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Canadian Institute
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Institut canadien
d'information sur la santé



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Better data. Better decisions.
Healthier Canadians.

Our Mandate

To lead the development and maintenance of comprehensive and integrated health information that enables sound policy and effective health system management that improve health and health care.

Our Values

Respect, Integrity, Collaboration,
Excellence, Innovation

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Introduction

As part of the Canadian Institute for Health Information's (CIHI's) commitment to quality data, the Discharge Abstract Database (DAD) 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 that will be sent at a later date to facilities to communicate suspect data quality issues for investigation and/or correction as applicable; and
- Help DAD clients create their own data quality audits to identify abstracts with suspected data quality issues.

This document lists the OYDQ tests performed on the DAD, along with their rule, selection criteria, the data elements used in the analysis and, for some tests, one correct example to demonstrate a correct case and the references. It is important to note that the correct example does not cover all possible correct examples.

CIHI client service representatives, ministry of health or regional representatives will send facilities the OYDQ reports containing the abstracts submitted to the DAD that are flagged for a specific data quality issue. Facilities are asked to review the charts of the abstracts with errors and to resubmit the correct abstracts, where applicable. Each OYDQ report sent to facilities will reference the OYDQ test number and title along with the abstract identification data elements, such as Chart Number, Fiscal Year, Fiscal Period, Batch Number, Abstract Number and Discharge Date. The abstract identification information will help facilities link the incorrect abstracts to the matching abstracts in their systems.

Note: The same abstract may be identified as having more than one data quality issue. For example, an abstract may be identified in the OYDQ test *Incorrect infant status of singleton within multiparous delivery episode (D1002-32)* and again in OYDQ test *Potential Extra Abstracts (D0103-18)*.

Updates

The *DAD Open-Year Data Quality Test Specifications* document is updated every fiscal year with new or deleted 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 *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*.

Open-Year Data Quality Tests: Summary and Rationale

The following table provides a brief summary of the DAD OYDQ tests for 2013-2014. In the rationale column, the table also highlights a number of key impacts of correcting these DQ issues.

OYDQ Test Number	OYDQ Test Title	Short Description	Rationale
D0103-18	Potential Extra Abstracts	One abstract recorded multiple times with the same values in several key fields used to match abstracts.	Recording one discharge multiple times impacts both the Resource Intensity Weight assignment and the rate of over-coverage.
D0112-23	Incomplete Linkage of Mothers and Babies by Chart Number and Maternal/Newborn Chart Number	Incorrect Chart Number or Maternal/Newborn Chart Number recorded in mothers' or babies' abstracts.	Linking maternal and newborn abstracts are critical in the measurement of maternal/newborn health outcomes. The Maternal/Newborn Chart Number is the only data element used to link mothers and their babies.
D1002-27	Z51.5 <i>Palliative Care</i> Assigned Diagnosis Type 2 (<i>Post-Admit Comorbidity</i>) or 3 (<i>Secondary Diagnosis</i>)	Incorrect Diagnosis Typing for Palliative Care coding.	Impacts comorbidity factor in some MCCs if Palliative Care incorrectly captured as Diagnosis Type 2. Palliative care research is increasing, and this information is accordingly being increasingly used.
D1002-32	Incorrect Infant Status of Singleton Within a Multiparous Delivery Episode	The Diagnosis Code of Z38.– on a newborn's abstract indicates the plurality of birth (singleton, twin, triplet, etc), the same number of newborn abstracts should be linked to the mother's abstract.	Research on multiple birth outcomes is adversely affected by incorrect data.
D1113-35	Three or More Out of Hospital (OOH) Intervention Episodes in One Day	Recording the Intervention Episode Start Date multiple times for OOH interventions may result in erroneously increasing the number of OOH intervention episodes performed.	Impacts intervention event factor. Intervention count is used in Resource Intensity Weight assignment.
D1102-44	Diagnosis Code O75.701 (<i>Vaginal Delivery Following Cesarean Section</i>) With Cesarean Section Delivery Intervention Code 5.MD.60.^ for Single Delivery	Mismatch of Diagnosis Code and Intervention Code.	Impacts CMG assignment, and birthing outcomes are frequently used in analysis.

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OYDQ Test Number	OYDQ Test Title	Short Description	Rationale
D0703-50	Unknown Weight 0001 Recorded for Newborns and Neonates Less Than 29 Days	Weight is recorded as unknown for newborns & neonates less than 29 days.	Weight impacts the CMG assignment. A high percentage of abstracts with 0001 (Unknown) weight may indicate facility documentation issues.
D1002-52	Post-Procedure Disorder Codes Recorded Without an External Cause Code	All post-procedural disorder codes require an external cause code (Y60–Y84 or V01–X59).	Volumes of this data quality issue are high. Post-procedural codes are used in reports which are provided to external clients.
D0402-64	Unknown Admission Time	Admission Time is unknown.	This field is important for episode building.
D0502-65	Unknown Discharge Time	Discharge Time is unknown.	Impacts intervention event factor.
D1002-69	Poisoning T Code (T36-T50) Without a Poisoning External Cause Code	When a poisoning T Diagnosis Code of (T36-T50) is assigned, the expected external cause code should represent a 'poisoning'.	Accurate data are required for analysis of poisoning data.
D1102-71	Incorrect Extent Attribute 0 (<i>Not Applicable</i>) with Invasive Ventilation CCI code	When an invasive ventilation CCI code is assigned the Extent Attributes should be either: <ul style="list-style-type: none"> • CN (<i>Continuous but less than 96 hours of invasive ventilation</i>) or • EX (<i>Extended continuous of 96 hours (or more) of invasive ventilation</i>). 	Impacts Flagged Intervention factor used to adjust RIW/ELOS.
D1002-76	Missing Repeat Cesarean Section Diagnosis Codes When 5.MD.60.^ Record with Status Attribute (N4 or N6) Identifying Repeat Cesarean Section	When a cesarean section Intervention Code from rubric 5.MD.60.^ is recorded with a Status Attribute (N4 or N6) that identifies a repeat c-section, a Diagnosis Code for repeat c-section (O34.201 or O66.401) should be recorded and the Diagnosis Type should be M or 1 (<i>Pre-Admit Comorbidity</i>).	Impacts CMG assignment. Accurate delivery codes are required for maternal/newborn outcome measures.
D1104-82	Incorrect Location Attribute 0 (<i>Not Applicable</i>) With Coronary Angiogram	The Intervention Code 3.IP.10.VX <i>Xray, heart with coronary arteries of left heart structures using percutaneous transluminal arterial (retrograde) approach</i> always has an arterial approach. The Location Attribute 0 (<i>Not applicable</i>) must not be recorded for coronary angiogram.	The Location Attribute is a new mandatory field for v2012 of CCI.

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OYDQ Test Number	OYDQ Test Title	Short Description	Rationale
D1103-83	Status Attribute not Equal to DX (<i>Diagnostic</i>) With Coronary Angiogram	The Intervention Code 3.IP.10.VX <i>Xray, heart with coronary arteries of left heart structures using percutaneous transluminal arterial (retrograde) approach</i> should have a Status Attribute DX (<i>Diagnostic</i>) when the only intervention performed during the intervention episode is coronary angiogram 3.IP.10.VX and there is only one intervention recorded in the intervention episode.	The Status Attribute is a new mandatory field for v2012 of CCI. It is important to distinguish diagnostic coronary angiogram from other coronary angiograms.
D1103-85	Status Attribute UN (<i>Unknown</i>) With Hip Replacement	The Status Attribute UN (<i>Unknown</i>) should be rarely used for the implantation of hip or pelvis prosthesis as documentation should support whether the replacement is a primary replacement or revision.	Impacts CMG assignment. This information is used by CIHI to report on hip replacements.
D1105-86	Extent Attribute UN (<i>Unknown</i>) With Hip Replacement	The Extent Attribute UN (<i>Unknown</i>) should be used rarely for the implantation of hip prosthesis as the documentation will identify the components implanted.	Attributes are used by CIHI to report on hip replacements
D1103-88	Status Attribute UN (<i>Unknown</i>) With Knee Replacement	The Status Attribute UN (<i>Unknown</i>) should be used rarely for the implantation of knee as documentation should support whether it is a primary knee replacement or a revision.	Impacts CMG assignment. Status Attribute is used by CIHI to report on knee replacements.
D1002-96	Missing Asterisk Code With Diabetes Mellitus Code	The dagger/asterisk code convention is mandatory to follow.	May affect CMG assignment if Asterisk Code is significant type 6 and not captured. Diabetes is an area of national research.
D1101-97	Same Intervention Episode Start Date and Intervention Episode Start Time Recorded for Each Intervention Code	For episodes performed in Intervention Location 01 (<i>Main operation room</i>) or 08 (<i>Cardiac catheter room</i>) the Intervention Episode Start Date and Intervention Episode Start Time are mandatory and should be recorded only on the first Intervention Code performed in one episode.	Impacts intervention event factor, which influences RIW.
D1112-98	Anaesthetic Technique not Equal to 8 When Intervention Pre-Admit Flag Equal to Y	The Anaesthetic Technique should be recorded as 8 (<i>No anaesthetic or pre-admission intervention</i>) when the intervention is initiated prior to the current inpatient admission in the reporting institution (Intervention Pre-Admit Flag = Y) or when no anaesthetic was administered.	Volumes of this data quality issue are high.
D1618-99	Stroke Diagnosis Code Without Project 340 Field Recorded	When a stroke Diagnosis Code is recorded, the Project Number 340 should also be recorded.	Stroke is a high priority health initiative.

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OYDQ Test Number	OYDQ Test Title	Short Description	Rationale
D1618-100	Missing or Invalid Field 01 (<i>CT Scan/MRI Scan Within First 24 Hours of Arrival</i>) When Project 340 Recorded	When Project 340 is recorded, Field 01 (<i>CT scan/MRI scan within first 24 hours of arrival</i>) captures whether or not patients with acute stroke received a brain image. Field 01 is mandatory to capture.	Stroke is a high priority health initiative.
D1618-101	Missing or Invalid Value for Field 02 (<i>Admission to a Stroke Unit</i>) When Project 340 Recorded	When Project 340 is recorded, Field 02 (<i>Admission to a Stroke Unit</i>) captures whether patients with a diagnosis of stroke spent any time during the inpatient stay on a designated stroke unit. Field 02 is mandatory to capture.	Stroke is a high priority health initiative.
D1618-102	Missing or Invalid Value for Field 03 (<i>Administration of Acute Thrombolysis</i>) When Project 340 Recorded	When Project 340 is recorded, Field 03 (<i>Administration of acute thrombolysis</i>) captures whether or not patients with acute ischaemic stroke received acute thrombolysis upon admission. Field 03 is mandatory to capture.	Stroke is a high priority health initiative.
D1618-103	Missing or Invalid Value for Field 12 (<i>Prescription for Antithrombotic Medication at Discharge</i>) When Project 340 Recorded	When Project 340 is recorded, Field 12 (<i>Prescription for antithrombotic medication at discharge</i>) captures whether patients with a diagnosis of ischaemic stroke received a prescription for antithrombotic medication at discharge. Field 12 is mandatory to capture.	Stroke is a high priority health initiative.

For more information, please contact CIHI at cad@cihi.ca.

Open-Year Data Quality Tests

1. Potential Extra Abstracts (D0103-18)

Selection Criteria	Abstracts where the values recorded in the below group of data elements are the same in more than one abstract.
Data Element	Province/Territory, Institution Number, Health Care Number, Birth Date, Gender, Postal Code, Admission Date, Admission Time, Discharge Date, Discharge Time, Diagnosis Code, Intervention Code, Weight.

2. Incomplete Linkage of Mothers and Babies by Chart Number and Maternal/Newborn Chart Number (D0112-23)

Rule

The Maternal/Newborn Chart Number on the mother’s record must be the same as the Chart Number recorded on her newborn’s record. The Maternal/Newborn Chart Number on the newborn’s record must be the same as the Chart Number recorded on his or her mother’s record.

Selection Criteria	Diagnosis Code on mother’s record is Z37.0–, Z37.2–, Z37.3–, Z37.5–, Z37.6– or Z37.9– (delivery) and Most Responsible Diagnosis Code is not O04.– <i>Medical abortion</i> and One of the Intervention Codes is 5.MD.50.^ to 5.MD.60.^ (delivery) Diagnosis Code in hospital-born newborn’s record is Z38.0–, Z38.3– or Z38.6– (singleton, twin, other multiple born in hospital) and Most Responsible Diagnosis Code is not P96.4 <i>Termination of pregnancy, affecting fetus and newborn</i> . Mothers’ abstracts where the Maternal/Newborn Chart Number is not the same as the Chart Number in the newborns’ abstracts. Newborns’ abstracts where the Maternal/Newborn Chart Number is not the same as the Chart Number in the mother’s abstracts.										
Data Elements	Maternal/Newborn Chart Number, Chart Number, Entry Code, Diagnosis Code, Diagnosis Type Code, Intervention Code										
Correct Case Example	<table border="1"> <thead> <tr> <th></th> <th>Chart Number</th> <th>Maternal/Newborn Chart Number</th> </tr> </thead> <tbody> <tr> <td>Mother</td> <td>M00001</td> <td>N00001</td> </tr> <tr> <td>Newborn</td> <td>N00001</td> <td>M00001</td> </tr> </tbody> </table> <p>The Maternal/Newborn Chart Number on the mother’s record is correctly recorded with newborn’s Chart Number, and the Maternal/Newborn Chart Number on the newborn’s record is correctly recorded with mother’s Chart Number.</p>			Chart Number	Maternal/Newborn Chart Number	Mother	M00001	N00001	Newborn	N00001	M00001
	Chart Number	Maternal/Newborn Chart Number									
Mother	M00001	N00001									
Newborn	N00001	M00001									
Reference	DAD Abstracting Manual: Group 01—Submission Control Data Elements, Field 12—Maternal/ Newborn Chart Number.										

3. Z51.5 Palliative Care Assigned Diagnosis Type 2 (*Post-Admit Comorbidity*) or 3 (*Secondary Diagnosis*) (D1002-27)

Rule

The Palliative Care coding standard states that Z51.5 *Palliative care* must not be assigned a Diagnosis Type 2 (*Post-admit comorbidity*) or 3 (*Secondary diagnosis*). Depending on the circumstances of the case, Z51.5 may be assigned Diagnosis Type M, 1, W, X or Y. For those facilities that do not capture service transfers (Diagnosis Types W, X and Y), the equivalent of a Service Transfer Diagnosis Type is Diagnosis Type 1.

Selection Criteria	Abstracts where Diagnosis Code Z51.5 is assigned Diagnosis Type 2 or 3.
Data Elements	Diagnosis Code, Diagnosis Type
Correct Case Example	Z51.5 (M) <i>Palliative care</i> ; C18.9 (3) <i>Malignant neoplasm colon, unspecified</i>
Reference	Canadian Coding Standards: Palliative Care.

4. Incorrect Infant Status of Singleton Within a Multiparous Delivery Episode (D1002-32)

Rule

According to the Canadian Coding Standards, every newborn record must include a code from Z38.– *Liveborn infants according to place of birth* to indicate the plurality of birth:

- A live-born singleton is assigned a code from Z38.0– to Z38.2–.
- Live-born twins, triplets or other multiple births are assigned a code from Z38.3– to Z38.8–.

A multiple birth newborn record must not have a code from Z38.0– to Z38.2– (singleton) recorded.

Most multiple births are delivered on the same date; however, some multiple births can occur on different dates. The codes Z38.3– to Z38.8– describe the plurality of the pregnancy and apply even when the births occur on different days or at different locations and/or when one or more of the babies are stillborn.

This analysis focuses on multiple births delivered on the same date. Clients may also perform analyses on different delivery dates, different delivery locations and where one or more newborns are stillborn.

Selection Criteria	Newborn abstracts with Diagnosis Code Z38.0– to Z38.2– (exclude P96.4 <i>Termination of pregnancy</i> as Most Responsible Diagnosis) and more than one Maternal/Newborn Chart Number recorded with the same admission date.
Data Elements	Entry Code, Chart Number, Maternal/Newborn Chart Number, Admission Date, Diagnosis Code
Correct Case Example	<p>Mother Chart Number: 8866766</p> <p>Baby A: Admission Date: 2013/11/01 Entry Code: N Chart Number: 123455 Maternal/Newborn Chart Number: 8866766 Z38.300 <i>Twin, born in hospital, delivered vaginally, product of both spontaneous (NOS) ovulation and conception.</i></p> <p>Baby B: Admission Date: 2013/11/01 Entry Code: N Chart Number: 123456 Maternal/Newborn Chart Number: 8866766 Z38.310 <i>Twin, born in hospital, delivered by cesarean, product of both spontaneous (NOS) ovulation and conception</i></p>
Reference	Canadian Coding Standards: Diagnosis Typing Definitions for DAD.

5. Three or More OOH Intervention Episodes in One Day (D1113-35)

Rule

According to the guideline provided in the *DAD Abstracting Manual*, an intervention episode represents a patient’s visit to a physical location where one or more interventions may take place. When more than one CCI code is required to capture the interventions performed in a single intervention episode, the Intervention Episode Start Date will be recorded once on the first line of the abstract.

The Out-of-Hospital (OOH) Indicator field indicates that an intervention episode was performed in the ambulatory care area of another facility during the current inpatient stay in the reporting facility.

This data quality test identifies abstracts with potential errors of over-recording Intervention Episode Start Date for multiple OOH interventions in a single episode.

Selection Criteria	Abstracts where the OOH Indicator is Y and the same Intervention Episode Start Date is recorded three or more times.
Data Elements	OOH Indicator, Intervention Episode Start Date
Correct Case Example	Only one Intervention Episode Start Date is recorded for OOH interventions.
Reference	DAD Abstracting Manual: Group 11—Interventions.

6. Diagnosis Code O75.701 (*Vaginal Delivery Following Cesarean Section*) With Cesarean Section Delivery Intervention Code 5.MD.60.^ for Single Delivery (D1102-44)

Rule

For a single delivery case, the Diagnosis Code O75.701 (*Vaginal delivery following previous cesarean section, delivered, with or without mention of antepartum condition*) must not be recorded with a cesarean section delivery Intervention Code from 5.MD.60.^ because the combination of codes is contradictory. That is, O75.701 represents a vaginal delivery following a previous cesarean section (VBAC), so the expected intervention is a code from 5.MD.50.^ to 5.MD.56.^ (vaginal delivery) UNLESS the error is with incorrect selection of the Diagnosis Code.

Selection Criteria	Single delivery record (Z37.0– <i>Single live birth</i> or Z37.1– <i>Single stillbirth</i>) where Diagnosis Code O75.701 is recorded with an Intervention Code from rubric 5.MD.60.^ <i>Cesarean section delivery</i> .
Data Elements	Diagnosis Code, Intervention Code
Correct Case Example	O75.701 (M) <i>Vaginal delivery following previous cesarean section. delivered, with or without mention of antepartum condition</i> Z37.000 (3) <i>Single live birth, pregnancy resulting from both spontaneous ovulation and conception</i> 5.MD.50.AA <i>Manually assisted vaginal delivery (vertex), without episiotomy</i>
Reference	Canadian Coding Standards: Delivery With History of Previous Cesarean Section.

7. Unknown Weight 0001 Recorded for Newborns and Neonates Less Than 29 Days (D0703-50)

Rule

For newborns and neonates less than 29 days the weight must be recorded.

Selection Criteria	The abstracts of newborns and neonates where: Age Code = (D or B) and Age Unit = 0-29 and Weight = 0001 and Entry Code is not equal S (Stillbirth)
Data Element	Entry Code, Age Code, Age Unit, Weight

8. Post-Procedural Disorder Codes Recorded Without an External Cause Code (D1002-52)

Rule

All post-procedural disorder codes (see Appendix A) require an external cause code (Y60–Y84 or V01–X59).

Selection Criteria	Abstracts with a post-procedural disorder Diagnosis Code (see Appendix A) AND without an External Cause Code (Y60–Y84 or V01–X59).
Data Element	Diagnosis Code
Correct Case Example	Example 1: K91.42 (M) <i>Malfunction of colostomy stoma, not elsewhere classified</i> [Diagnosis Cluster A] Y83.3 (9) <i>Surgical operation with formation of external stoma as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure</i> [Diagnosis Cluster A]
References	Canadian Coding Standards: Post-Intervention Conditions; Self-Learning Product: Classifying Post-Intervention Conditions: ICD-10-CA Code Assignment.

9. Unknown Admission Time (D0402-64)

Selection Criteria	Abstracts where Admission Time = 9999.
Data Element	Admission Time

10. Unknown Discharge Time (D0502-65)

Selection Criteria	Abstracts where Discharge Time = 9999.
Data Element	Discharge Time

11. Poisoning T Code (T36-T50) Without a Poisoning External Cause Code (D1002-69)

Rule

When a poisoning T code of T36 - T50 is assigned, the expected external cause code should represent a “poisoning.”

Selection Criteria	Abstracts with T36-T50 Diagnosis Code without a corresponding poisoning external cause code of either: X40, X41, X42, X43, X44, X60, X61, X62, X63, X64, X85, Y10, Y11, Y12, Y13, Y14.
Data Element	Diagnosis Code
Correct Case Example	T42.4 <i>Poisoning by benzodiazepines</i> X41 <i>Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified</i>
References	ICD-10-CA Table of Drugs. Tip for Coders: How to Select the External Cause Code in the table of Drugs and Chemicals.

12. Incorrect Extent Attribute 0 (*Not Applicable*) with Invasive Ventilation CCI Code (D1102-71)

Rule

Invasive ventilation is identified by codes:

- 1.GZ.31.CA–^^ *Ventilation, respiratory system NEC, invasive per orifice approach by endotracheal tube*
- 1.GZ.31.CR-ND *Ventilation, respiratory system NEC, invasive per orifice with incision approach for intubation for intubation through tracheostomy, positive pressure, or*
- 1.GZ.31.GP-ND *Ventilation, respiratory system NEC, invasive percutaneous transluminal approach (e.g. transtracheal jet) through needle, positive pressure.*

The mandatory extent attribute exists to capture the number of hours (duration) of continuous invasive ventilation during a hospitalization.

The Extent Attribute values of CN (*Continuous but less than 96 hours of invasive ventilation*) or EX (*Extended continuous of 96 hours (or more) of invasive ventilation*) are applicable with the “invasive” ventilation codes.

The Extent Attribute value of 0 (*Not applicable*) is assigned with the non-invasive ventilation codes (1.GZ.31.CB–^^ or 1.GZ.31.JA–^^).

Selection Criteria	Abstracts where one of Intervention Codes 1.GZ.31.CA-ND, 1.GZ.31.CA-EP, 1.GZ.31.CA-PK, 1.GZ.31.CR-ND, or 1.GZ.31.GP-ND is recorded and the Extent Attribute is 0.
Data Element	Intervention Code, Extent Attribute
Correct Case Example	1.GZ.31.CA-ND <i>Ventilation, respiratory system NEC, invasive per orifice approach by endotracheal intubation, positive pressure (e.g. CPAP, BIPAP)</i> Extent: CN <i>Continuous but less than 96 hours of invasive ventilation</i>
References	Canadian Coding Standards: Invasive Ventilation.

13. Missing Repeat Cesarean Section Diagnosis Code When 5.MD.60.^ ^ Recorded With Status Attribute (N4 or N6) Identifying Repeat Cesarean Section (D1002-76)

Rule

When Intervention Code 5.MD.60.^ ^ *Cesarean section delivery* is recorded with a Status Attribute N4 (*Elective repeat c/s*) or N6 (*Emergency repeat c/s*) then, a Diagnosis Code for repeat cesarean section O34.201 *Uterine scar due to previous cesarean section, delivered, with or without mention of antepartum condition* or O66.401 *Failed trial of labour following previous cesarean, delivered, with or without mention of antepartum condition*) is mandatory to assign as a Diagnosis Type of M or 1.

Selection Criteria	Abstracts where Intervention Code from rubric 5.MD.60.^ ^ is recorded with a Status Attribute of N4 or N6 and the Diagnosis Code O34.201 or O66.401 with a significant diagnosis type M or 1 is not assigned.
Data Element	Intervention Code, Status Attribute, Diagnosis Code, Diagnosis Type
Correct Case Examples	5.MD.60.AA <i>Cesarean section delivery, lower segment transverse incision, without instrumentation</i> Status Attribute: N4 (<i>Elective repeat c/s</i>) AND O34.201 <i>Uterine scar due to previous caesarean section, delivered with or without mention of antepartum condition</i>
References	Canadian Coding Standards: Delivery With History of Previous Cesarean Section.

14. Incorrect Location Attribute 0 (Not Applicable) With Coronary Angiogram (D1104-82)

Rule

The Location Attribute 0 (*Not applicable*) [i.e. venous approach] must not be assigned with the code 3.IP.10.VX *Xray, heart with coronary arteries, of left heart structures using percutaneous transluminal arterial (retrograde) approach* because coronary angiography is always performed via an arterial access and as such the Location Attribute must represent the arterial access.

Selection Criteria	Abstracts where Intervention Code 3.IP.10.VX is recorded and the Location Attribute is 0.
Data Element	Intervention Code, Location Attribute
Correct Case Examples	3.IP.10.VX <i>Xray, heart with coronary arteries, of left heart structures using percutaneous transluminal arterial (retrograde) approach</i> Location Attribute: FY (<i>Femoral artery (left) (right)</i>)
References	Education: Staying on Track with Cardiac Interventions and Moving Forward Using v2012 of ICD-10-CA and CCI.

15. Status Attribute Not Equal to DX (*Diagnostic*) With Coronary Angiogram (D1103-83)

Rule

The code 3.IP.10.VX *Xray, heart with coronary arteries of left heart structures using percutaneous transluminal arterial (retrograde) approach* must have a Status Attribute of DX (*Diagnostic*) when the only intervention performed during the intervention episode is coronary angiogram 3.IP.10.VX and there is only one intervention recorded in the intervention episode.

Selection Criteria	Abstracts where there is only one Intervention Code recorded in the intervention episode, the Intervention Code is 3.IP.10.VX and the Status Attribute is not equal to DX.
Data Element	Intervention Code, Intervention Episode, Status Attribute
Correct Case Examples	3.IP.10.VX <i>Xray, heart with coronary arteries, of left heart structures using percutaneous transluminal arterial (retrograde) approach</i> Status Attribute: DX (<i>Diagnostic</i>)
References	Education: Staying on Track with Cardiac Interventions and Moving Forward Using v2012 of ICD-10-CA and CCI.

16. Status Attribute UN (*Unknown*) With Hip Replacement (D1103-85)

Rule

The Status Attribute UN (*Unknown*) should be rarely used for the rubric 1.VA.53.^ *Implantation of internal device, hip joint* or 1.SQ.53.^ *Implantation of internal device, pelvis* as the documentation should state whether the implantation was a primary implantation (P) or revision (R).

A primary insertion is the first insertion of prosthesis component(s) within the joint, whereas, a revision is replacement of previous prosthesis component(s) within the joint.

Selection Criteria	Abstracts where the Intervention Code from rubric 1.VA.53.^ or 1.SQ.53.^ is recorded with the Status Attribute of UN.
Data Element	Intervention Code, Status Attribute
Correct Case Examples	1.VA.53.LA-PN-N <i>Implantation of internal device, hip joint, dual component prosthetic device [femoral with acetabular] using synthetic material (e.g. bone paste, cement, Dynagraft, Osteoset)</i> Status Attribute: P (<i>Primary (first insertion of prosthesis component(s) within the joint)</i>)
References	Education: Moving Forward Using v2012 of ICD-10-CA and CCI.

17. Extent Attribute UN (*Unknown*) With Hip Replacement (D1105-86)

Rule

The Extent Attribute UN (*Unknown*) should be used rarely as the documentation will identify the component used with a hip replacement procedure 1.VA.53.^*Implantation of internal device, hip joint.*

Selection Criteria	Abstracts where the Intervention Code from rubric 1.VA.53.^ is recorded with the Extent Attribute UN.
Data Element	Intervention Code, Extent Attribute
Correct Case Examples	1.VA.53.LA-PN-N <i>Implantation of internal device, hip joint, dual component prosthetic device [femoral with acetabular] using synthetic material (e.g. bone paste, cement, Dynagraft, Osteoset)</i> Extent Attribute: FH (<i>Modular (two or more interlocking pieces) stem with exchangeable ball, or stem with modular neck and exchangeable ball (Includes: Femoral component NOS)</i>)
References	Education: Moving Forward Using v2012 of ICD-10-CA and CCI.

18. Status Attribute UN (*Unknown*) With Knee Replacements (D1103-88)

Rule

The Status Attribute UN (*Unknown*) should be used rarely for the rubric 1.VG.53.^ *Implantation of internal device, knee joint*, as the documentation should state whether the implantation was a primary implantation (P) or revision (R).

A primary insertion is the first insertion of prosthesis component(s) within the joint, whereas, a revision is replacement of previous prosthesis component(s) within the joint.

Selection Criteria	Abstracts where the Intervention Code from rubric 1.VG.53.^ is recorded with the Status Attribute UN.
Data Element	Intervention Code, Status Attribute
Correct Case Examples	1.VG.53.LA-PN-A <i>Implantation of internal device, knee joint, dual component prosthetic device, with bone autograft</i> Status Attribute: P (<i>Primary (first insertion of prosthesis component(s) within the joint)</i>)
References	Education: Moving Forward Using v2012 of ICD-10-CA and CCI and Knee Joint Replacement.

19. Missing Asterisk Code With Diabetes Mellitus Code (D1002-96)

Rule

The dagger/asterisk coding convention is a World Health Organization (WHO) convention and is mandatory to assign both the dagger and asterisk codes, as applicable. When the following associated complications of diabetes mellitus codes are assigned, it is mandatory to assign the corresponding asterisk code:

- Nephropathy—E1-.20† or E1-.23† mandatory to assign asterisk code N08.3—*
- Ophthalmic—E1-.30†, E1-.31†, E1-.32†, E1-.33† mandatory to assign asterisk code H36.0*

- Mononeuropathy—E1-.40† mandatory to assign either asterisk code G73.0* or G59.0*, as applicable
- Polyneuropathy—E1-.41† mandatory to assign asterisk code G63.2*
- Autonomic neuropathy—E1-.42† mandatory to assign asterisk code G99.0*
- Circulatory complications—E1-.50† and E1-.51† mandatory to assign asterisk code I79.2*

Selection Criteria	<p>Diabetes mellitus nephropathy: Identify cases that have E1-.20 or E1-.23. The incorrect cases will be missing N08.3–</p> <p>Diabetes mellitus ophthalmic complications: Identify cases that have E1-.30, E1-.31, E1-.32 or E1-.33. The incorrect cases will be missing H36.0</p> <p>Diabetes mellitus mononeuropathy: Identify cases with E1-.40. Incorrect cases will be missing either G73.0 OR G59.0</p> <p>Diabetes mellitus polyneuropathy: Identify cases with E1-.41. Incorrect cases will be missing G63.2</p> <p>Diabetes mellitus autonomic neuropathy: Identify cases with E1-.42. Incorrect cases will be missing G99.0</p> <p>Diabetes mellitus circulatory complications: Identify cases that have E1-.50 or E1-.51. Incorrect cases will be missing I79.2</p>
Data Element	Diagnosis Code
Correct Case Examples	E11.23 <i>Type 2 diabetes mellitus with established or advanced kidney disease</i> N08.35 <i>Glomerular disorder in diabetes mellitus, chronic kidney disease, stage 5</i>
References	Canadian Coding Standards: Dagger/Asterisk Convention.

20. Same Intervention Episode Start Date and Intervention Episode Start Time Recorded for Each Intervention Code (D1101-97)

Rule

For episodes performed in Intervention Location 01 (*Main operation room*) or 08 (*Cardiac catheter room*) the Intervention Episode Start Date and Intervention Episode Start Time are mandatory and should be recorded only for the first Intervention Code performed in the episode. Every time when an Intervention Episode Start Date and Intervention Episode Start Time is recorded in the abstract, a new Intervention Episode is derived.

Selection Criteria	Abstracts where Intervention Location is 01 or 08, the same Intervention Episode Start Date and Intervention Episode Start Time is recorded and there is more than one Intervention Episode derived in the abstract.
Data Element	Intervention Location, Intervention Episode Start Date, Intervention Episode Start Time, Intervention Episode
References	DAD Abstracting Manual: Group 11—Interventions.

21. Anaesthetic Technique not Equal to 8 When Intervention Pre-Admit Flag Equal to Y (D1112-98)

Rule

The Anaesthetic Technique should be recorded as 8 (*No anaesthetic or pre-admission intervention*) when the intervention is initiated prior to the current inpatient admission in the reporting institution (Intervention Pre-Admit Flag equal Y) or when no anaesthetic was administered.

Selection Criteria	Abstracts where Intervention Pre-Admit Flag equal to Y and the Anaesthetic Technique not equal to 8.
Data Element	Intervention Pre-Admit Flag, Anaesthetic Technique
References	DAD Abstracting Manual: Group 11 – Interventions.

22. Stroke Diagnosis Code Without Project 340 Field Recorded (D1618-99)

Rule

Project Number 340 is mandatory in select jurisdictions. This test will only be completed for those jurisdictions where Project 340 is mandatory.

Project 340 should be completed for all new acute ischaemic stroke, haemorrhagic stroke and transient ischaemic attack cases with at least one of the following Diagnosis Codes assigned as Diagnosis Type M, 1, W, X, or Y and when the Diagnosis Prefix is not equal to Q:

- I60.- *Subarachnoid haemorrhage* excluding I60.8- *Other subarachnoid haemorrhage*;
- I61.- *Intracerebral haemorrhage*;
- I63.- *Cerebral infarction* excluding I63.6 *Cerebral infarction due to cerebral venous thrombosis, nonpyogenic*;
- I64 *Stroke, not specified as haemorrhage or infarction*;
- I67.6 *Nonpyogenic thrombosis of intracranial venous system*;
- H34.0 *Transient retinal artery occlusion*;
- H34.1 *Central retinal artery occlusion*;
- G08 *Intracranial and intraspinal phlebitis and thrombophlebitis*;
- G45.- *Transient cerebral ischaemic attacks and related syndromes*; excludes G45.4 *Transient global amnesia*.

Selection Criteria	Abstracts from MB, NL, NS or ON where Project Number 340 is not recorded when a Diagnosis Code of ischaemic or haemorrhagic stroke or transient ischaemic attack is recorded as Diagnosis Type M, 1, W, X, or Y and the Diagnosis Prefix is not equal to Q. Exclusions: abstracts where a Diagnosis Code showing a complication of pregnancy (O99.4– or O88.–) or poisoning (T36.– to T39.–, T4.–, T5.–, T60.– to T65.–) is also present.
Data Element	Diagnosis Code, Diagnosis Type Code, Diagnosis Prefix, Project Number
References	DAD Abstracting Manual: Group 16—Projects.

23. Missing or Invalid Value for Field 01 (*CT Scan/MRI Scan Within First 24 Hours of Arrival*) When Project 340 Recorded (D1618-100)

Rule

When Project 340 is recorded, it is mandatory to complete Field 01 (*CT scan/MRI scan within first 24 hours (of arrival)*). This field captures whether or not patients with acute stroke receive a brain image within 24 hours of arriving at the facility. This test will be completed for all abstracts where Project 340 has been completed, regardless of whether it is mandatory in a particular jurisdiction.

Selection Criteria	Project Number 340 is recorded and Field 01 is missing or invalid (valid values are Y, N or P).
Data Element	Project Number, Field 01
References	DAD Abstracting Manual: Group 16—Projects.

24. Missing or Invalid Value for Field 02 (*Admission to a Stroke Unit*) When Project 340 Recorded (D1618-101)

Rule

When Project 340 is recorded, it is mandatory to complete Field 02 (*Admission to a stroke unit*). This field captures whether or not the patient spent any time during the inpatient stay on a designated stroke unit. This test will be completed for all abstracts where Project 340 has been completed, regardless of whether it is mandatory in a particular jurisdiction.

Selection Criteria	Project Number 340 is recorded and Field 02 is missing or invalid (valid values are Y, N or 8).
Data Element	Project Number, Field 02
References	DAD Abstracting Manual: Group 16—Projects.

25. Missing or Invalid Value for Field 03 (*Administration of Acute Thrombolysis*) When Project 340 Recorded (D1618-102)

Rule

When Project 340 is recorded, it is mandatory to complete Field 03 (*Administration of acute thrombolysis*). This field captures whether or not patients with acute ischemic stroke receive acute thrombolysis on admission. This test will be completed for all abstracts where Project 340 has been completed, regardless of whether it is mandatory in a particular jurisdiction.

Selection Criteria	Project Number 340 is recorded and Field 03 is missing or invalid (valid values are Y, N, P, X or 8).
Data Element	Project Number, Field 03
References	DAD Abstracting Manual: Group 16—Projects.

26. Missing or Invalid Value for Field 12 (*Prescription for Antithrombotic Medication at Discharge*) When Project 340 Recorded (D1618-103)

Rule

When Project 340 is recorded, it is mandatory to complete Field 12 (*Prescription for antithrombotic medication at discharge*). This field captures whether patients with a diagnosis of ischaemic stroke (I63, I64, I67.6, H34.0, H34.1, G08 or G45) receive a prescription for antithrombotic medication at discharge. . This test will be completed for all abstracts where Project 340 has been completed, regardless of whether it is mandatory in a particular jurisdiction.

Selection Criteria	Project Number 340 is recorded and Field 12 is missing or invalid (valid values are Y, N, 8 or 9).
Data Element	Project Number, Field 12
References	DAD Abstracting Manual: Group 16—Projects.

Appendix A—Post-Procedural Disorder Codes

This list identifies all post-procedural disorder codes. When a code from this list is assigned, it always requires an external cause code. When the applicable external cause is from Y60–Y84, a Diagnosis Cluster must be applied.

- E89.0 Postprocedural hypothyroidism
- E89.1 Postprocedural hypoinsulinaemia
- E89.2 Postprocedural hypoparathyroidism
- E89.3 Postprocedural hypopituitarism
- E89.4 Postprocedural ovarian failure
- E89.5 Postprocedural testicular hypofunction
- E89.6 Postprocedural adrenocortical (-medullary) hypofunction
- E89.8 Other postprocedural endocrine and metabolic disorders
- E89.9 Postprocedural endocrine and metabolic disorder, unspecified
- G97.0 Cerebrospinal fluid leak from spinal puncture
- G97.1 Other reactions to spinal and lumbar puncture
- G97.2 Intracranial hypotension following ventricular shunting
- G97.8 Other postprocedural disorders of nervous system
- G97.9 Postprocedural disorder of nervous system, unspecified
- H59.0 Keratopathy (bullous aphakic) following cataract surgery
- H59.80 Cataract (lens) fragments in eye following cataract surgery
- H59.81 Cystoid macular oedema following cataract surgery
- H59.88 Other postprocedural disorders of eye and adnexa
- H59.9 Postprocedural disorder of eye and adnexa, unspecified
- H95.0 Recurrent cholesteatoma of postmastoidectomy cavity
- H95.1 Other disorders following mastoidectomy
- H95.8 Other postprocedural disorders of ear and mastoid process
- H95.9 Postprocedural disorder of ear and mastoid process, unspecified
- I97.0 Postcardiotomy syndrome
- I97.1 Other functional disturbances following cardiac surgery
- I97.2 Postmastectomy lymphoedema syndrome
- I97.8 Other postprocedural disorders of circulatory system, not elsewhere classified
- I97.9 Postprocedural disorder of circulatory system, unspecified
- J95.00 Haemorrhage from tracheostomy stoma
- J95.01 Infection of tracheostomy stoma
- J95.02 Malfunction of tracheostomy stoma
- J95.03 Tracheo-esophageal fistula following tracheostomy

- J95.08 Other tracheostomy complication
- J95.1 Acute pulmonary insufficiency following thoracic surgery
- J95.2 Acute pulmonary insufficiency following nonthoracic surgery
- J95.3 Chronic pulmonary insufficiency following surgery
- J95.4 Mendelson's syndrome
- J95.5 Postprocedural subglottic stenosis
- J95.80 Postprocedural pneumothorax
- J95.81 Transfusion related acute lung injury (TRALI)
- J95.88 Other postprocedural respiratory disorders
- J95.9 Postprocedural respiratory disorder, unspecified
- K91.0 Vomiting following gastrointestinal surgery
- K91.1 Postgastric surgery syndromes
- K91.2 Postsurgical malabsorption, not elsewhere classified
- K91.3 Postoperative intestinal obstruction
- K91.40 Haemorrhage from colostomy stoma
- K91.41 Infection of colostomy stoma
- K91.42 Malfunction of colostomy stoma, not elsewhere classified
- K91.43 Haemorrhage from enterostomy stoma
- K91.44 Infection of enterostomy stoma
- K91.45 Enterostomy malfunction, not elsewhere classified
- K91.5 Postcholecystectomy syndrome
- K91.60 Haemorrhage from gastrostomy stoma
- K91.61 Infection of gastrostomy stoma
- K91.62 Gastrostomy malfunction, not elsewhere classified
- K91.8 Other postprocedural disorders of digestive system, not elsewhere classified
- K91.9 Postprocedural disorder of digestive system, unspecified
- M96.0 Pseudarthrosis after fusion or arthrodesis
- M96.1 Postlaminectomy syndrome, not elsewhere classified
- M96.2 Postradiation kyphosis
- M96.3 Postlaminectomy kyphosis
- M96.4 Postsurgical lordosis
- M96.5 Postradiation scoliosis
- M96.6 Fracture of bone following insertion of orthopaedic implant, joint prosthesis, or bone plate
- M96.8 Other postprocedural musculoskeletal disorders
- M96.9 Postprocedural musculoskeletal disorder, unspecified
- N99.0 Postprocedural renal failure
- N99.1 Postprocedural urethral stricture
- N99.2 Postoperative adhesions of vagina

- N99.3 Prolapse of vaginal vault after hysterectomy
- N99.4 Postprocedural pelvic peritoneal adhesions
- N99.50 Haemorrhage from external stoma of urinary tract
- N99.51 Infection of external stoma of urinary tract
- N99.52 Other malfunction of external stoma of urinary tract, NEC
- N99.8 Other postprocedural disorders of genitourinary system
- N99.9 Postprocedural disorder of genitourinary system, unspecified

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