CCDSS Heart Failure
DH01c01

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About this Codebook

This reference guide is intended for users of the CCDSS Heart Failure DH01c01 data set, provided by the New Brunswick Department of Health. This guide provides an overview of the data, the general methodology used in its creation, and important technical information, such as table and field descriptions. The development of this document is an ongoing process and will receive updates when changes occur in the CCDSS Heart Failure database.

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Due to the operational nature of administrative data sets, there is potential for discrepancies between the names of variables and their corresponding definitions. In the case of such a discrepancy, the variable definition should be considered the most accurate representation.

Overview

The Canadian Chronic Disease Surveillance System (CCDSS) was developed by the Public Health Agency of Canada (PHAC) in partnership with provincial health ministries – including the New Brunswick Department of Health – as well as non-government organizations, clinicians, and researchers. The CCDSS uses administrative databases to provide a passive surveillance of chronic diseases. The data is processed at the provincial level and submitted to PHAC as aggregate data for national comparisons and further study. The CCDSS Heart Failure DH01c01 Database contains individual-level surveillance data for heart failure in New Brunswick.

Sample Universe

The data capture individuals living in New Brunswick who are eligible for provincial Medicare and who satisfy the screening criteria for heart failure (see "General Methodology"). Records are generated per person and fiscal year and are derived from other administrative databases (see "Comparison to Other Products/Versions").

Date Range

1995-04-01 – 2015-03-31 (Fiscal Year)

Data Source

New Brunswick Department of Health

How to Cite this Codebook

New Brunswick Institute for Research, Data and Training. (2021). CCDSS Heart Failure DH01c01 Codebook for Years 1995-2015. Fredericton, NB: New Brunswick Institute for Research, Data and Training.

Acknowledgements

The CCDSS Heart Failure Database is used with permission from the New Brunswick Department of Health.

About this Product

Purpose of the Product

The purpose of the CCDSS Heart Failure DH01c01 Database Codebook is to provide information on the linkable New Brunswick data regarding heart failure, held at the New Brunswick Institute for Research, Data and Training (NB-IRDT). This data is accessible to researchers and is particularly relevant for research areas related to health, epidemiology, and chronic diseases.

Definitions and Concepts

Case – A case is defined (flagged) when an individual satisfies the criteria for the specified condition (see General Methodology).

Diagnosis – A diagnosis is an event, such as a hospitalization or a billing record, with a code indicating that an individual assessed by a healthcare provider has a specific health condition.

ICD – The International Statistical Classification of Diseases and Related Health Problems (ICD) is a typology for diagnoses of illnesses and diseases. The international standard is published by the World Health Organization (WHO), and a Canadian superset – built on top of the WHO standard – is produced by the Canadian Institute for Health Information (CIHI). The most recent Canadian ICD standard is the tenth revision (ICD-10-CA); however, many data sets available at NB-IRDT use the ninth revision (ICD-9-CA).

CCI – The Canadian Classification of Health Interventions (CCI) is a typology of health-related interventions developed by the Canadian Institute for Health Information (CIHI). The current version, the tenth revision (ICD-10-CA/CCI), has been developed for use with the tenth revision of the Canadian adaptation of the ICD (ICD-10-CA).

Fiscal Year – A fiscal or financial year is a twelve-month period typically used for reporting or accounting purposes. In Canada, fiscal years usually run from April 1st to March 31st of the following calendar year. They are commonly referred to by the calendar years they span (ex: 2020-2021 or 2020-21) or simply by the calendar year in which they start (ex: 2020).

Content

Individual-level data from the Canadian Chronic Disease Surveillance System estimating the incidence and prevalence of heart failure in New Brunswick patients

General Methodology

Data for the CCDSS Heart Failure Database are collected passively from administrative data sets, notably the Citizen Database, the Discharge Abstract Data, and the Physician Billing Database housed at NB-IRDT. Standardized SAS-based scripts, prepared by the Canadian Institute for Health Information (CIHI), are run periodically on the administrative data to identify cases using condition-specific algorithms.

For heart failure, a case is defined if an individual aged 40 years or older has at least one hospitalization or two physician billing records in a year with one of the following ICD codes related to heart failure.

Discharge Abstracts Database:
ICD-9: 428
ICD-10: I50

Physician Billing:
ICD-9: 428
ICD-10: I50

Once identified, the heart failure condition is flagged indefinitely, resulting in a record per person, per fiscal year.

Limitations

Due to a progressive rollout of and adoption of reporting requirements, the exhaustiveness of the earlier years of CCDSS data may be questionable. Conditions with algorithms that rely on New Brunswick Physician Billing data may also incur additional variability since these records are stored as free text instead than standardized ICD codes.

Comparison to Other Products/Versions

Records in the CCDSS Heart Failure data set are derived from those in the Citizen Database, the Discharge Abstract Data, and the Physician Billing Database. They also share similar methodology with other CCDSS data related to heart failure – Hypertension, Ischemic Heart Disease, and Myocardial Infarction – and other chronic conditions, including COPD, Diabetes, Mood and Anxiety Disorders, Multiple Sclerosis, Neurological Conditions, Parkinson's, and Stroke.

Using with Other Products

DH01c02 – CCDSS COPD – The Canadian Chronic Disease Surveillance System (CCDSS) data set for Chronic Obstructive Pulmonary Disease (COPD) is similar to the CCDSS Heart Failure data, except it focuses on another chronic condition.

DH01c04 – CCDSS Hypertension – The CCDSS data set for Hypertension is similar to the CCDSS Heart Failure data, except it focuses on another chronic condition. Hypertension and Heart Failure are both heart-related conditions.

DH01c05 – CCDSS Ischemic Heart Disease – The CCDSS data set for Ischemic Heart Disease is similar to the CCDSS Heart Failure data, except it focuses on another chronic condition. Ischemic Heart Disease and Heart Failure are both heart-related conditions.

DH01c06 – CCDSS Myocardial Infarction – The CCDSS data set for Myocardial Infarction is similar to the CCDSS Heart Failure data, except it focuses on another chronic condition. Myocardial Infarction and Heart Failure are both heart-related conditions.

DH01c07 – CCDSS Stroke – The CCDSS data set for Stroke is similar to the CCDSS Heart Failure data, except it focuses on another chronic condition.

DH01c08 – CCDSS Diabetes Data – The CCDSS data set for Diabetes is similar to the CCDSS Heart Failure data, except it focuses on another chronic condition.

DH01c09 – CCDSS Mood and Anxiety Disorders – The CCDSS data set for Mood and Anxiety Disorders is similar to the CCDSS Heart Failure data, except it focuses on another chronic condition.

DH01c10 – CCDSS Multiple Sclerosis – The CCDSS data set for Multiple Sclerosis is similar to the CCDSS Heart Failure data, except it focuses on another chronic condition.

DH01c11 – CCDSS Parkinson's – The CCDSS data set for Parkinson's is similar to the CCDSS Heart Failure data, except it focuses on another chronic condition.

DH05 – Discharge Abstract Data – The Discharge Abstract Data (DAD) is a collection of records of hospitalization in New Brunswick and contains details regarding patient characteristics, diagnoses, interventions, and healthcare providers. Linking the CCDSS Heart Failure and Discharge Abstract Data allows an individual's hospitalization history to be associated with their chronic condition, which may be useful for understanding disease progression or treatment.

DH08 – New Brunswick Physician Billing – The Physician Billing data set contains records of claims for services rendered by New Brunswick healthcare providers, including licensed practical nurses, and defrayed by provincial Medicare. It has variables regarding the types of services, the providers and their specialty, as well as referral information. Combining the Physician Billing and CCDSS Heart Failure data may reveal details about the treatment paths of individuals experiencing heart failure, such as whether they were referred to a cardiologist or other specialist.

DH10 – Citizen Database – The Citizen Database is a longitudinal data set of individuals living in New Brunswick, based on their eligibility for provincial Medicare. Records in the CCDSS Heart Failure data set are derived from those of the Citizen Database. Establishing a linkage between the two may provide additional information about censorship due to gaps in Medicare eligibility and the reason for these lapses of coverage (mobility, death, etc.).

DH18 – Vital Statistics (Death Event) – The Vital Statistics data set contains a summary of death events that occurred in the province of New Brunswick for residents and non-residents. Record details include the date of death, sex, and primary cause of death of the individual. Linking the Vital Statistics with the CCDSS Heart Failure data may be useful for estimating the cause-specific risks or survival of individuals with heart failure.

SD01 – Long-Term Care Database – The Long-Term Care Database contains administrative data about the care received by long-term care clients in New Brunswick. Linking the Long-Term Care Database with the CCDSS Heart Failure data may provide insights about the treatment or support required for individuals living with heart failure.

Record Layouts and Data Descriptions

#	Name	Label	Type
1	Scram_Id	Scrambled Individual Identifier	C
2	Year	Year	N
3	CaseRule	Case Rule	C
4	CaseDate	Case Date	N
5	DiagnosisYear	DiagnosisYear	N
6	Sex	Sex	C
7	Age	Age	N
8	Birth_Date	Date of Birth	N
9	InsuranceEndDate	InsuranceEndDate	N
10	DeadStatus	Dead Status	N

Scram_Id
Scrambled Individual Identifier. A randomly generated code that uniquely identifies the individual (identifier).

Year
Fiscal Year. The fiscal year to which the record corresponds (numeric).

CaseRule
Case Rule. The criteria or rule, identified by source of information, used to define a case.

Code	Description
H	Hospital
I	Hospital
M	Medicare Physician Billing
P	Medicare Physician Billing
B	Both (Hospital and Medicare Physician Billing)
V	Vital Statistics (Death)

CaseDate
Case Date. The date the case was first defined (date).

DiagnosisYear
Diagnosis Year. The year the individual was first diagnosed (numeric).

Sex
Sex. The individual's gender.

Code	Description
M	Male
F	Female

Age

Age. The individual's age on the date the case was first defined (see: CaseDate) (numeric).

Birth_Date

Date of birth. The individual's date of birth (date).

InsuranceEndDate

Insurance End Date. The termination date of the individual's eligibility for Medicare during the fiscal year, which may be at the end of the fiscal year (date).

DeadStatus

Dead Status. An indicator for whether the individual died during the fiscal year.

Code	Description
0	Alive
1	Deceased

Document History

Version	Author	Nature of Change	Date
1.0	Jonathan Boudreau	Initial draft prepared. Requires variable modalities and validation of content.	2020-05-08
1.1	Jonathan Boudreau	Updated the initial draft with metadata from the data set.	2020-07-07
1.2	Nicholas Larade	Updated project numbers.	2021-03-30
1.2.1	Jennifer Hagen	Updated formatting and removed date ranges	2022-03-25
Approved by		Approval Date	Review Date
Andy Balzer		April 21, 2021	