National Ambulatory Care Reporting System Open-Year Data Quality Test Specifications

2018–2019

Canadian Institute
for Health Information

Institut canadien
d'information sur la santé

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Introduction

As part of the Canadian Institute for Health Information's (CIHI's) commitment to quality data, the National Ambulatory Care Reporting System (NACRS) is routinely analyzed for data quality issues during the submission year and after database closure. Suspect findings are communicated back to the submitting facilities for investigation and correction while the database is still open for submission.

Purpose

This document was created to

- Accompany the Open-Year Data Quality (OYDQ) reports flagging suspect data quality issues; and

- Help NACRS clients create their own local data quality audits to identify abstracts with suspected data quality issues and to submit corrections in a timely manner.

This document lists the OYDQ tests performed on NACRS, along with their rationale, rule, patient care type, submission level, selection criteria and the data elements used in the analysis. Each test is indexed by a reference number and this number is used for all communication with clients.

The quarterly NACRS OYDQ reports are made available to facilities and/or Provincial/Territorial Ministries of Health via the DAD and NACRS Applications web page. Automated email notifications are sent to clients when these reports are posted. Click on the following links: Operational Reports, NACRS and then on Open Year Data Quality Reports by clicking the Open-Year DQ Reports link.

Facilities are asked to review errors and to resubmit the corrected abstracts, where applicable. Each OYDQ detailed report references the DQ test number and name along with the NACRS abstract identification data elements, such as Chart Number, Fiscal Year, Fiscal Period, Abstract Number and Registration Date. The abstract identification information helps facilities link the abstracts with suspect data quality issues to the matching abstracts in their systems. A summary report is also provided. It includes the number of abstracts with errors, number of total eligible abstracts and the percent error for each applicable OYDQ test. Provincial and national error percentages are also shown as comparison.

Note: The same abstract may be identified as having more than one data quality issue, therefore it may appear in several tests.

Updates

The *NACRS Open-Year Data Quality Test Specifications* document is updated every fiscal quarter with new or modified OYDQ tests. An OYDQ test may be deleted if new edits are created or if the data quality issue is no longer relevant. An OYDQ test may also be modified to reflect enhancements to the data collection instructions in the *NACRS Abstracting Manual*, the *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Canada (ICD-10-CA),* the *Canadian Classification of Health Interventions (CCI)* and/or to align with the most recent version of the *Canadian Coding Standards for ICD-10-CA and CCI*.

Please submit your questions to CIHI at cad@cihi.ca.

Open-year data quality tests: Summary and rationale

The following table provides a brief summary of the NACRS OYDQ tests for 2018–2019. In the rationale column, the table also highlights a number of key impacts of correcting these DQ issues. Each test is described in greater details in the following section.

OYDQ test number	OYDQ test title	Short description	Rationale
N0027-146	Length of Stay Greater Than 120 Hours	Ambulatory care records are primarily expected to have a length of stay shorter than 120 hours (5 Days).	Impacts length of stay analysis and Time Spent in ED indicator. Accurate data are required for analysis.
N0045-128	Missing Additional Diagnosis Code to Identify the Specific Condition Complicating Pregnancy Childbirth and the Puerperium O99	When a code from any one of the subcategories within O99 *Other maternal diseases classifiable elsewhere but complicating pregnancy, childbirth and the puerperium,* is assigned, it is mandatory to assign an additional code to identify the specific condition per the use additional code instruction in the tabular at this category.	Research on obstetrical complications is adversely affected by incomplete data.
N0045-129	Missing Additional Diagnosis Code to Specify the Type of Sepsis in SIRS of Infectious Origin and/or Septic Shock	When R65.0 *Systemic inflammatory response syndrome of infectious origin without organ failure* or R65.1 *Systemic inflammatory response syndrome of infectious origin with acute organ failure* or R57.2 *Septic shock*, is assigned, it is mandatory to assign an additional code to identify the type of sepsis.	Impacts *In-hospital Sepsis Rate* and *Sepsis Mortality Rate.* Accurate data are required for analysis.
N0045-162 NEW	Opioid Poisoning T-code Without a Corresponding Opioid Poisoning External Cause Code	Opioid poisoning T-code requires a corresponding opioid poisoning external cause code (X42, X62 or Y12).	Impacts CIHI's Problematic Substance Use indicator development.

OYDQ test number	OYDQ test title	Short description	Rationale
N0045-163 NEW	Alcohol Poisoning External Cause Code Without Corresponding Alcohol Poisoning T-code	When an alcohol poisoning external cause code (X45, X65 or Y15) is recorded, it requires a corresponding alcohol poisoning T-code from category T51.	Impacts CIHI's Problematic Substance Use indicator development.
N0045-164 NEW	Alcohol Poisoning T-code without Corresponding Alcohol Poisoning External Cause Code	When an alcohol poisoning T-code from category T51 is recorded, it requires a corresponding alcohol poisoning external cause code (X45, X65 or Y15).	Impacts CIHI's Problematic Substance Use indicator development.
N9340-99 MODIFIED	Project 340 — Project not completed when an "Applicable Condition" is recorded	When a stroke Diagnosis Code is recorded, the Project Number 340 must be completed.	Stroke is a high-priority health initiative.
N9340-103	Project 340 — Not Applicable, Unknown or Invalid Value for *Prescription for Antithrombotic Medication at Discharge*	When Project 340 is recorded, it is mandatary to complete the field *Prescription for antithrombotic medication at discharge* whether patients with a diagnosis of ischemic stroke received a prescription for antithrombotic medication from the ED.	Stroke is a high-priority health initiative.
N9340-121	Project 340 — Missing, Invalid or Unknown Value for Date and Time of Acute Thrombolysis Administration When Administration of Acute Thrombolysis) is Y or P	When Project 340 is recorded, it is mandatory to complete Fields 149 to 156 (Date and Time of Acute Thrombolysis Administration). This field captures the specific date and time that a patient with acute ischemic stroke received acute thrombolysis, for those who were administered this medication.	Stroke is a high-priority health initiative.

OYDQ test number	OYDQ test title	Short description	Rationale
N9340-123	Project 340 — Invalid or Unknown Value for *Stroke Symptom Onset Date and Time*	When Project 340 is recorded, it is mandatory to complete Fields 158 to 169 (*Stroke Symptom Onset Date and Time*). This field captures the date and time that the patient first started to experience stroke symptoms, regardless of the location of the patient at the time of symptom onset.	Stroke is a high-priority health initiative.
N9340-125	Project 340 — High volume of N *Referral to Stroke Prevention Services at ED Discharge*	When Project 340 is recorded, it is mandatory to complete Field 147 (*Referral to Stroke Prevention Services at ED Discharge*). This field captures whether patients with a diagnosis of stroke or transient ischemic attack receive a referral for stroke prevention follow-up at discharge.	Stroke is a high-priority health initiative.

Open-year data quality tests

1 Length of Stay Greater Than 120 Hours (N0027-146)

Rule

Ambulatory care records are primarily expected to have a Length of Stay (LOS) shorter than 120 hours (5 Days). However, a LOS longer than 120 hours may be acceptable in some situations.

This data quality test identifies records with potential error with the date/time data elements (listed below) used to calculate the derived LOS Hours.

Note: This test will be completed for all records where the derived LOS Hours is available.

Criteria	Description
Patient care type	All patient care types
Submission levels	Levels 1–3
Selection criteria	Abstracts where the derived LOS Hours is greater than 120 hours
Data elements	Triage Date; Triage Time; Date of Registration/Visit; Registration/Visit Time; Visit Disposition; Disposition Date; Disposition Time; Date Patient Left Emergency Department (ED); Time Patient Left Emergency Department (RD)
Reference	NACRS Abstracting Manual

2 Missing Additional Diagnosis Code to Identify the Specific Condition Complicating Pregnancy Childbirth and the Puerperium O99 (N0045-128)

Rule

When a code from any one of the subcategories within O99 *Other maternal diseases classifiable elsewhere but complicating pregnancy, childbirth and the puerperium* is assigned, it is mandatory to assign an additional code to identify the specific condition as per the use additional code instruction in the tabular at this category.

Criteria	Description
Patient care type	All patient care types
Submission levels	Levels 1–3
Selection criteria	Abstracts where a Diagnosis Code of: • O99.0– is recorded <u>without</u> a code from D50–D64 • O99.1– is recorded <u>without</u> a code from D65–D89 • O99.2– is recorded <u>without</u> a code from E00–E07, E15–E34, E50–E89 • O99.3– is recorded <u>without</u> a code from F00–F52, F54–F99, G00–G99 • O99.4– is recorded <u>without</u> a code from I00–I09 or I20–I99 • O99.5– is recorded <u>without</u> a code from J00–J99 • O99.6– is recorded <u>without</u> a code from K00–K63, K65–K66, K80–K93 • O99.7– is recorded <u>without</u> a code from L00–L99 • O99.8– is assigned <u>without</u> a code from B90–B94, C00–D48, H00–H95, M00–M82, M83.2–M99, N14–N15.0, N15.8–N15.9, N20–N39, N60–N64, N80–N90, Q00–Q99, R00–R94.8
Data elements	Main Problem; Other Problem
Correct case examples	O99.001 (MP) *Anaemia complicating pregnancy, childbirth and the puerperium delivered with or without mention of antepartum condition* D64.9 (OP) *Anaemia, unspecified*
References	Use Additional Code instruction within ICD-10-CA direction at category O99 Canadian Coding Standards: Use additional Code/Code Separately Instructions Complicated Pregnancy Versus Uncomplicated Pregnancy

3 Missing Additional Diagnosis Code to Specify the Type of Sepsis in SIRS of Infectious Origin and/or Septic Shock (N0045-129)

Rule

When R65.0 *Systemic inflammatory response syndrome of infectious origin without organ failure* or R65.1 *Systemic inflammatory response syndrome of infectious origin with acute organ failure* or R57.2 *Septic shock*, is assigned, it is mandatory to assign an additional code to identify the type of sepsis.

Note: If the documentation does not specify the type of sepsis, then the additional code to assign is A41.9 Sepsis, unspecified.

Criteria	Description
Patient care type	All patient care types
Submission levels	Levels 1–3
Selection criteria	Abstracts where a Diagnosis Code(s) of R65.0, R65.1 or R57.2 is recorded <u>without</u> one of the following Diagnosis Codes to identify the specific type of sepsis: A02.1, A03.9, A20.7, A21.7, A22.7, A23.–, A24.1, A26.7, A28.0, A28.2, A32.7, A39.2, A39.3, A39.4, A40.–, A41.–, A42.7, A54.86, B37.7, P36, P372 or P37.51
Data elements	Main Problem, Other Problem
Correct case examples	T81.4 (MP) Infection following a procedure, not elsewhere classified [Dx Cluster A] A41.0 (OP) Sepsis due to Staphylococcus aureus [Dx Cluster A] T81.1 (OP) Shock during or resulting from a procedure, not elsewhere classified [Dx Cluster A] R57.2 (OP) Septic shock [Dx Cluster A] Y83.2 (OP) Surgical operation with anastomosis, bypass or graft [Dx Cluster A]
References	Use additional Code Instruction within ICD-10-CA at category R65 and R57.2 Canadian Coding Standards: Use additional Code/Code Separately Instructions Septicemia/Sepsis; Systemic Inflammatory Response Syndrome (SIRS)

4 Opioid Poisoning T-code Without a Corresponding Opioid Poisoning External Cause Code (N0045-162)

Rule

When one of the following T-codes representing an opioid poisoning is recorded

- T40.0 Poisoning by opium

- T40.1 Poisoning by heroin

- T40.2– Poisoning by other opioids

- T40.3 Poisoning by methadone

- T40.4– Poisoning by other synthetic narcotics

- T40.6 Poisoning by other and unspecified narcotics

One of the following corresponding opioid poisoning external cause codes must also be recorded:

- X42 Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified

- X62 Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified

- Y12 Poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified, undetermined intent

When the chart review reveals that

1. The case documentation meets the definition of an opioid poisoning, then correct the case by assigning the applicable opioid poisoning external cause code X42, X62 or Y12.

2. The case documentation did not meet the definition of an opioid poisoning but met the definition of an adverse effect in therapeutic use due to opioids, remove the T-code representing an opioid poisoning and code the case following the direction in the coding standard *Adverse Reactions in Therapeutic Use Versus Poisoning.* A T-code representing an opioid poisoning (identified above) when assigned with Y45.0– *Opioids and related analgesics causing adverse effects in therapeutic use* is an incorrect/illogical code combination and does not follow the national coding standard direction.

Criteria	Description
Patient care type	All patient care types
Submission levels	Levels 1–3
Selection criteria	Abstracts with a Diagnosis Code T40.0, T40.1, T40.2–, T40.3, T40.4– or T40.6 <u>without</u> external cause code X42, X62 or Y12 Exclusions: T40.0, T40.1, T40.2–, T40.3, T40.4– or T40.6 <u>with</u> X85 *Assault by drugs, medicaments and biological substances*
Data elements	Main Problem, Other Problem
Correct case examples	T40.40 (MP) Poisoning by fentanyl and derivatives X42 (OP) Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified
References	ICD-10-CA Table of Drugs Coding Standard: *Adverse Reactions in Therapeutic Use Versus Poisoning* Coding Standard Appendix A: Opioid overdose Classifications bulletin: Opioid Overdose Coding Direction

5 Alcohol Poisoning External Cause Code Without Corresponding Alcohol Poisoning T-code (N0045-163)

Rule

When one of the following alcohol poisoning external cause codes is recorded

- X45 Accidental poisoning by and exposure to alcohol

- X65 Intentional self-poisoning by and exposure to alcohol

- Y15 Poisoning by and exposure to alcohol, undetermined intent

The corresponding alcohol poisoning T-code from category T51.– *Toxic effect of alcohol* must also be recorded.

Criteria	Description
Patient care type	All patient care types
Submission levels	Levels 1–3
Selection criteria	Abstracts with external cause code X45, X65 or Y15 without a Diagnosis Code from category T51.–
Data elements	Main Problem, Other Problem
Correct case examples	T51.9 (MP) Toxic effect of alcohol, unspecified X45 (OP) Accidental poisoning by and exposure to alcohol
References	ICD-10-CA Table of Drugs Coding Standard: *Adverse Reactions in Therapeutic Use Versus Poisoning*

6 Alcohol Poisoning T-code without Corresponding Alcohol Poisoning External Cause Code (N0045-164)

Rule

When a code from category T51.– *Toxic effect of alcohol* is recorded, one of the following poisoning external cause codes must also be recorded:

- X45 Accidental poisoning by and exposure to alcohol
- X65 Intentional self-poisoning by and exposure to alcohol
- Y15 Poisoning by and exposure to alcohol, undetermined intent

Criteria	Description
Patient care type	All patient care types
Submission levels	Levels 1–3
Selection criteria	Abstracts with a Diagnosis Code from category T51.– <u>without</u> an external cause code X45, X65 or Y15 **Exclusion:** Abstracts where T51.– is assigned with X85 *Assault by drugs, medicaments and biological substances*
Data elements	Main Problem; Other Problem
Correct case examples	T51.9 (MP) Toxic effect of alcohol, unspecified X45 (OP) Accidental poisoning by and exposure to alcohol
References	ICD-10-CA Table of Drugs Coding Standard: *Adverse Reactions in Therapeutic Use Versus Poisoning*

7 Project 340 — Project not completed when an "Applicable Condition" is recorded (N9340-99)

Rule

Special Project 340 *Canadian Stroke Strategy Performance Improvement* is mandatory for all Ontario Level 3 emergency department records, with the exception of cases admitted to the acute care facility via its own ED or transferred to another ED facility in the same continuous episode of care.

This project should be completed for all patients who have been diagnosed with an acute/current stroke, and certain other conditions that from an ICD-10-CA classification perspective are not classified as a hemorrhagic, ischemic or unspecified stroke. The other conditions included in this project are: transient ischemic attack (TIA), transient retinal artery occlusion, intracranial and intraspinal phlebitis and thrombophlebitis, nonpyogenic thrombosis of intracranial venous system and central retinal artery occlusion.

Note: The term **"applicable condition"** is used throughout the stroke projects documentation to refer to the ICD-10-CA codes/conditions included.

Inclusion Criteria ICD-10-CA Code List:

- I60.– *Subarachnoid haemorrhage*
- I61.– *Intracerebral haemorrhage*
- I63.– *Cerebral infarction*
- I64 *Stroke, not specified as haemorrhage or infarction*
- I67.6 *Nonpyogenic thrombosis of intracranial venous system*
- G08 *Intracranial and intraspinal phlebitis and thrombophlebitis*
- H34.0 *Transient retinal artery occlusion*
- H34.1 *Central retinal artery occlusion*
- G45.– *Transient cerebral ischaemic attacks and related syndromes*
  (**excluding** *G45.4 Transient global amnesia*)
- O22.5– *Cerebral venous thrombosis in pregnancy*
- O87.3– *Cerebral venous thrombosis in puerperium*

Note: There may be cases flagged with this test that do not require completion of Project 340.

Criteria	Description
Patient care type	ED
Submission level	Level 3
Selection criteria	Abstracts from ON where Project 340 <u>is not</u> completed when a Diagnosis Code for one of the "applicable conditions" is recorded as Main or Other Problem Exclusions: Cases admitted as inpatient within the same reporting facility (Visit Disposition is 06 or 07) Cases where an institution number classified as Ambulatory Care is recorded in the Institution To field
Data elements	Main Problem, Other Problem, Project Number
Reference	NACRS Abstracting Manual, Special Project Information (Data Elements 145 to 169) — Special Projects documentation is now accessible through the DAD/NACRS Abstracting Manual application on CIHI's website.

8 Project 340 — Not Applicable, Unknown or Invalid Value for *Prescription for Antithrombotic Medication at Discharge* (N9340-103)

Rule

When Special Project 340 *Canadian Stroke Strategy Performance Improvement* is completed, it is mandatory to record Field 157 *Prescription for Antithrombotic Medication at Discharge*. This field captures whether a patient received a prescription for antithrombotic medication at discharge from ED.

Note: A high percent of abstracts with 8 *not applicable* or 9 *unknown* or invalid value may indicate a need to investigate practices around the capture of prescription for antithrombotic medication at discharge.

Criteria	Description
Patient care type	ED
Submission level	Level 3
Selection criteria	An "applicable condition" is recorded AND Field 157 *Prescription for Antithrombotic Medication at Discharge* is 8 *not applicable*, 9 *unknown* or is invalid AND Visit Disposition is not 71 *Dead on Arrival (DOA),* 72 *Died in Facility*, 73 *Medical Assistance in Dying (MAID)* or 74 *Suicide in Facility*
Data elements	Project Number, Field 157
Reference	NACRS Abstracting Manual, Special Project Information (Data Elements 145 to 169) — Special Projects documentation is now accessible through the DAD/NACRS Abstracting Manual application on CIHI's website.

9 Project 340 — Missing, Invalid or Unknown Value for *Date and Time of* Acute *Thrombolysis Administration* When *Administration of Acute Thrombolysis* is Y or P (N9340-121)

Rule

When Special Project 340 *Canadian Stroke Strategy Performance Improvement* is completed, it is mandatory to record Fields 149 to 156 *Date and Time of Acute Thrombolysis Administration*. This field captures the specific date and time that a patient received acute thrombolysis. The start date/time for administration of the medication should be recorded in these fields. The year is not being recorded.

Note: A high percent of abstracts with missing (blank), invalid or 99 *unknown* date and time may indicate a need to investigate documentation practices.

Criteria	Description
Patient care type	ED
Submission level	Level 3
Selection criteria	An "applicable condition" is recorded
	AND
	Field 148 *Administration of Acute Thrombolysis* is Y (Yes) or P (Yes, prior)
	AND
	1 or more of the following fields are blank, unknown or invalid:
	• Fields 149–150 (Month): is blank, or is 99 *unknown* or is not 01–12
	• Fields 151–152 (Day): is blank, or is 99 *unknown* or is not 01–31
	• Fields 153–154 (Hour): is blank, or is 99 *unknown* or is not 00–23
	• Fields 155–156 (Minutes): is blank, or is 99 *unknown* or is not 00–59
	Exclusions:
	• When acute thrombolysis was given for a condition other than an "applicable condition"
	• Hemorrhagic strokes
Data elements	Project Number, Fields 149 to 156
Reference	NACRS Abstracting Manual, Special Project Information (Data Elements 145 to 169) — Special Projects documentation is now accessible through the DAD/NACRS Abstracting Manual application on CIHI's website.

10 Project 340 — Invalid or Unknown Value for *Stroke Symptom Onset Date and Time* (N9340-123)

Rule

When Special Project 340 *Canadian Stroke Strategy Performance Improvement* is completed, it is mandatory to record Fields 158 to 169 *Stroke Symptom Onset Date and Time*. This field captures the date and time that the patient first started to experience stroke symptoms for the "applicable condition," regardless of the location of the patient at the time of symptom onset. In most cases, this information is known by the patient or a witness to the event.

Note: A high percent of abstracts with missing, invalid or unknown date and time may indicate a need to investigate practices around the capture of stroke symptom onset date and time.

Criteria	Description
Patient care type	ED
Submission level	Level 3
Selection criteria	An "applicable condition" is recorded AND 1 or more of the following fields are unknown or invalid: Fields 158–161 (Year): is 9999 *unknown* or is not a valid 4-character code less than or equal to current calendar year Fields 162–163 (Month): is 99 *unknown* or is not 01–12 Fields 164–165 (Day): is 99 *unknown* or is not 01–31 Fields 166–167 (Hour): is 99 *unknown* or is not 00–23 Fields 168–169 (Minutes): is 99 *unknown* or is not 00–59
Data elements	Project Number, Fields 158 to 169
Reference	NACRS Abstracting Manual, Special Project Information (Data Elements 145 to 169) — Special Projects documentation is now accessible through the DAD/NACRS Abstracting Manual application on CIHI's website.

11 Project 340 — High volume of N for *Referral to Stroke Prevention* Services *at ED Discharge* (N9340-125)

Rule

When Special Project 340 *Canadian Stroke Strategy Performance Improvement* is completed, it is mandatory to record Field 147 *Referral to Stroke Prevention Services at ED Discharge*. This field captures whether patients with an "applicable condition" receive a referral for stroke prevention follow-up at discharge.

This tA percentage higher than 50% of abstracts with value N (No) may indicate a need to investigate practices around the capture of referral to stroke prevention services at ED discharge.

Criteria	Description
Patient care type	ED
Submission level	Level 3
Selection criteria	An "applicable condition" is recorded AND At least 50% of these records have Field 147 *Referral to Stroke Prevention Services at ED Discharge* recorded as N.
Data elements	Project Number, Field 147
Reference	NACRS Abstracting Manual, Special Project Information (Data Elements 145 to 169) — Special Projects documentation is now accessible through the DAD/NACRS Abstracting Manual application on CIHI's website.