Canadian Stroke Network

Réseau canadien contre
les accidents cérébrovasculaires

CSN INFORMATION AND EVALUATION RESOURCE

FAQ FOR CIHI SPECIAL PROJECT 340
STROKE PERFORMANCE IMPROVEMENT

Developed by the Canadian Stroke Network
in collaboration with the Canadian Institute for Health Information (CIHI)
and Hamilton Health Sciences Stroke Program

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CANADIAN STROKE NETWORK PERFORMANCE IMPROVEMENT PROJECT
CIHI STROKE QUALITY OF CARE SPECIAL PROJECT #340
(SQC_SP340)

What are the data fields being collected in Stroke Special Project 340?

Project 340 Layout in DAD:

For this project the following fields will be used -Project Information (Group 16—Fields 1–18)

340	X	X	X	M	M	D	D	H	H	M	M	X	YY	YY	MM	DD	HHMM
18	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*

1. Stroke Symptom Onset Date and Time—this is defined as the date and time the patient first started to experience stroke symptoms, regardless of the location of the patient at the time of symptom onset (see Fields 13 to 17 for details).
2. CT Scan/MRI Scan Within 24 Hours of Hospital Arrival (see Field 01 for details)
3. Stroke Unit Admission (see Field 02 for details)
4. Administration of Acute Thrombolytic Therapy (see Field 03 and Fields 04 to 11 for details)
5. Prescription for Antithrombotics at Discharge (see Field 12 for details)

Project 340 Layout in NACRS:

For the stroke project the following fields will be used Project information
(data elements 79–96)

340	X	X	X	M	M	D	D	H	H	M	M	X	Y	YY	YM	MDD	HHMM
79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96

1. Stroke Symptom Onset Date and Time–this is defined as the date and time that the patient first started to experience stroke symptoms, regardless of location of the patient at the time of symptom onset (see Fields 92–96 for details)
2. CT Scan/MRI Scan Within 24 Hours of ED Arrival (see Field 80 for details)
3. Referral to Stroke Prevention Service at ED Discharge (see Field 81 for details)
4. Administration of Acute Thrombolytic Therapy (see Fields 82; 83–90 for details)
5. Prescription for Antithrombotics at Discharge (see Field 91 for details)

Frequently Asked Questions and Case Examples

A. Getting Involved in SQC_SP 340

1. How does a hospital begin to participate in SQC_SP340?

Here are steps you can take to initiate the project:

i. Notify your CIHI NCAD rep so that they are aware you would be initiating SQC_SP340.
   - Decide whether you will be participating in DAD data collection only, or both DAD and NACRS.

➢ Train all Health Information Management professionals who will be coding stroke charts so they understand the inclusion/exclusion criteria, details of the data elements, exceptions and where to locate the data included in SQC_SP340.
   - The Canadian Stroke Network has developed an educational slide presentation to train Health Information Management professionals to participate in SQC_SP340
   - CSN staff are available to provide the training using webinar presentation modalities. Please contact Dr. Patrice Lindsay to set up training sessions (patty@canadianstrokenetwork.ca or strokebestpractices@canadianstrokenetwork.ca).

ii. Educate your emergency department, and the wards within the hospital that care for stroke patients (neuro/medicine wards, ICU, stroke unit, rehab unit) that you are now participating in SQC_SP340. Inform all units of the data elements that are being collected as part of SQC_SP340.
   - Some centres have created a tracking sheet for the data elements that goes on the front of the chart during the patient's stay and is removed by the health records professional when they are abstracting the chart.
   - Many sites have created posters that remind units that the hospital is participating in SQC_SP340 and list the data elements to help improve charting and increase ease in finding the information.

iii. Set a date to initiate data collection and begin abstracting stroke charts.

2. Should your facility participate in SQC_SP340 if your institution does not give tPA and/or they do not have a designated stroke unit?

- YES. Even if your hospital does not give tPA and/or does not have a stroke unit, you should still consider participating in SQC_SP340.
- Every participating organization provides information on important aspects of stroke care. Information in SQC_SP340 combined with the rest of the routinely abstracted data enables facilities and health system measurement groups to monitor the quality of stroke care across regions, provinces and nationally.
- The information also enables us to calculate benchmarks for institutions to work towards achieving.

3. **How much additional time does SQC_SP340 data abstraction require?**
   - The stroke 340 data adds 5-10 minutes to complete depending on the chart complexity, however Health Information Management professionals have reported that once they become familiar with SQC_SP340 the additional time for stroke chart abstraction is only 3-5 minutes per chart.

4. **Should hospitals that treat paediatric stroke patients include cases under 18 years old in the SQC_SP340?**
   - Hospitals that care for stroke patients less than 18 years of age may choose to include paediatric stroke cases in SQC_SP340.
   - Some paediatric strokes may have similar causes to adult strokes and be treated similarly (more commonly in older children with stroke), whereas strokes in younger children are from different causes than adults.
   - Not all data fields may be applicable, especially in cases where the stroke is diagnosed sometime after the acute event (as with presumed perinatal strokes).
   - When data is extracted for analysis, the paediatric cases can be included or filtered out as appropriate.

5. **For patients seen in the emergency department, and then admitted to the same facility acute inpatient bed – is SQC_SP340 only captured on the DAD?**
   - For patients admitted to the ED and discharged from the ED complete SQC_SP340 in NACRS only if facility is participating is NACRS
   - For patients admitted to inpatient care through the ED complete SQC_SP340 only in the DAD
   - For patients with direct admission to acute inpatient care complete SQC_SP340 only in the DAD
   - For patients transferred from another facility and admitted to inpatient care in the second facility complete SQC_SP340 only in the DAD, regardless of whether they went through the ED – the first facility should also complete SQC_SP340 for NACRS or DAD depending on whether they were admitted at the first facility ED and/or inpatient care.

B. Inclusion and Exclusion Criteria for Cases in SQC_SP340

1. **To be included in SQC_SP340, does the stroke code have to be the most responsible diagnosis (DAD) or main problem (NACRS)?**
   YES. The included stroke codes have to be the most responsible diagnosis identified with the M code. NEW ACUTE ischaemic and haemorrhagic stroke and transient ischaemic attack cases with an ICD-10-CA Most Responsible Diagnosis (MRDx) or Service Transfer (Type [W], [X] or [Y]) recorded FOR NEW STROKE CASES ONLY or Type (1) (pre-admit comorbidity—FORNEW STROKES ONLY)
   > Other Type 1 diagnoses of stroke may be older strokes that a patient experienced and may not be the reason they have come to hospital for the admission that is being coded.

2. **Are Diagnosis Type 2 stroke cases and TIAs included in SQC_SP340? These are strokes and TIAs that occur following admission to hospital, but did not meet the criteria to be considered the most responsible diagnosis.**
   - NO.
   - In general, we do not recommend including strokes and TIAs that occur after admission to hospital for other reasons (such as orthopedic or cardiac surgery).
   - Although many of the data elements apply, previous research has shown that in-hospital strokes may not always be recognized and treated in the same way.
   - However, some hospitals have chosen to include in-hospital strokes in SQC_SP340 for this very reason.
   - Using the diagnosis type, analysts are able to identify Diagnosis Type 2 strokes and can analyze them separately or remove them from a cohort if studying the results from the ED only.

3. **If the final diagnosis from the ED or from inpatient care is a 'query' stroke or TIA ('Q' prefix applies), does SQC_SP340 get completed for this patient?**
   YES, it is recommended that they be included in SQC_SP340. During the ED visit and hospitalization they undergo much of the same work-up and resource use, and in many cases the diagnosis is pending imaging results or review by a stroke specialist to confirm the suspected diagnosis. During analysis these patients can be filtered out as dictated by the particular indicator being calculated, if necessary.

4. **Do patients have to be admitted through the emergency department in order for them to be included in SQC_SP340 data collection?**
   No, any stroke admission to inpatient care is eligible for inclusion in SQC_SP340, whether it is a direct admission or an admission from the ED.

5. **If a patient is admitted to the ED and is discharged directly from the ED without an inpatient admission, does SQC_SP340 get completed?**
   YES. In hospitals that abstract data into CIHI's National Ambulatory Care Reporting System (NACRS) SQC_SP340 should be completed for patients discharged directly from the ED

using the NACRS special project fields. Hospitals who are not reporting into NACRS do not complete SQC_SP340 for patients treated in the ED only.

6. **If a patient is being transferred from one acute hospital to another and the most responsible diagnosis is a qualifying stroke diagnosis at both facilities, which facility is responsible for recording data for SQC_SP340?**
   Both facilities may record SQC_SP340 for the same patient. Some data elements may not be applicable for one or the other facility. For some data elements appropriate coding options are provided that take into account care processes that may have been delivered at the first facility prior to transfer (such as a CT scan). When regional or national analysis is being undertaken, patients can be filtered to include or disregard the one of the two entries if required to avoid double counting a patient.

7. **When an admission to hospital arises out of a transfer for the continuation of treatment for a stroke patient, does this still fit the requirement of "new acute" diagnosis?**
   Yes, if the admitting diagnosis fits the inclusion criteria, and the patient is being admitted to the second facility as part of the same episode of care and with an acute stroke diagnosis, then the case should be included in SQC_SP340 at both hospitals.

8. **If the patient is admitted with an ischemic stroke and during hospitalization experiences a subsequent hemorrhagic stroke during the same admission due to thrombolytic therapy treatment or a hemorrhagic transformation, would SQC_SP340 refer only to the <u>initial</u> stroke?**
   In this case the initial stroke is the one to document for stroke symptom onset time, CT scan and tPA administration. The remaining data elements apply to the entire episode of care, regardless of complication such as a secondary bleed.

9. **What if the patient suffers a second stroke while in-hospital? Are participating hospitals expected to collect the project multiple times on the same patient during the same admission if applicable?**
   - SQC_SP340 is completed only once for any episode of care in hospital. If a person has a second stroke while in hospital, it gets coded as a Diagnosis Type 2 and should appear as a complication.
   - Onset time, CT within 24 hours and tPA administration should completed based on the first stroke event. Stroke unit care and antithrombotics can be based on the entire episode of care.

10. **If a patient is admitted to the ED with a stroke and dies, should they be included in SQC_SP340?**
    - If the hospital is collecting data in NACRS and the patient dies in the ED, then YES the patient should be included in SQC_SP340/NACRS.
    - If the patient was not admitted to hospital before passing away and the hospital does not collect NACRS data, then the case should NOT be included in SQC_SP340 in the DAD.

- If the patient passes away after admission to hospital then YES they get included in the SQC_SP340 for the DAD.

12. **A patient initially went to another hospital and was diagnosed with a stroke. The patient was discharged home and presented a day later to the reporting hospital (a different facility from the original treating facility) with worsening symptoms. Would the second hospital be required to capture project 340 data for patients in these situations?**
    - In this circumstance, both hospitals should be completing SQC_SP340.
    - During analysis, duplicate records can be filtered out or linked as appropriate, but each facility should have a record of treating this stroke patient.
    - Some of the fields may use the 'P' code for prior to arrival at recording hospital based on the initial admission.

13. **When a patient comes in with a stroke and is severe or for other reasons denies treatment or is determined to be a palliative patient, should SQC_SP340 be completed?**
    - In these cases, SQC_SP340 should be completed for the patient.
    - Some fields such as acute thrombolysis may need to be coded as 'not applicable', rather than as a 'no' if the treatment was not considered due to palliative status.

14. **If a patient was treated for an acute stroke at another acute care facility, and then transferred to a second facility for acute stroke management where the patient is admitted to a stroke unit, then transferred to a rehabilitation unit within the same hospital, they end up with the rehabilitation portion as the most responsible diagnosis with the stroke as the transfer diagnosis. Should cases like these be included in SQC_SP340?**
    - In all cases where stroke patients are transferred from acute inpatient care to inpatient rehabilitation in the same facility, SQC_SP340 should be completed, regardless of whether there was a transfer from another facility or not initially.
    - The case definitions for acute strokes include those who have a z-code as the 'M' code indicating that the most responsible diagnosis for length of stay was rehabilitation and the reason for rehabilitation was a transfer diagnosis of stroke.
    - All SQC_SP340 data fields apply for the DAD. When analysis is conducted, length of stay will be identified as potentially skewed because of the rehabilitation time and this can be filtered as required at that time.

C. FAQs Related to Specific Data Elements in SQC_SP340

I. Stroke Onset Date and Time

1. Is it important to document the exact time the patients' stroke symptoms started?

YES it is important to be as accurate as possible with the onset time for stroke symptoms. If an exact or closely estimated time is provided in the chart, then record that given time. The stroke symptom onset time (also referred to as the 'last seen normal time') is used as the 'start' time for several stroke quality of care indicators.

If the stroke symptom onset time is given with a word description, refer to the following chart to extrapolate a standard approximate time of onset:

Middle of Night	0300	Early Afternoon	1400
Breakfast	0800	Afternoon or Mid-Afternoon	1500
Early Morning	0800	Late Afternoon	1600
Morning	0900	Dinner/Supper	1800
Late Morning	1000	Early Evening	1900
Lunch	1200	Evening	2100
Midday	1200	Late Evening	2200
Noon	1200	*(From the Ontario Stroke Registry 2009)*	

2. If the patient indicates there were multiple episodes before they arrived, which date/time should be entered? Would it be the date/time of the episode which prompted their arrival to hospital?

This scenario depends of the trajectory of symptoms:

- If the symptoms appeared and then stopped for more than 24 hours before the next symptoms appear, treat the newer symptoms as the symptom onset time.
- If the multiple episodes of symptoms appearing and resolving all happen within close proximity then the time recorded, as the onset time should be when the first symptoms appeared and are documented – even if they were intermittent. All subsequent symptoms may be attributed as progression of the stroke from the initial appearance of symptoms of the initial event.

3. If there is conflicting chart documentation of stroke symptom onset time, which one should be recorded in SQC_SP340?
(E.g. ED Attending Physician writes onset occurred at 1615, Nurse Notes indicate 1600, Physician Consultation shows 1630)

In cases of conflicting times in the chart, the ambulance time entry should be the one given priority above all others if it is available. If the ambulance documentation is not available or the onset time is missing, then enter the earliest chronological time (in the example it would be 1600 Hr).

II. CT Scan/MRI within 24 hours

1. **If a CT scan was done at hospital A and the patient is transferred to hospital B and another scan is performed (both within the 24 hour period), two values would apply:**
   Y = at this institution or P = completed prior to transfer
   Does "Y" take precedence over "P"?
   This indicator looks at performance within the reporting facility. Therefore …
   - If both scans were completed within 24 hours then the appropriate value to enter would be 'YES' as the reporting facility met the criteria of a scan within 24 hours.
   - If the second scan – the one completed at the reporting facility, was outside of the 24 hour window, then the correct response would be "P" to indicate an early scan was done, just not at the reporting facility.

2. **At smaller facilities without CT scans, stroke patients are admitted to the ED or inpatient unit of the first hospital, then sent to another facility for their CT or MRI scan within 24 hours and returned to the initial facility for ongoing care. How should this data element be captured field in project 340?**
   - This is a special case, where the reporting facility would enter 'Y' (yes) if the CT was completed within 24 hours; and 'N' (no) if the CT is not completed within 24 hours.
   - If the patient is sent to another facility for the CT or MRI and ends up being admitted to the ED or inpatient unit at the second facility for any amount of time before returning to the initial facility as a new or continued visit, then the "P" code should be used.

III. Admission to an Acute or Integrated Stroke Unit

1. **What is a Stroke Unit according to Project 340 standards?**
   At the outset of planning to participate in SQC_SP340, all Health Records departments should determine whether the facility has a designated stroke unit or not. This is important to ensure accurate and consistent coding among Health Information Management professionals. In addition, the name of the ward or unit should be identified as it would be documented in the chart or hospital patient flow system.
   - A stroke unit is defined within the Canadian Stroke Best Practices as a geographically designated space where stroke patients are managed by an interprofessional stroke team, including coordinated multidisciplinary rehabilitation services. Stroke units have stroke protocols in place and staff with specialized experience in stroke. The stroke team holds team meetings at least once per week to discuss and plan for patients.
   - Stroke units may manage patients during the first days after their stroke, focusing on the acute needs of the patient (average length of stay of ~ 7 days). Other models include providing both acute care and rehabilitation during a longer length of stay (average 3 to 4 weeks)

2. **Would you record 8 (Facility does not have a designated stroke unit) in the stroke unit field of the project, if the facility has a Stroke Team but not a Stroke Unit?**
    - Yes, this is correct – if the facility does not have a stroke unit that meets the CSN best practices definition, the code '8' should be entered.
    - In some facilities, stroke patients might be 'clustered' or attempts made to admit all stroke patients to one ward, and be managed by a stroke team that fulfils all the same additional requirements of a stroke unit. In these cases, a facility may chose to answer Yes/No to this element. This is acceptable as long as all Health Information Management professionals are aware of this decision to ensure consistent coding, and that this information is available to others using this information for analysis and monitoring quality of care.

IV. Administration of Acute Thrombolysis

1. **For sites that do not administer acute thrombolysis, should the field for tPA administration be coded as 'N' (No- the patients did not receive tPA) or '8' (the facility does not provide tPA)?**
    - If the hospital caring for the patient does administer tPA and the patient had an ischemic stroke but did not receive tPA code 'N' for No.
    - If the hospital does not provide tPA as a stroke modality at all, then answer 'X'

2. **Where do ambulance attendants who administer medication [thrombolysis] *en route to an acute care facility* fall within the possible valid data responses? Would initially select 'P' [Yes, Prior], however this does state this response would be selected if patient received tPA at another acute care facility prior to direct transfer from that facility to the reporting facility.**
    - At this time ambulance drivers do not administer medications such as tPA for stroke patients. It has to be given in hospital and only following a CT scan or MRI
    - In some Canadian cities, ambulance personnel may initiate thrombolysis for cardiac patients. This is quite different then acute thrombolysis for stroke patients and this should be made clear to all Health Information Management professionals

3. **If the facility does not give thrombolysis for stroke but do provide acute thrombolysis for myocardial infarction, should they record "8" (not applicable) for date and time of acute thrombolysis administration?**
    - If a facility does not provide tPA for stroke patients at all, then the Administration of tPA and the Date and time of administration fields should all be coded as **'X'**. The code '8' is not the correct code to use in this situation.
    - Data code '8' should be used if the facility does give tPA, but the patient was not a candidate – for example their stroke was caused by a hemorrhage not a clot.

4. **Is there a specific time frame we need to consider, i.e. 3 hours or 6 hours within onset of stroke or admission?**
   - The Health Information Management professionals are not responsible for determining appropriateness or using this information to filter responses.
   - The best practices evidence states that intravenous tPA should be administered within 4.5 hours of the onset of stroke symptoms, although in some cases, the time frame may exceed this. Also some patients may receive tPA through intra-arterial access which can be delivered within a longer time window.
   - In all cases, if a patient receives tPA at a facility, then the data should be entered as 'Yes', and if they If they did not receive it then the answer should be no or not applicable.
   - The time frame is actually assessed as another quality indicator, based on data entry for the date and time of administration.

5. **Which of the following drugs should be included when looking for acute thrombolysis administration?**
   - alteplase – t-PA, Activase **>> YES**
   - rtPA (Recombinant tissue plasminogen activator) **>> YES**
   - Cathflo (injection) **>> NO**
   - reteplase - Retavase (injection) **>> NO**
   - tenecteplase - TNKase (injection) **>> NO**
   - urokinase - Abbokinase (injection) **>> NO**
   - streptokinase **>> NO**

   ** tPA, and rtPA, activase and alteplase are all the same medication and the only one that is used in stroke care at this time. The other medications listed may be used for patients experiencing acute myocardial infarction, but they are not approved for use in stroke.

6. **If thrombolysis is not given because the patient arrives after the 4.5 hour window, should these be collected as N-No or 8-Not applicable?**
   - Respond with an N for 'no' as the person was eligible (ischemic stroke code) eligible but did not receive the medication
   - Time frames will be considered as part of quality assessments and in reporting. For the purposes of SQC_SP340, the Health Information Management professionals do not need to filter out cases as applicable or not based on time, only based on diagnosis.

7. **If a patient receives tPA at another institution prior to admission, what should be entered?**
   - For 2011 – 12 a new code option was added to account for this situation
   - For patients who received tPA then were transferred to the reporting facility, the reporting facility should code 'P' for 'yes, prior'.

- If the patient was eligible for tPA at the first facility and did not receive it there and did not receive it at the reporting facility either then the code should be 'No'.

8. **When a patient is admitted with a diagnosis of Transient ischemic attack (TIA), and is not administered a thrombolytic, what is the correct value for Question 3 (Administration of Acute Thrombolysis) in Project 340? Should it be N or 8 (not applicable)?**
   - For all ischemic stroke codes – including TIA (G45) and H34, the response to thrombolysis administration should be a 'Yes' or 'No', unless the facility does not provide tPA at all, then answer 'X'.
   - The reason for this is that data quality studies have shown that sometimes TIA and ischemic stroke are miscoded and used interchangeably, which they shouldn't be.
   - During analysis, tPA administration will be sorted by stroke code and the ones coded for TIA will help us better understand data quality issues for this indicator.

V. Prescription of Antithrombotic Medication at Discharge

1. **If patient is transferred to another inpatient facility or to an inpatient rehabilitation centre is this still considered "at discharge"? Would the correct value be "N" or "8" (not applicable)?**
   - This data element applies to every appropriate patient who leaves the reporting facility alive, regardless of the nature of the discharge disposition (discharge home or transfer etc).
   - This indicator does not apply to patients who die at the reporting centre.

2. **For those patients who die while in hospital, what should be recorded for this data element?**
   - This field applies only to patients discharged alive from hospital with TIA or ischemic stroke.
   - For patients that die while in hospital, the code '8' (not applicable) would be entered for this data field.

3. **If the patient was already receiving anticoagulants at the time of admission for a history of atrial fibrillation, how do you complete this data field?**
   - For this data field, a medication the patient was taking prior to admission does not have an impact on how the field is completed at the time of discharge.
   - This data field should be answered either 'yes' or 'no' as appropriate for all ischemic stroke patients and TIA patients, regardless of an atrial fibrillation diagnosis, or whether or not the patient was on an antiplatelet or anticoagulant medication at the time of admission for a new diagnosis of stroke or TIA.

4. **What antithrombotic medications should be included in project 340?**
The following list of anticoagulant and antithrombotic medications should be considered as appropriate medications to respond 'Yes' to this data field:

Discharge Medications that are appropriate to include for the data field of *'Discharged on antithrombotic medication'*	
Include – Code as 'Yes'	Exclude – Code as 'No'
warfarin - Coumadin	Argatroban - Novastan
dabigatran - Pradax	bivalirudin - Angiomax
rivaroxaban - Xarelto	lepirudin - Refludan
dalteparin - Fragmin	dipyridamole - Persantine
enoxaparin - Lovenox	abciximab - ReoPro
heparin	eptifibatide - Integrillin
ASA (Aspirin)	tirofiban - Aggrastat
clopidogrel - Plavix	
dipyridamole and ASA - Aggrenox	
ticlopidine - Ticlid	

IV. If a patient is admitted to hospital with a hemorrhagic stroke, and was prescribed an antithrombotic drug at discharge or transfer to another facility for DVT prophylaxis, how should this data field be completed?

- Anticoagulants do not apply to the hemorrhage group. It is only for ischemic stroke and TIA, therefore, in general, this field should be coded as '8'.
- In cases where a patient has been diagnosed with a hemorrhagic stroke and prescribed an antithrombotic, regardless of the reason, this field can be completed with a 'YES". These responses can be filtered out during analysis using the ICD10 codes for stroke diagnosis.

VI. Referral to Stroke Prevention Services/Clinic at Discharge from the ED

1. **If a patient is transferred from the reporting emergency department to another emergency department, inpatient facility or to an inpatient rehabilitation centre instead of being discharged to place of residence, would this still be considered "at discharge"?**
   - This data field should be completed for all patients who leave the reporting facility directly from the emergency department without an inpatient admission in the same facility.
   - For patients whose discharge disposition is a transfer rather than a discharge, this element should still be completed as a 'Yes' or 'No'. Currently there is no

response option for ‘not applicable’. As well, even with transfers, referrals are sometimes made.

- When analyzing this data, cases can be sorted by discharge disposition and at that time transfers can be removed form the analysis if not appropriate.