



HMDB

# Data Quality Documentation

## Hospital Morbidity Database

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Current-Year Information  
2021–2022



Canadian Institute  
for Health Information

Institut canadien  
d'information sur la santé

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# Abbreviations

<b>Alta.</b>	Alberta
<b>B.C.</b>	British Columbia
<b>CAD</b>	Clinical Administrative Databases
<b>CIHI</b>	Canadian Institute for Health Information
<b>DAD</b>	Discharge Abstract Database
<b>HCN</b>	Health Care Number
<b>HMDB</b>	Hospital Morbidity Database
<b>Man.</b>	Manitoba
<b>MSSS</b>	ministère de la Santé et des Services sociaux du Québec
<b>N.B.</b>	New Brunswick
<b>N.L.</b>	Newfoundland and Labrador
<b>N.S.</b>	Nova Scotia
<b>Nun.</b>	Nunavut
<b>N.W.T.</b>	Northwest Territories
<b>Ont.</b>	Ontario
<b>P.E.I.</b>	Prince Edward Island
<b>Que.</b>	Quebec
<b>Sask.</b>	Saskatchewan
<b>Y.T.</b>	Yukon

# Coverage

- Analysts are advised to use Analytical Institution Type Codes to identify acute inpatient and Quebec day surgery separations.
- Acute inpatient institutions are mandated by their provincial/territorial ministry/department of health to submit to the Discharge Abstract Database (DAD). Information about the DAD can be found in the *Data Quality Documentation, Discharge Abstract Database* document.
- Quebec acute inpatient and day surgery data is submitted to CIHI via Quebec’s ministère de la Santé et des Services sociaux (MSSS) and is included in the Hospital Morbidity Database (HMDB).
- As of 2012–2013, Quebec day surgery records are included in the HMDB.
  - To identify Quebec day surgery records as of 2012–2013 in the HMDB, set the Morbidity Record Flag to “Y” (Yes) and Analytical Institution Type Code to “A” (Day Surgery). To identify records from before 2012–2013, set Submitting Province Code to “4” (Quebec) and Analytical Institution Type Code to “A” (Day Surgery).
- Throughout the fiscal year, institutions may open, close and merge.
  - There were 3 new institution numbers in 2021–2022 from Ontario.
- The rate of over-coverage from potential extra acute inpatient and Quebec day surgery abstracts in the HMDB in 2021–2022 was 0.0033%, with 115 and 1 potential extra abstracts, respectively.
- There were no sources of under-coverage in the HMDB in 2021–2022.

# Non-response

- The unit non-response rate at the institution level for acute inpatient institutions was nil in the HMDB in 2021–2022.
- The unit non-response rate at the record level was 0.04% for the HMDB in 2021–2022. This rate was the result of 1 facility in Ontario not submitting data for 1 period (an estimated total of 1,342 missing abstracts) and 1 facility in Ontario not submitting data for 4 periods (an estimated total of 64 missing abstracts). Institutions that had no separations to report submitted data files indicating 0 separations.

# Quebec data submission

- With the input of the MSSS, CIHI maps Quebec data to DAD values to enable comparative analysis. During the mapping, Diagnosis Type C was created because CIHI cannot distinguish the Diagnosis Type 1s (pre-admit comorbidities) from the Diagnosis Type 3s (secondary diagnoses) in the MED-ÉCHO data file.
- The MED-ÉCHO data file is subjected to Quebec-specific validity and edit checks prior to database closure and is further edited after submission to CIHI. Unlike the DAD data, where a data element that fails an edit is systematically given a value of Z, any record from MED-ÉCHO that fails an edit is flagged (Discrepancy Flag) and linked to a look-up table that provides details about the edit failure.
  - For 2021–2022, approximately 50.9% of acute abstracts and 7.8% of day surgery abstracts received via the MED-ÉCHO data file had missing values or invalid data and were therefore assigned a Discrepancy Flag and logged into the Quebec Discrepancy Log.
  - Data users are required to review Quebec data carefully, and they must make decisions to include or exclude Quebec records from the analysis on a case-by-case basis.
- As of 2011–2012, a new Patient Service code value of 42 was introduced in MED-ÉCHO; this stands for Clinical Decision Unit (CDU). Quebec submits CDU abstracts as acute inpatient records.
  - Quebec CDUs are similar to Quebec and DAD short-stay visits on a number of parameters; therefore, as of 2012–2013, Quebec CDUs are included in the HMDB and assigned Analytical Institution Type Code “1” (Acute Care). Quebec CDU abstracts in the HMDB can be identified by setting Basic Option A to “Q” (Quebec).
- Differences exist between the Quebec Coding Directives and the Canadian Coding Standards for coding diabetes with or without complication. The diabetes coding directive in Quebec follows the ICD-9 convention, where the code “diabetes with complication” is assigned only if the physician explicitly notes a direct link between the diabetes and the other condition on the abstract. Otherwise, coders assign a code of E10.9 to E14.9 (diabetes without complication). To address this issue for Quebec records, data users are urged to contact CIHI by email at [cad@cihi.ca](mailto:cad@cihi.ca) to obtain the SAS code that replaces the original “diabetes without complication” ICD-10-CA codes with the correct “diabetes with complication” ICD-10-CA codes in the HMDB data.

# Appendix

## HMDB data tables

The following tables are based on the population of reference for the current fiscal year; the Analytical Institution Type Code was used to identify acute care institutions. The level of care of an institution may change over time due to hospital mergers or closures, or if CIHI's validation processes or analyses determine that it was previously incorrectly assigned. The totals reported in these tables reflect the levels of care recorded in the HMDB at the time of database closure.

**Table 1** Number\* of valid† Institution Numbers used to report separations in the HMDB for the population of reference, by province/territory, 2021–2022

Submitting province/territory	Acute care
N.L.	28
P.E.I.	6
N.S.	33
N.B.	20
Que.‡	104
Ont.	186
Man.	73
Sask.	60
Alta.	95
B.C.	82
Y.T.	3
N.W.T.	4
Nun.	1
<b>Total</b>	<b>695</b>

### Notes

\* 7 acute care institutions had no separations to report in 2021–2022.

These institutions have been excluded from Table 1.

† A valid submitting Institution Number is one that has been designated by a ministry or department of health in a province or territory for an institution that is required and expected to report separations.

‡ Quebec submitted data from 96 day surgery institutions to the HMDB in 2021–2022.

### Source

Hospital Morbidity Database, 2021–2022, Canadian Institute for Health Information.

**Table 2** Number of abstracts submitted to the HMDB for the population of reference, by province/territory, 2021–2022

Submitting province/territory	Acute care
N.L.	47,664
P.E.I.	14,155
N.S.	88,008
N.B.	71,858
Que.*	725,813
Ont.	1,153,636
Man.	122,781
Sask.	126,554
Alta.	376,019
B.C.	453,265
Y.T.	3,871
N.W.T.	5,106
Nun.	2,280
<b>Total</b>	<b>3,191,010</b>

**Note**

\* Quebec submitted 335,188 day surgery abstracts in 2021–2022.

**Source**

Hospital Morbidity Database, 2021–2022, Canadian Institute for Health Information.



**Table 3** Percentage change in volume of HMDB abstracts for the population of reference, by province/territory, 2020–2021 and 2021–2022

Submitting province/territory	Acute care
N.L.	4.47%
P.E.I.	4.07%
N.S.	3.63%
N.B.	-2.42%
Que.*	6.35%
Ont.	6.93%
Man.	1.41%
Sask.	5.32%
Alta.	5.00%
B.C.	5.30%
Y.T.	6.49%
N.W.T.	-7.48%
Nun.†	31.87%
<b>Total</b>	<b>5.67%</b>

**Notes**

\* The percentage change in the volume of Quebec day surgery abstracts between 2020–2021 and 2021–2022 was 21.98.

† The percentage change in Nunavut is caused by 1 facility that did not submit data for 3 periods (an estimated total of 451 missing abstracts) in 2020–2021, and that submitted data for all periods in 2021–2022.

**Source**

Hospital Morbidity Database, 2020–2021 and 2021–2022, Canadian Institute for Health Information.

**Table 4** Number of abstracts submitted to the HMDB with missing, invalid or unknown values in selected mandatory fields, population of reference, 2021–2022

Field	Number of acute care abstracts with missing, invalid or unknown values	Percentage of acute care abstracts with missing, invalid or unknown values	Number of Quebec day surgery abstracts with missing, invalid or unknown values	Percentage of Quebec day surgery abstracts with missing, invalid or unknown values
Gender Code	0	0.0000	0	0.000
Postal Code*	742,064	23.255	335,188	100
Birthdate†	725,834	22.746	335,188	100
Admission Date	1	0.0000	0	0.000
Admission Time	25	0.0008	0	0.000
Discharge Date	9	0.0003	0	0.000
Discharge Time	48	0.0015	0	0.000
Discharge Disposition	3	0.0001	0	0.000
Entry Code	0	0.0000	0	0.000
Most Responsible Diagnosis	10	0.0003	0	0.000

**Notes**

\* As of 2006–2007, patient geographic information submitted by Quebec consists of a mini–postal code (a 2-letter code identifying a Canadian province or territory of residence) and a ministry-assigned administrative region code for Quebec residents.

† In the HMDB, item non-response for core data elements is typically less than 0.1%, with the exception of Birthdate (approximately 23% of acute care abstracts). The MSSS does not submit patients' dates of birth, which accounts for the majority of missing birthdates in the HMDB in 2021–2022.

**Source**

Hospital Morbidity Database, 2021–2022, Canadian Institute for Health Information.

# Bibliography

Canadian Institute for Health Information. [\*DAD Abstracting Manual 2021–2022\*](#). 2021.

Canadian Institute for Health Information. [\*Data Quality Documentation, Discharge Abstract Database — Glossary of Terms\*](#). 2013.

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