# Stroke Related Events: Case Definition

**Goal:** Identify stroke-related events, specifically:

1. **acute ischemic stroke (AIS)**
2. **intracerebral hemorrhage (ICH)**
3. **subarachnoid hemorrhage (SAH)**
4. **venous sinus/cortical vein thrombosis (CVT)**
5. **transient ischemic attack (TIA)**

As stroke is not a chronic disease we do not define 'incident' or 'prevalent' cases; we simply consider occurrence.

**Validated Algorithm:** 1 hospitalization data with a stroke-related event coded as most responsible diagnosis1

**Datasets:** Hospitalization discharge database, Diagnosis type indicator ‘M’ (Most responsible diagnosis) or ‘2’ (post-admission diagnosis)

Ambulatory Care Classification System (ACCS), Diagnosis type indicator ‘M’ (Most responsible diagnosis)from Emergency Room (ER) visits only (MIS codes - 71310 (Emergency) or 7131020 (General Emergency)).

**Case Definition:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type** | **ICD-9-CM Codes** | **ICD-9-CM Description** | **ICD-10-CA Codes** | **ICD-10-CA Description** |
| **AIS** | 362.3 | Retinal vascular occlusion | H34.1 | Central retina artery occlusion |
|  | 433.x1 | Occlusion and stenosis of precerebral arteries | I63.x | Cerebral infarction |
|  | 434.x1 | Occlusion of cerebral arteries | I64.x | Stroke, not specified as hemorrhage or infarction |
|  | 436 | Acute, but ill-defined cerebrovascular disease |  |  |
|  |  |  |  |  |
| **ICH** | 431.x | Intracerebral hemorrhage | I61.x | Intracerebral hemorrhage |
|  |  |  |  |  |
| **SAH** | 430.x | Subarachnoid hemorrhage | I60.x | Subarachnoid hemorrhage |
|  |  |  |  |  |
| **CVT** | 437.6 | Nonpyogenic thrombosis of intracranial venous sinus | I63.6 | Cerebral infarction due to cerebral venous thrombosis, nonpyogenic |
|  | 325.x | Phlebitis and thrombophlebitis of intracranial venous sinuses | I67.7 | Cerebral arteritis, not elsewhere classified |
|  |  |  | G08 | Intracranial and intraspinal phlebitis and thrombophlebitis |
|  |  |  |  |  |
| **TIA** | 435.x | Transient cerebral ischemia | G45.x (excluding G45.4) | Transient cerebral ischemic attacks and related syndromes  (excluding G45.4: transient global amnesia) |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type** | **ICD-9-CM Codes** | **ICD-9-CM Description** | **ICD-10-CA Codes** | **ICD-10-CA Description** |
| ***Exclusions*** | 432.x |  | I62.x | Other intracranial hemorrhage - usually subdural hemorrhage and epidural hemorrhage |
|  | 433.x0 | Occlusion and stenosis of precerebral arteries without mention of cerebral infarction | I65.x | Occlusion and stenosis of precerebral arteries not resulting in cerebral infarction |
|  | 434.x0 | Occlusion of cerebral arteries without mention of cerebral infarction | I66.x | Occlusion and stenosis of cerebral arteries not resulting in cerebral infarction |
|  | 437 (except 437.6 as above) | Other and ill-defined cerebrovascular disease | I67.x | Other cerebrovascular diseases |
|  | 438.x | Late effects of cerebrovascular disease | I69.x | Sequellae of cerebrovascular disease |
|  |  |  | G45.4 | Transient global amnesia |

AIS: acute ischemic stroke; ICH: intracerebral hemorrhage; SAH: subarachnoid hemorrhage; CVT: venous sinus/ cortical vein thrombosis; TIA: transient ischemic attack

**Stroke-related event Date:** date of the hospitalization or ambulatory encounter on which the stroke related event was identified

**References to cite:**

1. Kokotailo RA, Hill MD. Coding of stroke and stroke risk factors using international classification of diseases, revisions 9 and 10. Stroke 2005; 36: 1776-81.