret.yandel@gov.bc.ca](mailto:margaret.yandel@gov.bc.ca)

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**From:** Crocker, Barbara [VC] [<mailto:Barbara.Crocker@vch.ca>]  
**Sent:** Thursday, February 26, 2015 11:44 AM  
**To:** Yandel, Margaret HLTH:EX  
**Cc:** XT:HLTH Legresley, Susan; XT:HLTH Yeung, Helen; Tran, Rebecca [VC]  
**Subject:** Memo Re Concerns about Pure North Supplement Program at Greater Vancouver Food Bank

Hi Marg,

Here is the memo we put together for our Medical Health Officer Reka Gustafson.

Thanks for the call and follow up on this matter.

Sincerely

Barb

*Barbara Crocker, RD, MA*

*Public Health Dietitian*

*Public Health Program*

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*Vancouver BC V5T 4T7*

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## Understanding health risks and safety concerns associated with Supplement Use – Vitamin D

The foods we eat provide us with the essential nutrients for growth, development, and maintenance of health and in later life for maintenance. Canada's Food Guide provides a healthy eating pattern for Canadian's and describes what **amount** of food people need and what **type** of food is part of a healthy eating pattern. The eating pattern includes foods from each of the four food groups. Following the eating pattern helps people get enough energy, macronutrients (protein, carbohydrates and fat), vitamins, minerals, and other nutrients. Vitamins and minerals found in food are very important for good health<sup>5</sup>. Some people may also take vitamin and mineral supplements. However, there can be risks and safety concerns associated with supplement use.

See below for potential concerns associated with vitamin supplements, such as **high dose Vitamin D** supplements:

- Commercially available Vitamin D supplements typically come in doses ranging from 400 IU (10 mcg) to 1000 IU (25 mcg). Vitamin D supplements greater than 1000 IU are not allowed for sale to the public in Canada.<sup>1</sup>
- Health Canada has set an upper limit (UL) for daily Vitamin D intake of 4000 IU, which includes intake from both supplements and food. Above this UL, there is a possibility for toxicity.<sup>2</sup>
- Vitamin D supplements greater than 1000 IU require a prescription from a medical professional (such as a physician).<sup>3</sup>
- Individuals taking Vitamin D supplements greater than the upper limit of 4000 IU should receive regular follow-up from a qualified and registered medical professional (i.e. physician), to monitor possible toxicity symptoms, as well as to reassess the need for continued high dose supplements.
- All vitamin and mineral supplements must be packaged in an appropriate container (i.e. sealed and tamper proof), with a label stating what the supplement is, the dose, the company that makes the supplement, etc.<sup>4</sup>
- All vitamin and mineral supplements must have a Natural Health Product Number issued by Health Canada.<sup>4</sup>
- All individuals receiving vitamin and mineral supplements should be informed of what they are receiving, and of any risks (such as toxicity) associated with taking these supplements.

<sup>1</sup>Health Canada. Monograph: Vitamin D. Accessed April 8, 2015 at: <http://webprod.hc-sc.gc.ca/nhp/nd-bdipns/monoReq.do?id=183>

<sup>2</sup>Health Canada. Vitamin D and Calcium: Updated Dietary Reference Intakes. Accessed April 8, 2015 at: <http://www.hc-sc.gc.ca/fn-an/nutrition/vitamin/vita-d-eng.php#a10>

<sup>3</sup>College of Pharmacists of BC. Drug Schedule Regulation. Accessed April 8, 2015 at: <http://library.bcpharmacists.org/D-Legislation-Standards/D-4-Drug-Distribution/5012-Drug-Schedules-Regulation.pdf>.

<sup>4</sup>Health Canada. Drugs and Health Products. Labelling Requirements Checklist. Accessed April 8, 2015 at: <http://www.hc-sc.gc.ca/dhp-mpps/prodnatur/legislation/docs/label-list-etiquet-eng.php>

<sup>5</sup>HealthLinkBC Nutrition Series – Number 68e August 2014 Food Sources of Calcium and Vitamin D <http://www.healthlinkbc.ca/healthfiles/pdf/hfile68e.pdf>

## Understanding health risks and safety concerns associated with Supplement Use – Vitamin D

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- Vitamin D supplements greater than 1000 IU require a prescription from a medical professional (such as a physician).<sup>4</sup>
- Individuals taking Vitamin D supplements greater than the upper limit of 4000 IU/day should receive regular follow-up from a qualified and registered medical professional (i.e. physician), to monitor possible toxicity symptoms, as well as to reassess the need for continued high dose supplements.
- All vitamin and mineral supplements must be packaged in an appropriate container (i.e. sealed and tamper proof), with a label stating what the supplement is, the dose, the company that makes the supplement, etc.<sup>5</sup>
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<sup>5</sup> Health Canada. Drugs and Health Products. Labelling Requirements Checklist. Accessed April 8, 2015 at: <http://www.hc-sc.gc.ca/dhp-mps/prodnatur/legislation/docs/label-list-etiquet-eng.php>

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# The Importance of Body Weight for the Dose Response Relationship of Oral Vitamin D Supplementation and Serum 25-Hydroxyvitamin D in Healthy Volunteers

John Paul Ekwaru<sup>1</sup>, Jennifer D. Zwicker<sup>2</sup>, Michael F. Holick<sup>3</sup>, Edward Giovannucci<sup>4</sup>, Paul J. Veugelers<sup>1\*</sup>

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## Abstract

Unlike vitamin D recommendations by the Institute of Medicine, the Clinical Practice Guidelines by the Endocrine Society acknowledge body weight differentials and recommend obese subjects be given two to three times more vitamin D to satisfy their body's vitamin D requirement. However, the Endocrine Society also acknowledges that there are no good studies that clearly justify this. In this study we examined the combined effect of vitamin D supplementation and body weight on serum 25-hydroxyvitamin (25(OH)D) and serum calcium in healthy volunteers. We analyzed 22,214 recordings of vitamin D supplement use and serum 25(OH)D from 17,614 healthy adult volunteers participating in a preventive health program. This program encourages the use of vitamin D supplementation and monitors its use and serum 25(OH)D and serum calcium levels. Participants reported vitamin D supplementation ranging from 0 to 55,000 IU per day and had serum 25(OH)D levels ranging from 10.1 to 394 nmol/L. The dose response relationship between vitamin D supplementation and serum 25(OH)D followed an exponential curve. On average, serum 25(OH)D increased by 12.0 nmol/L per 1,000 IU in the supplementation interval of 0 to 1,000 IU per day and by 1.1 nmol/L per 1,000 IU in the supplementation interval of 15,000 to 20,000 IU per day. BMI, relative to absolute body weight, was found to be the better determinant of 25(OH)D. Relative to normal weight subjects, obese and overweight participants had serum 25(OH)D that were on average 19.8 nmol/L and 8.0 nmol/L lower, respectively ( $P < 0.001$ ). We did not observe any increase in the risk for hypercalcemia with increasing vitamin D supplementation. We recommend vitamin D supplementation be 2 to 3 times higher for obese subjects and 1.5 times higher for overweight subjects relative to normal weight subjects. This observational study provides body weight specific recommendations to achieve 25(OH)D targets.

**Citation:** Ekwaru JP, Zwicker JD, Holick MF, Giovannucci E, Veugelers PJ (2014) The Importance of Body Weight for the Dose Response Relationship of Oral Vitamin D Supplementation and Serum 25-Hydroxyvitamin D in Healthy Volunteers. PLoS ONE 9(11): e111265. doi:10.1371/journal.pone.0111265

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**Data Availability:** The authors confirm that, for approved reasons, some access restrictions apply to the data underlying the findings. The data described in the present manuscript were obtained from a third party: The Pure North S'Energy Foundation. The authors' arrangement with the Foundation is that they receive access to their data only for the purpose of statistical analyses and scientific publication of the results of the statistical analyses. This is also captured in the institutional health research ethics approval. The authors are not the owners of the data and not in the position to share the data with others. If readers would like access to the data they should contact Wendy Paramchuk (Wendy.Paramchuk@purenorth.ca) who is the executive director of the Foundation.

**Funding:** This is an analysis of secondary data. The data had been collected for the purpose of lifestyle counseling of participants of a preventive health program. None of the authors are involved in the execution of this program neither do they provide financial support for the data collection. PJV holds a Canada Research Chair in Population Health, an Alberta Research Chair in Nutrition and Disease Prevention, and an Alberta Innovates Health Scholarship. The funding for the Canada Research Chair is provided through the Canadian Institutes for Health Research to the University of Alberta. The Alberta Research Chair is awarded by the School of Public Health at the University of Alberta through a thematic research contract with the Pure North S'Energy Foundation. The Health Scholarship is funded by the Alberta provincial government through Alberta Innovates Health Solutions. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

**Competing Interests:** The authors have declared that no competing interests exist.

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## Introduction

Vitamin D has been shown to benefit bone health, to prevent rickets, osteomalacia and symptomatic hypocalcaemia, and to reduce the burden of other specific diseases [1–5]. To reduce burden of disease, various institutions recommend defined amounts of vitamin D intake [6–8]. The established proxy for vitamin D status, however, is serum 25-hydroxyvitamin D (25(OH)D) [9,10]. This proxy has been used for definitions of vitamin D deficiency (for example, serum 25(OH)D levels below 50 nmol/L), vitamin D insufficiency (serum 25(OH)D levels between 50 and 75 nmol/L), and vitamin D toxicity (serum

25(OH)D levels exceeding 500 nmol/L) [7], though these definitions are not established. With recommendations based on vitamin D intake and serum 25(OH)D as the best proxy for nutritional status, a good quantification of the dose response relationship between vitamin D intake and serum 25(OH)D is essential. However, this dose response relationship is currently not well documented, particularly not for a wider range and including high levels of vitamin D supplementation.

The Recommended Dietary Allowance (RDA) is the nutrient intake considered to be sufficient to meet the requirements of 97.5% of healthy individuals. The RDA for vitamin D, 600 IU day for individuals 1 to 70 years of age and 800 IU per day for

those above the age of 70 years [8]. Although differences in serum 25(OH)D by body mass index (BMI) and by absolute body weight have been reported [11–19], the RDA does not consider either. The Clinical Practice Guidelines by the Endocrine Society do acknowledge body weight differentials and recommended obese subjects be given two to three times more vitamin D to satisfy their body's vitamin D requirement, however they acknowledge that there are no studies that clearly justify this [7,20].

The objectives of the present study are to characterize the dose response relationship of oral vitamin D supplementation and serum 25(OH)D in a large sample of healthy volunteers, and to quantify the extent this dose response relationship is different for BMI and for absolute body weight. As the effect of vitamin D on serum calcium and the risk for hypercalcemia is the most common argument against high doses of vitamin D supplementation, we further studied the relationship between vitamin D supplementation and calcium homeostasis.

## Methods

This study is based on information from healthy volunteers participating in a preventive health program provided by the Pure North S'Energy Foundation (PN), a not-for-profit charitable organization providing free services since October 2007. The program and data collection protocol are described elsewhere [21,22]. In brief, PN offers health promotion counseling with an

emphasis on vitamin D supplementation as their volunteers mostly reside in the Canadian province of Alberta which is located between the 49<sup>th</sup> and 60<sup>th</sup> parallel north. PN asks participants to complete a lifestyle questionnaire, have their height and weight measured, have a medical history, and have blood drawn for the assessment of serum 25(OH)D. Since January 2009 the medical history recorded the question 'how much vitamin D supplementation are you using?' This includes vitamin D from vitamin D supplementation and from multivitamins. Also calcium supplementation was recorded in the medical history. All 22,214 per protocol study visits, that are typically scheduled once a year, prior to June 2013 were included in the present study. All 25(OH)D measurements were assessed with an automated chemiluminescent immunoassay from DiaSorin (LIAISON) which measures the combination of D2 and D3 and which has coefficients of variation ranging from 6.8% to 8.8%.

Various shapes of the relationship between vitamin D intake and 25(OH)D have been proposed [11,23–26]. These include linear, polynomial, bi-phasic, exponential and 'exponential plus linear' relationships [11,23–26]. We therefore sought to identify the regression model that best characterized the relationship by comparing linear, quadratic, cubic, linear-log, exponential and 'exponential plus linear' regression models on the basis of the Akaike Information Criteria (AIC) [27].

We examined the importance of both BMI and absolute body weight for the dose response relationship of oral vitamin D

**Table 1.** Summary of 22,214 simultaneous assessments of oral vitamin D supplementation and serum 25(OH)D level.

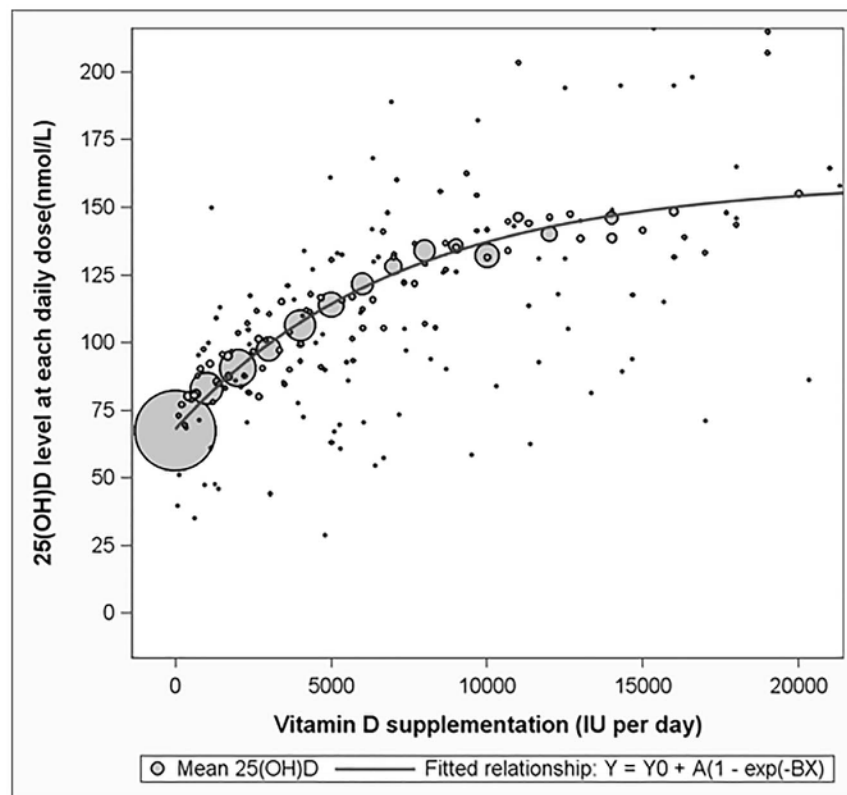
	<i>N</i>	%	<i>Mean</i>	<i>Std</i>
Vitamin D supplementation (IU per day)	22214		2841.6	4022.5
Serum 25(OH)D level nmol/L	22214		90.5	46.5
Albumin corrected calcium (mmol/L)	10940		2.4	0.1
<b>Age (Years)</b>				
<40	7800	35.1		
40 to 49	4766	21.5		
50 to 59	5291	23.8		
60+	4357	19.6		
<b>Gender</b>				
Female	10944	49.3		
Male	11270	50.7		
<b>Weight Status</b>				
Underweight	279	1.3		
Normal weight	7197	33.4		
Overweight	7962	36.9		
Obesity	6131	28.4		
<b>Absolute weight</b>				
<60 kg	2270	10.6		
60 kg to 80 kg	8734	40.8		
80.1 to 100 kg	7232	33.8		
>100 kg	3158	14.8		
<b>season</b>				
Winter	7320	33.0		
Spring	7039	31.7		
Summer	4294	19.3		
Fall	3561	16.0		

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**Table 2.** The relationship between oral vitamin D supplementation and serum 25(OH)D levels estimated with six different parametric regression models.

Parameter	Linear			Quadratic			Cubic			Linear-log			Exponential			Exponential plus Linear		
	$\beta$ (95%CI)	p-value		$\beta$ (95%CI)	p-value		$\beta$ (95%CI)	p-value		$\beta$ (95%CI)	p-value		$\beta$ (95%CI)	p-value		$\beta$ (95%CI)	p-value	
Intercept (Y0)	104.1(100.9,107.2)	<.001		101.8 (98.7,105.0)	<.001		101.1(97.9,104.2)	<.001		18.3(14.5,22.1)	<.001		100.7(97.5,103.8)	<.001		100.8(97.6,103.9)	<.001	
Age	0.3(0.3,0.3)	<.001		0.3(0.2,0.3)	<.001		0.3(0.2,0.3)	<.001		0.2(0.1,0.2)	<.001		0.2(0.2,0.3)	<.001		0.2(0.2,0.3)	<.001	
BMI	-1.6(-1.7,-1.5)	<.001		-1.6 (-1.7,-1.5)	<.001		-1.6(-1.7,-1.5)	<.001		-1.5(-1.6,-1.4)	<.001		-1.5(-1.6,-1.4)	<.001		-1.5(-1.6,-1.4)	<.001	
Sex (male vs female)	-4.6(-5.7,-3.6)	<.001		-4.4 (-5.4,-3.3)	<.001		-4.2(-5.2,-3.1)	<.001		-2.7(-3.8,-1.7)	<.001		-4.0(-5.1,-3.0)	<.001		-4.1(-5.1,-3.0)	<.001	
<b>Season</b>																		
Spring	1.4(0.2,2.7)	0.023		0.9 (-0.3,2.1)	0.142		0.9(-0.3,2.1)	0.132		2.1(0.9,3.3)	<.001		1.0(-0.2,2.2)	0.105		1.0(-0.2,2.2)	0.116	
Summer	4.1(2.7,5.5)	<.001		4.3 (2.9,5.7)	<.001		4.5(3.1,5.9)	<.001		5.3(3.9,6.8)	<.001		4.6(3.2,6.0)	<.001		4.6(3.2,6.0)	<.001	
Fall	2.5(1.0,4.1)	<.001		3.0 (1.5,4.5)	<.001		3.1(1.6,4.6)	<.001		3.3(1.8,4.8)	<.001		3.1(1.6,4.6)	<.001		3.1(1.6,4.6)	<.001	
Winter	ref.			ref.			ref.			ref.			ref.			ref.		
Vitamin D daily dose (per 1000 IU)	5.9(5.7,6.0)	<.001		8.5 (8.2,8.7)	<.001		9.6(9.2,10.0)	<.001								-1.1(-2.9,0.8)	0.256	
Vitamin D daily dose (per 1000 IU) <sup>2</sup>				-0.2 (-0.2,-0.2)	<.001		-0.3(-0.4,-0.3)	<.001										
Vitamin D daily dose (per 1000 IU) <sup>3</sup>					<.001		0.0(0.0,0.0)	<.001										
log10 Vitamin D (per 1000 IU)							34.2(33.4,34.9)	<.001										
A													100.0(94.0,105.9)	<.001		132.1(71.1,193.2)	<.001	
B													0.1(0.1,0.1)	<.001		0.1(0.1,0.1)	<.001	
<b>AIC</b>	<b>217424.1</b>			<b>216795.0</b>			<b>216736.3</b>			<b>217725.2</b>			<b>216721.8</b>			<b>216722.1</b>		

$\beta$ :  $\beta$ -coefficient; 95% CI: 95% confidence interval; ref: reference category; AIC: Akaike Information Criteria; A and B are parameters in the exponential and 'exponential plus linear' regression models. In the exponential model,  $Y = Y_0 + A * (1 - e^{-\beta X})$ , Y denotes serum 25(OH)D, Y0 (intercept) denotes serum 25(OH)D in the absence of vitamin D supplementation, and X denotes vitamin D supplementation. The six parametric regression models are compared on the basis of the AIC. The parametric regression model with the lowest AIC value (the exponential model) is the model that best describes the observations.  
doi:10.1371/journal.pone.0111265.t002



**Figure 1. The dose response relationship between oral vitamin D supplementation and serum 25(OH)D levels based on 22,214 observations of healthy volunteers.** Footnote: Bubbles represent the mean plasma 25(OH)D level for all reported daily doses. The size of the bubbles is proportional to the number of assessments for each of the reported daily doses. The red line represents the fitted dose response curve. doi:10.1371/journal.pone.0111265.g001

supplementation and serum 25(OH)D while adjusting for the confounding potential of age, sex and season using multivariable regression models. We compared BMI and absolute body weight both as continuous and categorical variables. When categorized, individuals with a BMI of less or equal than 18.5, more than 18.5 and less or equal than 25, more than 25 and less or equal than 30, and more than 30 were considered underweight, normal weight, overweight and obese, respectively [28]. Weight was categorized as less than 60 kg, 60 kg to 80 kg, more than 80 kg and less or equal to 100 kg, and more than 100 kg.

Assessments of height and weight were missing in 3% of the assessments. These records were excluded in analyses with BMI and absolute body weight as continuous covariates, but were included in analyses with BMI and absolute body weight as categorical covariates by considering missing values as a missing category. Differences in the dose response relationship of oral vitamin D supplementation and serum 25(OH)D by BMI were visualized through plots of model estimated 25(OH)D levels for any given supplementation levels.

As the available data included repeated observations for a subset of 3416 (19.4%) subjects, we included a random intercept in all the exponential regression models. The effects of vitamin D supplementation on calcium levels and probability of hypercalcemia were analyzed using linear regression and logistic regression, respectively.

All analyses were conducted using SAS 9.4 (SAS Institute, Cary NC) and the dose response curves were fitted using PROC NLMIXED, a SAS procedure for fitting nonlinear mixed effect

models. Statistical significance was defined as p-values less than 0.05.

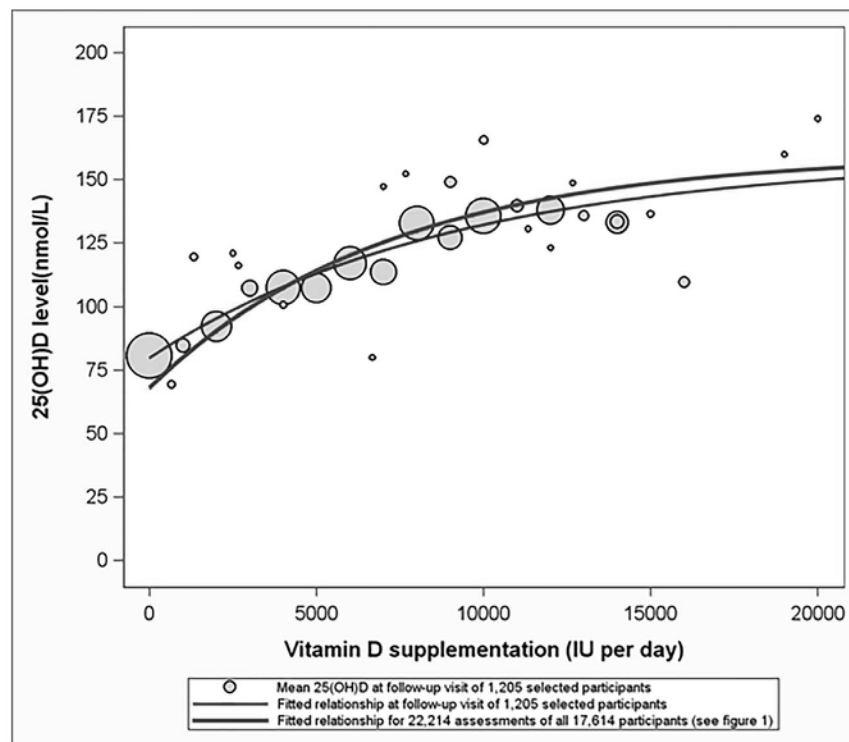
PN anonymized their data prior to forwarding it to the University of Alberta for analyses. The Human Research Ethics Board of the University of Alberta had approved access to and analysis of the PN data for the purpose of the present analyses.

## Results

Participants reported vitamin D supplementation ranging from 0 to 55,000 IU per day. Sixty-nine participants (0.3%) reported supplementation above 20,000 IU per day. The participants had serum 25(OH)D levels ranging from 10.1 to 394 nmol/L. Of all participants, 33.4% were normal weight, 1.3% underweight, 36.9% overweight and 28.4% obese (Table 1).

Table 2 depicts characteristics of the linear, quadratic, cubic, linear-log, exponential and 'exponential plus linear' regression models that describe the dose response relationship between oral vitamin D supplementation and serum 25(OH)D. The exponential regression model appeared to describe the dose response relationship best. This conclusion is based on the observation that the AIC for the exponential regression model was lower than for of the other regression models (Table 2).

The dose response relationship between vitamin D supplementation and serum 25(OH)D for supplementation levels of 20,000 IU per day or less is depicted in Figure 1. Bubbles represent the mean serum 25(OH)D level for all reported doses of vitamin D supplementation. The size of the bubbles is proportional to the number of assessments for each of the doses. Though the entire range of supplementation values was included in



**Figure 2. The relationship between oral vitamin D supplementation dose and serum 25(OH)D level at the follow up visits of a subgroup of 1205 healthy volunteers who reportedly did not supplement at their baseline visit.** Footnote: Bubbles represent the mean plasma 25(OH)D level for all reported daily doses. The size of the bubbles is proportional to the number of assessments for each of the reported daily doses. The blue line represents the fitted relationship for the subgroup of participants who reportedly did not supplement at their baseline visit. The red line represents the fitted relationship of the entire sample (22,214 observations). Both analytic approaches revealed similar dose response relationships as the red and blue lines are similar.  
doi:10.1371/journal.pone.0111265.g002

analyses, the graphs are plotted up to 20,000 IU. The red line represents the fitted exponential dose response curve and confirms the clear impression from the bubbles that the dose response relationship is non-linear and levels off at increasingly higher supplementation levels. The parameter  $Y_0$ , that represents the average serum 25(OH)D level reached without vitamin D supplementation, was estimated to be 68.0 nmol/L (95% CI: 67.3, 68.7).

For Figure 2 we restricted our analyses to those subjects that had both their baseline visit and a follow up visit between January 2009 and June 2013 and had reported not to supplement with vitamin D at their baseline visit (1205 subjects, 2410 assessments). This analysis mimics a pre-post comparison of an intervention: a comparison of observations prior to introduction to vitamin D supplementation with observations, on average, 0.98 years after the baseline visit. As such, the blue bubbles in figure 2 represent the expected 25(OH)D level of participants who have been taken oral doses of vitamin D for an average of 0.98 year since baseline. The blue line represents the fitted dose response curve for this subset of 1205 subjects. The red line is identical to the red line in Figure 1 representing the fitted dose response curve for the complete sample (22,214 assessments from 17,614 subjects). The red line in Figure 2 (and the observations presented in Figure 1) could be described as a 'snapshot of an ongoing intervention program'. The fact that the red and blue lines in Figure 2 are similar illustrates that a 'pre-post comparison' and a 'snapshot of an ongoing intervention program' reveal similar results.

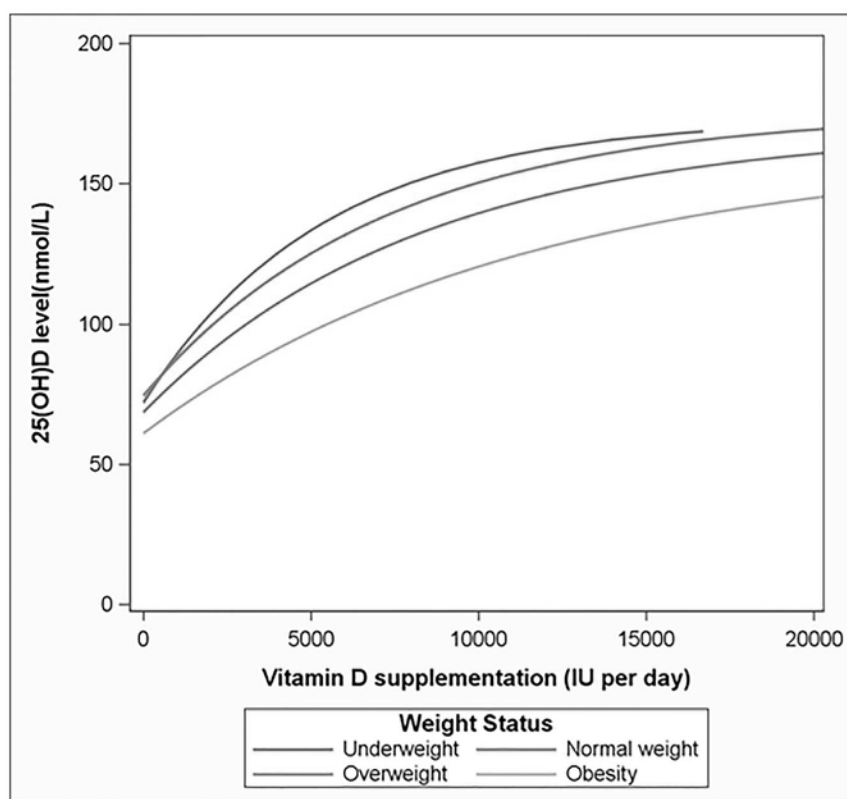
Both Figure 1 and 2 show that the increase in serum 25(OH)D is leveling off at higher doses of vitamin D supplementation. Serum

25(OH)D levels are estimated to increase on average by 11.98 nmol/L per 1,000 IU in the supplementation interval of 0 to 1,000 IU per day and by 1.13 nmol/L per 1,000 IU in the supplementation of 15,000 to 20,000 IU per day. In addition to supplementation, also age, BMI, absolute body weight, gender and season are associated with serum 25(OH)D levels in a statistically significant manner (Table 3). The differences across BMI categories (Table 3, column 1) are pronounced: obese subjects and overweight subjects had serum 25(OH)D levels that were on average 19.8 nmol/L lower and 8.0 nmol/L lower than those of normal weight subjects, respectively. The differences in serum 25(OH)D levels between underweight and normal weight subjects were not statistically significant. Differences across absolute weight categories were also substantial and statistically significant (Table 3, column 2). In table 3, the AIC values were smaller in models that included BMI relative to models that included absolute body weight regardless of whether they were considered as categorical (213710.6 versus 213990.2; Table 3: columns 1 and 2) or continuous (213602.0 versus 213852.0; Table 3, columns 1 and 2) covariates, suggesting BMI to be a better predictor of 25(OH)D relative to absolute weight. When considering BMI and absolute weight simultaneously (Table 3: columns 3 and 6), BMI appeared to be the better proximate determinant of 25(OH)D. This conclusion is based on the observation that the estimated coefficients for BMI changed only slightly when absolute weight is included in the model (column 3 versus column 1 and column 6 versus column 4), while the coefficients for absolute weight changed substantially when BMI is included (Table 3, column 3 versus 2 and column 6 versus 5).

**Table 3.** Importance of body mass index and absolute body weight for the relationship between oral vitamin D supplementation and serum 25(OH)D.

Categorical BMI and absolute weight				Continuous BMI and absolute weight			
	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	
BMI		Weight	combined	BMI	Weight	Combined	
$\beta$ (95%CI)	p-value	$\beta$ (95%CI)	p-value	$\beta$ (95%CI)	p-value	$\beta$ (95%CI)	
BMI (continuous)				$-1.5(-1.6, -1.4)$	<.001	$-1.9(-2.2, -1.7)$	
Absolute weight (continuous)					$-0.4(-0.5, -0.4)$	$0.1(0.1,0.2)$	
					<.001	<.001	
BMI category							
Underweight	$1.1(-3.4,5.7)$	0.623	$0.7(-3.9,5.2)$	0.774			
Normal weight	Ref.		Ref.				
Overweight	$-8.0(-9.3, -6.7)$	<.001	$-7.4(-8.9, -6.0)$	<.001			
Obesity	$-19.8(-21.1, -18.4)$	<.001	$-18.8(-20.9, -16.8)$	<.001			
Absolute weight category							
<60 kg		$8.9(7.1,10.7)$	<.001	$3.8(1.9,5.7)$	<.001		
60 kg to 80 kg		Ref.	Ref.				
80.1 to 100 kg		$-6.7(-7.9, -5.4)$	<.001	$1.0(-0.6,2.5)$	0.223		
>100 kg		$-14.8(-16.4, -3.1)$	<.001	$-0.7(-3.0,1.6)$	0.561		
AIC	213710.6	213990.2		213602.0		213852.0	

Footnote:  $\beta$ :  $\beta$ -coefficient; 95% CI: 95% confidence interval; ref: reference category; AIC: Akaike Information Criteria; All the estimates are adjusted for age, gender, season and vitamin D supplementation; AIC values are based on models fitted with observations for which both BMI and absolute body weight were not missing.  
doi:10.1371/journal.pone.0111265.t003



**Figure 3. The dose response relationship between oral vitamin D supplementation and plasma 25(OH)D levels by body mass index category.** Footnote: the lines are estimated using an exponential plus linear regression model that adjusted for age, gender, and season.  
doi:10.1371/journal.pone.0111265.g003

The BMI differences in the dose response relationship are further visualized in Figure 3. Relative to normal weight subjects, obese subjects had lower 25(OH)D values and curved differently. Serum 25(OH)D was estimated to increase at an average rate of 13.1 nmol/L per 1000 IU, 11.5 nmol/L per 1000 IU and 8.6 nmol/L per 1000 IU among normal weight, overweight and obese participant, respectively in the supplementation interval of 0 to 1000 IU per day. The average rates of increase then reduce to 1.3 nmol/L per 1000 IU, 1.5 nmol/L per 1000 IU and 1.9 nmol/L per 1000 IU, respectively in the supplementation interval of 15,000 IU to 20,000 IU per day.

Table 4 provides estimates for the relationship of supplementation and serum 25(OH)D by BMI category. Supplementation with 600 IU per day would achieve average serum 25(OH)D levels of 83, 76 and 66 nmol/L for normal weight, overweight and obese participants, respectively (Table 4). Average serum 25(OH)D levels of 100 nmol/L in normal weight, overweight and obese subgroups, are estimated to require supplementation with 2,080 IU, 3,065 IU and 5,473 IU per day, respectively (Table 4). Relative to normal weight participants, this represents a 1.47 and 2.6 times higher dose for overweight and obese subjects, respectively.

For the 10,940 visits that included assessments for serum calcium, the mean albumin corrected calcium level was 2.35 mmol/L (standard deviation=0.11) and ranged from 1.79 to 3.23. Figure 4 shows the dose response relationship between vitamin D supplementation and serum calcium levels. In a linear regression model that adjust for age, BMI, gender, season, and calcium supplementation, serum calcium levels did not increase significantly by increasing daily vitamin D supplementation:

0.001 mmol/L per 1000 IU increase in daily vitamin D supplementation,  $p$ -value = 0.165 (Table 5).

Of the 10,940 visits that included assessments of serum calcium, 189 (1.7%) had albumin corrected calcium levels exceeding 2.6 mmol/L (hypercalcemia). In a logistic regression model that adjusted for age, BMI, gender, season, and calcium supplementation, there was no statistically significant effect of vitamin D supplementation on the probability of having hypercalcemia (Table 5: Odds ratio = 0.97 per 1000 IU increase in daily vitamin D supplementation,  $p$ -value = 0.286). Also, the probability of having hypercalcemia was not statistically significantly different for overweight and obese subjects relative to normal weight subjects. In contrast, female gender and older age appeared important risk factors for hypercalcemia (Table 5).

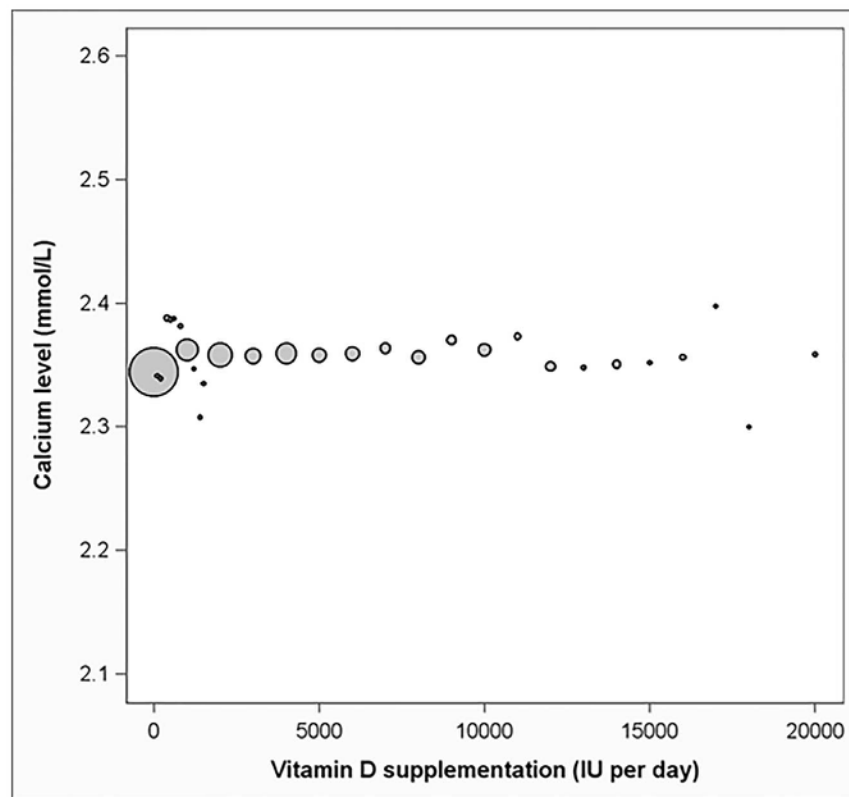
## Discussion

We observed substantial differences in serum 25(OH)D across categories of BMI and absolute body weight, which concurs with observations by others [11–19] and deviates from reports that concluded an absence of body weight differentials [29,30]. The present study suggests that, on statistical grounds, BMI is the better measure relative to absolute body weight to determine which vitamin D doses are needed for which body weight groups to achieve specific serum 25(OH)D targets. The present study also adds to the existing knowledge by revealing that the magnitude of the differences in serum 25(OH)D between normal weight and obese subjects varies by supplementation dose. Furthermore, this study provides detailed recommendations for supplementation to achieve 25(OH)D targets specific for normal weight, overweight

**Table 4.** Estimated average serum 25(OH)D levels for various vitamin D supplementation doses and the estimated average vitamin D supplementation doses for various serum 25(OH)D levels for normal weight, overweight and obese individuals.

	Underweight			Normal weight			Overweight			Obesity		
	Est.	95% CI		Est.	95% CI		Est.	95% CI		Est.	95% CI	
<i>Vitamin D supplementation dose in IU per day</i>												
<i>Serum 25(OH)D level in nmol/L</i>												
600	83	(78,88)		83	(82,84)		76	(75,77)		66	(65,67)	
1000	89	(85,94)		88	(87,89)		80	(79,81)		70	(69,71)	
2000	104	(98,109)		99	(98,100)		90	(89,91)		78	(77,79)	
4000	125	(117,133)		118	(116,119)		107	(106,109)		91	(90,93)	
10000	158	(151,164)		151	(149,152)		140	(138,141)		121	(119,122)	
15000	167	(161,173)		163	(160,166)		153	(151,156)		135	(133,138)	
<i>Serum 25(OH)D level in nmol/L</i>												
<i>Vitamin D supplementation dose in IU per day</i>												
75	151	(-,507)		28	(-,115)		534	(450,619)		1663	(1538,1790)	
100	1723	(1360,2113)		2080	(1978,2183)		3065	(2928,3204)		5473	(5190,5763)	
125	3959	(3142,4923)		4964	(4763,5172)		6733	(6470,7005)		11272	(10701,11874)	
150	7871	(6380,9945)		9858	(9389,10360)		13501	(12700,14389)		—		

Footnote: Est: Estimated average; 95% CI: 95% Confidence interval; —: estimate for vitamin D supplementation dose is above 20,000 IU a day.  
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**Figure 4. The dose response relationship between vitamin D supplementation and calcium levels.** Footnote: Bubbles represent the mean serum calcium level for all reported daily doses. The size of the bubbles is proportional to the number of assessments for each of the reported daily doses. The linear regression line is adjusted for age, gender, BMI, season and calcium supplementation.  
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and obese individuals (provided in Table 4). These recommendations appeared 2 to 3 times higher for obese participants relative to normal weight subjects, depending on the 25(OH)D target level. This is consistent with the Endocrine Society's recommendation that obese subjects be given two to three times more vitamin D [7,20]. Estimates for overweight individuals appeared approximately 1.5 times higher relative to normal weight subjects. The number of underweight participants was relatively small though do suggest underweight subjects need less vitamin D supplementation relative to normal weight subjects. Others had reported an absence of differences between underweight and normal weight subjects [31]. This study recommends guidelines for vitamin D supplementation be specific for normal weight, overweight and obese individuals, but this study does not recommend specific supplementation levels or specific 25(OH)D target levels.

We observed an exponential dose response relationship whereby serum 25(OH)D levels off with increasing levels of oral vitamin D supplementation. On average, serum 25(OH)D was estimated to increase by approximately 12.0 nmol/L per 1,000 IU in the supplementation interval 0 to 1,000 IU per day and by 1.1 nmol/L per 1,000 IU in the supplementation interval of 15,000 to 20,000 IU per day. Other studies reported that an additional 1,000 IU of vitamin D could increase serum 25(OH)D by approximately 20 to 25 nmol/L [24,32]. The substantial differences may arise from their focus on subjects with low baseline serum 25(OH)D levels, whereas our study had enrolled healthy volunteers. Also Garland et al. [23] and Aloia et al. [11] had reported dose response relationships that leveled off. Garland et al. [23] modeled cross sectional observations of 3,667 US based

community volunteers and Aloia et al. [11] plotted aggregated outcomes of 62 controlled trials. The increase in serum levels per unit increase in supplementation varied across the three studies as a result of, at least in part, differences in study population characteristics. Participants of the present study resided at, on average, a latitude of 53 degrees [21] and had presumably less subcutaneous production of vitamin D by sun exposure. Participants of the present study reportedly without supplemental vitamin D had an average serum level of 68 nmol/L, which approximates the Canadian average of 67.7 nmol/L [33]. Luxwolda et al [34] reported serum 25(OH)D levels ranging from 58 to 171 nmol/L (average 115 nmol/L with 90% having serum 25(OH)D of less than 150 nmol/L) for traditional living populations in East Africa and suggested that this may represent 'natural levels'. The present study shows that on average the upper limit of 171 nmol/L was not reached with oral supplementation of 20,000 IU per day.

The IOM report states that vitamin D toxicity is rare at 10,000 IU per day but more common with regular doses of 50,000 IU per day, suggesting the toxicity range likely starts at 500 nmol/L [8]. In the present study where substantial numbers of participants reported up to 20,000 IU of vitamin D per day, and some even more, the highest serum 25(OH)D value observed was 394 nmol/L. This seems consistent with safety studies that reported an absence of adverse effects from vitamin D doses of up to 50,000 IU per day [35,36]. Our observation that supplementation dose was not associated with hypercalcemia in a statistically significant manner is consistent with an earlier report

**Table 5.** Determinants of serum calcium and hypercalcemia based on 10,940 assessments from healthy volunteers.

	Serum calcium level		Hypercalcemia	
	$\beta$ (95%CI)	p-value	OR (95%CI)	p-value
Vitamin D daily dose (per 1000 IU)	0.001(-0.000,0.001)	0.165	0.97(0.91,1.03)	0.286
Calcium supplementation (per 100 mg)	0.003(0.001,0.006)	0.015	1.20(1.03,1.39)	0.023
<b>Age (Years)</b>				
<40	ref.		ref.	
40 to 49	0.003(-0.003,0.009)	0.302	2.09(1.09,4.00)	0.026
50 to 59	0.029(0.023,0.035)	<.001	3.20(1.80,5.67)	<.001
60+	0.044(0.038,0.050)	<.001	5.73(3.32,9.87)	<.001
<b>Gender</b>				
Male	-0.019(-0.024, -0.015)	<.001	0.56(0.39,0.80)	0.001
Female	ref.		ref.	
<b>Weight Status</b>				
Underweight	-0.005(-0.026,0.015)	0.609	1.16(0.28,4.82)	0.837
Normal weight	ref.		ref.	
Overweight	-0.003(-0.009,0.002)	0.239	1.05(0.69,1.59)	0.834
Obesity	0.008(0.002,0.013)	0.009	1.27(0.83,1.93)	0.267
<b>Season</b>				
Spring	-0.024(-0.031, -0.016)	<.001	0.92(0.58,1.47)	0.728
Summer	-0.017(-0.022, -0.011)	<.001	0.57(0.34,0.96)	0.034
Fall	-0.021(-0.027, -0.015)	<.001	0.91(0.59,1.42)	0.682
Winter	ref.		ref.	

Footnote:  $\beta$ :  $\beta$ -coefficient; OR: odds ratio; 95% CI: 95% confidence Interval; ref: reference category; all estimates are adjusted for age, gender, BMI category, season, and supplementation with vitamin D and calcium.

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that daily doses of up to 40,000 IU per day are not associated with hypercalcemia [37].

This study represents the first body weight specific characterization of the dose response relationship of a wide range of vitamin D supplementation and serum 25(OH)D levels. The strengths of the study include the large population, the relatively high supplementation dose, and the fact that all serum samples were subjected to the same 25(OH)D assessment methods, with heights and weights measured rather than self-reported. The questions regarding vitamin D supplementation by health professionals may have introduced recall bias and social desirability bias. Information on the duration of using vitamin D supplementation had not been collected. Where participants changed their doses in the months prior to the 25(OH)D assessment, this also may have introduced error. However, we expect the latter error to be small as all participants are aware that the objective of the 25(OH)D assessment is to receive advice on vitamin D supplementation dose, and therefore not likely to changing their supplementation dose in the months prior to the assessment. Although this study included residents of Northern latitude where sun exposure and subcutaneous synthesis of vitamin D are considered limited, and despite our adjustment for season as a proxy of sun exposure, we acknowledge that a precise measure of daily hours of sun exposure may have yielded better estimates. Likewise, where we did adjust for the confounding potential of age, gender, and season, we acknowledge that further adjustment for skin color, physical activity, outdoor activities and dietary intake may have yielded

better estimates. Unlike in blinded trials, confounding by indication, whereby participants whose 25(OH)D levels respond well to vitamin D may lower their dose and participants whose 25(OH)D levels do not respond well may increase their dose, may have biased the estimates of the present study. Lastly, we recommend large randomized controlled trials among healthy subjects be analyzed on BMI differentials in the dose response relationship between vitamin D intake and serum 25(OH)D to confirm the present findings.

In summary, we recommend clinical guidelines for vitamin D supplementation be specific for normal weight, overweight and obese individuals. In this study we provide body weight specific recommendations to reach certain serum 25(OH)D target levels.

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## Author Contributions

Analyzed the data: JPE. Wrote the manuscript: PJV. Provided feedback and edited the manuscript: JPE JDZ MH EG. Conducted the literature review: JDZ. Conceived and designed the analytic approach: JPE MH EG PJV.

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## **BENDING THE MEDICARE COST CURVE IN 12 MONTHS OR LESS: HOW PREVENTATIVE HEALTH CARE CAN YIELD SIGNIFICANT NEAR- TERM SAVINGS FOR ACUTE CARE IN ALBERTA<sup>†</sup>**

Daniel J. Dutton, J.C. Herbert Emery, Thomas Mullie and Jennifer D. Zwicker  
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