



# Ministry of Health Consolidated Analytics Services

**Title** Patient counts for select cardiac-related and neonatal withdrawal symptom ICD10-CA codes from the DAD and NACRS datasets  
*Nov. 1, 2018 - Oct 31, 2020 for BC and Out of Province treatments of BC residents only*

**Completion Date** 2021-03-17

**Client** FOI Request HTH 2021-10421

**Program Area** External, Information Access Operations | Ministry of Citizen's Services

## Question being asked

For the two most recent twelve-month periods that are available to the Ministry, the number of diagnoses for the following ICD-10 codes: P96.1 – neonatal withdrawal symptoms from maternal use of drugs of addiction; I20.0 – unstable angina; I21.0, I21.1, I21.2, I21.3, I21.9 – acute myocardial infarction (AMI); I21.4 – Acute subendocardial myocardial infarction (ASMI; myocardial infarction with non-ST elevation); I22.0, I22.2, I22.8, I22.9 – subsequent myocardial infarction (SMI).

Subsequent discussions with client resulted in an agreement to provide unique patient counts for a given year (within the most recent 2 - 12 months periods of data available to the Ministry of Health). This agreement was reached to minimize the risk of suppressed data and re-identification of individuals. Only British Columbian residents were included in the report.

## Summary of Analysis

A total of 21,615 individuals, with documented ICD10-CA codes for Neonatal Withdrawal Symptoms, Unstable Angina, and/or Myocardial Infarctions (AMI, ASMI, SMI), were reported from November 1st, 2018 to October 31st, 2020 as unique patients per 12-month year (NB: a patient may be counted in multiple years). Approximately half of the cases were reported from the Discharge Abstract Dataset (DAD; acute, rehabilitation, day surgery care levels), while the remainder were documented from the National Ambulatory Care Reporting System (NACRS; Emergency Department). Unstable angina and acute myocardial infarction made up the majority of cases in both datasets (NACRS only reporting diagnosis codes I200 and I219). Subsequent MI had the least number of cases and were commonly associated with either unstable angina or acute MI within the same record.

NB: Total Unique patients per year will be less than the summation of all diagnosis categories due to single records have multiple diagnoses in different categories (as mentioned above). Only one diagnosis per category per record was observed. Only one count per category per record per year was reported regardless of the number of hospitalizations (records) a patient may have experienced within a calendar year.

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SME = Subject Matter Expert

**PAS #** 3000.2250 **Filename** CFR HTH-2021-10421 Patient counts select diagnosis codes 20210318.xlsx

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## Patient counts for select cardiac-related and neonatal withdrawal symptom ICD10-CA codes from the DAD and NACRS datasets

*Nov. 1, 2018 - Oct 31, 2020 for BC and Out of Province treatments of BC residents only*

**Filename** CFR HTH-2021-10421 Patient counts select diagnosis codes 20210318.xlsx

**Data source**

- 1 Discharge Abstract Data Base (DAD)
- 2 National Ambulatory Care Reporting (NACRS)

**Extract date** 2021-03-17

### Notes

- 1 This is a utilization report that includes treatments of British Columbian residents (both within and out of province, with the exception of records having an abortion flag or treatments performed at a designated women's clinic.
- 2 All care levels were included for this report.
- 3 Each patient was counted once within a single calendar year (reported as unique patients). Occurrences of selected ICD10-CA code were counted once (regardless of the number of cases reporting the diagnosis) and aggregated within defined categories of:
  - Neonatal withdrawal symptoms (from maternal use of drugs of addiction) = P96.1
  - Unstable angina = I20.0
  - Acute myocardial infarction = I21.0, I21.1, I21.2, I21.3, I21.9
  - Acute subendocardial myocardial infarction = I21.4
  - Subsequent myocardial infarction = I22.0, I22.2, I22.8, I22.9As per Canadian Coding Standards only one diagnosis per category appears within a case but diagnoses from multiple categories may appear for a case. Multiple cases may have occurred for the same patient within a given calendar year. Diagnoses from multiple cases were not stacked.
- 4 Location of residence was determined using normal business practices for the DAD and NACRS datasets by selecting Local Health Area (LHA) within BC, wherein the residential postal code provided at admission (DAD) or registration (NACRS) was categorized within a LHA (non-BC LHA were excluded; LHA3 ^= '888').
- 5 Month and year were determined from the discharge date reported on the record (disdate for NACRS, sepdte for DAD). The most recent available data was determined from the last complete reporting fiscal period as stated by all Health Authorities. The 2 - 12 month periods were determined from November 2020 backwards.
- 6 Emergency Department visits (NACRS records) likely resulted in an inpatient stay (hospitalization record - DAD), therefore counts between datasets cannot be counted as mutually exclusive except from an operational perspective

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## Patient counts for select cardiac-related and neonatal withdrawal symptom ICD10-CA codes from the DAD and NACRS datasets and equivalent ICD9 diagnosis codes from MSP

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△ Please reference Notes page for additional details important for the interpretation of unique patient counts.

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**Table 1. Counts of Unique Patients with select ICD10-CA diagnoses for DAD and NACRS by 12 month period (year) and diagnosis category.**

Dataset \ Province \ Month	Neonatal withdrawal symptoms (from maternal use of drugs of addiction)		Unstable angina		Acute myocardial infarction		Acute subendocardial myocardial infarction		Subsequent myocardial infarction	
	Nov 2018 - Oct 2019	Nov 2019 - Oct 2020	Nov 2018 - Oct 2019	Nov 2019 - Oct 2020	Nov 2018 - Oct 2019	Nov 2019 - Oct 2020	Nov 2018 - Oct 2019	Nov 2019 - Oct 2020	Nov 2018 - Oct 2019	Nov 2019 - Oct 2020
DAD (Inpatient & Day Surgery)	199	248	1593	1341	3209	3248	71	60	31	35
NACRS* BC Only (Emergency Department)			2385	2300	3677	3632				
<b>Grand Total</b>	<b>199</b>	<b>248</b>	<b>3978</b>	<b>3641</b>	<b>6886</b>	<b>6880</b>	<b>71</b>	<b>60</b>	<b>31</b>	<b>35</b>

\*NACRS within BC only reports ED Discharge Diagnosis codes I200 and I219, additional cases may have occurred but documentation of the diagnosis does not exist due to the limitations of the algorithms and valid values used for the Diagnosis picklist from the Emergency Department Information System (EDIS) .

NB: Many NACRS (Emergency Department) cases may have resulted in acute inpatient stays (DAD); see notes page.

NB: Cases may have more than one category of diagnoses but not more than one diagnosis per category. Any diagnosis within a category was counted only once per unique patient regardless of the number of cases per patient. See notes page.

**Table 2. Medical Services Plan Data**

Database	7795 - Other And Ill-Defined Conditions Originating In The Perinatal Period		410 - Acute Myocardial Infarction		411 - Other Acute And Subacute Forms Of Ischaemic Heart Disease	
	Nov 2019 - Oct 2020	Nov 2019 - Oct 2020	Nov 2018 - Oct 2019	Nov 2019 - Oct 2020	Nov 2019 - Oct 2020	Nov 2019 - Oct 2020
Medical Services Plan	69	103	5,093	4,901	11,823	10,757

### Notes

MSP diagnosis coding uses ICD9 rather than ICD10 coding. Codes identified above are approximate equivalent to the requested codes

7795 is an approximately equivalent ICD9 code to Neonatal Withdrawal Symptoms

411 is an approximately equivalent ICD9 code for unstable angina. Note however that this code may capture other conditions such as postmyocardial infarction syndrome and acute coronary occlusion without myocardial infarction

410 is approximately equivalent to the myocardial infarction codes.

Patients are counted in Table 2 if they did not appear in the DAD/NACRS data in the same period.

Note also that these diagnoses do not necessarily represent the initial diagnoses. I.e. a patient who had a myocardial infarction may appear under that diagnosis code in a follow-up visit, or may have been admitted to hospital for the same condition in an earlier period.