



**NB-IRDT**

New Brunswick Institute for  
Research, Data and Training

**Canadian Chronic Disease Surveillance System  
(CCDSS)**

**Codebook  
For Years 1995-2020**

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### How to obtain more information

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## About this Codebook

This reference guide is intended for users of the Canadian Chronic Disease Surveillance System (CCDSS) Data. CCDSS is a distributed system involving the provincial government, academic-based researchers and stakeholder organizations for chronic diseases in New Brunswick. Tracking health conditions through this type of integrated system is essential for timely disease reporting to support health policy and decision making. The development of this document is an ongoing process that will be updated with changes that occur in the Canadian Chronic Disease Surveillance System database.

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## Overview

The CCDSS provides a comprehensive overview of chronic diseases in New Brunswick. The dataset spans multiple fiscal years and includes detailed information on various chronic diseases and mental health problems. Key variables include patient demographics such as age and sex, which are crucial for understanding the population, and identifying trends. The dataset also records Case Rule which is a set of parameters that describes the different combinations of evidence collected from administrative data. Diagnosis year as well as Death status are also included in the dataset. The CCDSS uses administrative databases to provide a passive surveillance of chronic diseases. Data are processed at the provincial level and submitted to the Public Health Agency of Canada (PHAC) as aggregate data for national comparisons and further study.

## Data Source

New Brunswick Department of Health

## How to cite this Codebook

New Brunswick Institute for Research, Data and Training. (2024). *Canadian Chronic Disease Surveillance System Data DH01 codebook for years 1995-2020*. Fredericton, NB: New Brunswick Institute for Research, Data and Training.

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## Acknowledgements

The Canadian Chronic Disease Surveillance System (CCDSS) Database is used with permission of "New Brunswick Department of Health".

## About this product

### Purpose of the product

The purpose of the Canadian Chronic Disease Surveillance Database reference guide is to provide information on the linkable New Brunswick Chronic Disease Surveillance data held at the NB-IRDT, to researchers for public health and other research as well as for the development of population estimates and projections. 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.

#### Diagnosis

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

#### CCDSS case definitions

Table 1: CCDSS case definitions

<b>Disease, condition and indicator</b>	<b>Age</b>	<b>Case definition summary</b>
<b>Cardiovascular diseases</b>		
<b>Acute Myocardial Infarction (AMI)</b>	20+	One or more hospital inpatient admission records
<b>Heart Failure(HF)</b>	40+	One or more hospital separation records, or two or more physician claims within one year
<b>Hypertension, excluding gestational hypertension</b>	20+	One or more hospital separation records, or two or more physician claims within two years
<b>Ischemic Heart Disease (IHD)</b>	20+	One or more hospital separation records or procedure code, or two or more physician claims within one year
<b>Stroke</b>	20+	One or more hospital separation records, or two or more physician claims within one year
<b>Chronic respiratory diseases</b>		
<b>Asthma</b>	1+	One or more hospital separation records, or two or more physician claims within two years

<b>Active Asthma</b>	1+	Once qualified as an asthma case: one or more hospital separation records or one or more physician claims within one year
<b>Chronic Obstructive Pulmonary Disease (COPD)</b>	35+	One or more hospital separation records or one or more physician claims
<b>Diabetes</b>		
<b>Diabetes mellitus (types combined), excluding gestational diabetes</b>	1+	One or more hospital separation records, or two or more physician claims within two years
<b>Mental illnesses</b>		
<b>Use of health services for Mental illness and alcohol/drug induced disorders (annual)</b>	1+	One or more hospital separation records or one or more physician claims within one year
<b>Use of health services for Mood and Anxiety disorders (annual)</b>	1+	One or more hospital separation records or one or more physician claims within one year
<b>Use of health services for Schizophrenia (annual)</b>	1+	One or more hospital separation records or one or more physician claims within one year
<b>Neurological conditions</b>		
<b>Dementia, including Alzheimer disease</b>	65+	One or more hospital separation records; or three or more physician claims within two years, with at least 30 days between each claim; or one drug prescription or more
<b>Epilepsy</b>	1+	Age 1-19 years: Three or more physician claims within two years, with at least 30 days between each claim  Age 20 years and over: One or more hospital separation records, or three or more physician claims within two years, with at least 30 days between each claim
<b>Epilepsy (active)</b>	1+	Once qualified as an epilepsy case: one or more hospital separation records or one or more physician claims within five years



<b>Multiple Sclerosis (MS)</b>	20+	One or more hospital separation records, or five or more physician claims within two years
<b>Parkinsonism, including Parkinson disease</b>	40+	Two or more physician claims within one year, with at least 30 days between the first and the second claim

## Content

This version of the Canadian Chronic Disease Surveillance System Database contains the names, description and codes (where available) of the data elements.

## General methodology

The publicly-funded Canadian healthcare system generates data that provide a valuable resource for population health surveillance. Various studies have demonstrated the feasibility of using these administrative health data for surveillance purposes. Records of healthcare delivery are maintained within administrative databases for residents who are eligible to receive provincial or territorial healthcare insurance. Universally, demographic information is collected using a health insurance file, which is linkable to data sources such as physician services and hospital discharge data using unique, provincially- and territorially-specific, lifetime identifiers (“unique IDs”). The unique ID is based on an individual’s provincial or territorial health insurance number (i.e. a new unique ID would be assigned if an individual were to move to another jurisdiction). In certain jurisdictions, other health data such as vital statistics and prescription drug data may be available. The personal information contained within these health files is protected by the provincial and territorial data custodians.

## Limitations

With the exception of certain populations whose health care is under the jurisdiction of the federal government (e.g. members of the Canadian Forces, inmates of federal prisons, etc.).

## Technical specifications

### Record layouts and data descriptions

In some cases, the source of information that is used to identify a case is more than one. Therefore, there might be more than one variable in a table that show the status. In those cases, the source of information is indicated in the variable name/label. For example, a variable labeled as **status (H)** indicates that a hospitalization record has been the only source of information for reporting the case, however, the **status (HM)** indicates that both Hospital and Medicare physician billing are used to flag the case.

## Overview

Acute Myocardial Infarction (AMI)

*Date range*

1995-2018

*Variables*

Table 2: Variables of the ccdss\_ami dataset.

#	Variable	Type	Label
1	Indvid	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	HV_Case_rule	Char	Case Rule (HV)
6	HV_Diagnosis_year	Num	Diagnosis year (HV)
7	HV_Status	Char	Status (HV)
8	H_DiagnosisYear	Num	Diagnosis year (H)
9	H_Status	Char	Status (H)
10	InsuranceEndDate	Num	InsuranceEndDate
11	Death_status	Char	Death status
12	Death_year	Num	Death year
13	Death_date	Num	Death date

## Asthma

### Date range

1995-2018

### Variables

Table 3: Variables of the ccdss\_asthma\* dataset.

#	Variable	Type	Label
1	Individ	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	HM_Act_caserule	Char	Active Case Rule (HM)
6	HM_Act_Status	Char	Active Status (HM)
7	HM_Case_rule	Char	Case Rule (HM)
8	HM_Status	Char	Status (HM)
9	Diagnosis_year	Num	Diagnosis year
10	InsuranceEndDate	Num	InsuranceEndDate
11	Death_status	Char	Death status
12	Death_year	Num	Death year
13	Death_date	Num	Death date

\* For Active case-rule and Active status, see Table 1: CCDSS case definitions

## Chronic Obstructive Pulmonary Disease (COPD)

### Date range

1995-2020

### Variables

Table 4: Variables of the ccdss\_copd dataset.

#	Variable	Type	Label
1	Indvid	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	Diagnosis_year	Num	Diagnosis year
6	HM_Case_rule	Char	Case Rule (HM)
7	InsuranceEndDate	Num	Insurance End Date
8	Death_status	Num	Death status
9	Death_year	Num	Death year

## Dementia, including Alzheimer disease

### Date range

1995-2018

### Variables

Table 5: Variables of the ccdss\_dementia dataset.

#	Variable	Type	Label
1	Indvid	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	Diagnosis_year	Num	Diagnosis year
6	HM_Case_rule	Char	Case Rule (HM)
7	HM_Status	Char	Status (HM)
8	InsuranceEndDate	Num	InsuranceEndDate
9	Death_status	Char	Death status
10	Death_date	Num	Death date
11	Death_year	Num	Death year

Diabetes mellitus (types combined), excluding gestational diabetes

*Date range*

1995-2018

*Variables*

Table 6: Variables of the ccdss\_disbetes dataset.

#	Variable	Type	Label
1	Indvid	Char	Randomly scrambled individual ID
2	Sex	Char	
3	Age	Num	
4	Year	Num	
5	Diagnosis_year	Num	Diagnosis year
6	HM_Case_rule	Char	Case Rule (HM)
7	HM_Status	Char	Status (HM)
8	InsuranceEndDate	Num	
9	Death_status	Char	Death status
10	Death_date	Num	Death date
11	Death_year	Num	Death year

## Epilepsy

### Date range

1995-2018

### Variables

Table 7: Variables of the ccdss\_epilepsy dataset.

#	Variable	Type	Label
1	Indvid	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	Diagnosis_year	Num	Diagnosis year
6	Act_Diagnosis_Year	Num	Active Diagnosis year
7	HM_Act_caserule	Char	Active Case Rule (HM)
8	HM_Act_Status	Char	Active Status (HM)
9	HM_Case_rule	Char	Case Rule (HM)
10	HM_Status	Char	Status (HM)
11	InsuranceEndDate	Num	InsuranceEndDate
12	Death_status	Char	Death status
13	Death_date	Num	Death date
14	Death_year	Num	Death year



## Heart Failure (HF)

### Date range

1995-2018

### Variables

Table 8: Variables of the ccdss\_hf dataset.

#	Variable	Type	Label
1	Indvid	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	Diagnosis_year	Num	Diagnosis year
6	HM_Case_rule	Char	Case Rule (HM)
7	HM_Status	Char	Status (HM)
8	InsuranceEndDate	Num	InsuranceEndDate
9	Death_status	Char	Death status
10	Death_date	Num	Death date
11	Death_year	Num	Death year

## Hypertension, excluding gestational hypertension

### Date range

1995-2018

### Variables

Table 9: Variables of the ccdss\_hypertension dataset.

#	Variable	Type	Label
1	Individ	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	Diagnosis_year	Num	Diagnosis year
6	HM_Case_rule	Char	Case Rule (HM)
7	HM_Status	Char	Status (HM)
8	InsuranceEndDate	Num	InsuranceEndDate
9	Death_status	Char	Death status
10	Death_date	Num	Death date
11	Death_year	Num	Death year

## Ischemic Heart Disease (IHD)

### Date range

1995-2018

### Variables

Table 10: Variables of the ccdss\_ihd dataset.

#	Variable	Type	Label
1	Individ	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	HMV_Diagnosis_year	Num	Diagnosis year (HMV)
6	HMV_Case_rule	Char	Case Rule (HMV)
7	HMV_Status	Char	Status (HMV)
8	HM_Diagnosis_Year	Num	Diagnosis year (HM)
9	HM_Status	Char	Status (HM)
10	InsuranceEndDate	Num	InsuranceEndDate
11	Death_status	Char	Death status
12	Death_date	Num	Death date
13	Death_year	Num	Death year

Use of health services for Mental illness and alcohol/drug induced disorders  
(annual)

*Date range*

1995-2018

*Variables*

Table 11: Variables of the ccdss\_mental\_ill dataset.

#	Variable	Type	Label
1	Individ	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	Fatal_Status	Char	Omni Fatal Status
6	HM_Case_rule	Char	Omni Case Rule (HM)
7	Omni_Status	Char	Omni Status
8	InsuranceEndDate	Num	InsuranceEndDate
9	Death_status	Char	Death status
10	Death_date	Num	Death date
11	Death_year	Num	Death year

Use of health services for Mood and Anxiety disorders (annual)

*Date range*

1995-2018

*Variables*

Table 12: Variables of the ccdss\_mood\_anx dataset.

#	Variable	Type	Label
1	Indvid	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	HM_Case_rule	Char	Case Rule (HM)
6	Status	Char	Status (HM)
7	InsuranceEndDate	Num	InsuranceEndDate
8	Death_status	Char	Death status
9	Death_date	Num	Death date
10	Death_year	Num	Death year

## Multiple Sclerosis (MS)

### Date range

1995-2018

### Variables

Table 13: Variables of the ccdss\_ms dataset.

#	Variable	Type	Label
1	Individ	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	Diagnosis_year	Num	Diagnosis year
6	HM_Case_rule	Char	Case Rule (HM)
7	HM_Status	Char	Status (HM)
8	InsuranceEndDate	Num	InsuranceEndDate
9	Death_status	Char	Death status
10	Death_date	Num	Death date
11	Death_year	Num	Death year

Parkinsonism, including Parkinson disease

*Date range*

1995-2014

*Variables*

Table 14: Variables of the ccdss\_parkinson dataset.

#	Variable	Type	Label
1	Indvid	Char	Randomly scrambled individual ID
2	Sex	Char	
3	Age	Num	
4	Year	Num	
5	Diagnosis_year	Num	Diagnosis year
6	M_Case_rule	Char	Case Rule (M)
7	InsuranceEndDate	Num	
8	Death_status	Num	Death status

## Use of health services for Schizophrenia (annual)

### Date range

1995-2018

### Variables

Table 15: Variables of the ccdss\_Schizophrenia dataset.

#	Variable	Type	Label
1	Indvid	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	Diagnosis_year	Num	Diagnosis year
6	HM_Case_rule	Char	Case Rule (HM)
7	HM_Status	Char	Status (HM)
8	InsuranceEndDate	Num	Insurance End Date
9	Death_status	Char	Death status
10	Death_date	Num	Death date
11	Death_year	Num	Death year



Stroke

*Date range*

1995-2018

*Variables*

Table 16: Variables of the ccdss\_Stroke dataset.

#	Variable	Type	Label
1	Indvid	Char	Randomly scrambled individual ID
2	Sex	Char	Sex
3	Age	Num	Age
4	Year	Num	Year
5	Diagnosis_year	Num	Diagnosis year
6	HM_Case_rule	Char	Case Rule (HM)
7	HM_Status	Char	Status (HM)
8	InsuranceEndDate	Num	Insurance End Date
9	Death_status	Char	Death status
10	Death_date	Num	Death date
11	Death_year	Num	Death year

### Indvid

A randomly generated code that uniquely identifies the individual, and can be used to link this dataset to other datasets.

### Year

Year of case. Fiscal year of data used to define the case.

### Age

Age of patient at the fiscal year.

### Sex

Sex of patient.

Code	Description
M	Male
F	Female

### Case\_rule

Case Rule (Source Files).

Code	Description
H	Hospital File <sup>1</sup>
M	Physician Services File <sup>2</sup>
V	Vital Statistics (as available) <sup>3</sup>

<sup>1</sup> Frequency and type of hospital-based acute care interactions are captured through diagnostic and procedural codes using the International Classification of Disease, 10<sup>th</sup> Revision, Canadian version (ICD-10-CA), or the 9<sup>th</sup> Revision (ICD-9(-CM)), depending on the year and the province or territory. Hospital separations data (i.e. "discharges, deaths, sign-outs, transfers") are collected in the CIHI Discharge Abstract Database (DAD). Over time, other sources of hospital-based care (e.g. day surgeries, outpatient clinics, etc.) have become available. The integration of these data for CCDSS chronic disease surveillance is increasing but they are not consistently submitted by participating acute-care hospitals.

<sup>2</sup> Typically, when a patient visits their general practitioner or a specialist, the physician submits a service billing claim to the provincial or territorial government's health insurance plan in order to receive remuneration. This form of reimbursement is known as fee-for-service (FFS). FFS physician claims identify diagnoses based on the International Classification of Diseases, 9<sup>th</sup> Revision (ICD-9) coding (except for claims in **New Brunswick**, which are captured from text). These codes allow the CCDSS to capture instances of disease. The patient's records are then linkable to the Health Insurance File by their unique ID.

<sup>3</sup> Some, but not all, provincial and territorial TWG members have access to vital statistics from their respective populations. The CCDSS may incorporate cause of death. data from these statistics in feasibility work for diseases or conditions who may not receive hospital discharge codes or physician billing claims. For example, to ensure that acute myocardial infarction (AMI) counts are captured where death occurs prior to reaching hospital.

### Status

Case status based on the source of information.

Code	Description
------	-------------

1	A diagnosis recorded from one or more sources
---	---

Missing	No diagnosis, based on the source of information, recorded
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### Diagnosis Year

Year of first diagnosis.

### Death\_status

Death status.

Code	Description
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0	Alive in fiscal year
---	----------------------

1	Deceased in fiscal year
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### Death\_date

If non missing, indicates Death date. Format MM/DD/YYYY.

### InsuranceEndDate

Insurance End Date. Medicare eligibility date: Date of insurance end (either end of fiscal year or due to death – the date may not be the date of death). Format MM/DD/YYYY.

## DOCUMENT HISTORY

Version	Author	Nature of Change		Date
1.0	Ali Beykzadeh	Creation of codebook		October 15 <sup>th</sup> , 2024
Approved by		Approval Date	Effective Date	Review Date