Cognition and Central Nervous System Disability (v1)
Definition Fact Sheet & Technical Brief

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Definition Description: The Cognition and Central Nervous System Disability (v1) definition is part of a group of eight definitions (seven domain-specific and one overall) to identify emergency department visits by people with disabilities using a set of criteria based on diagnostic codes, including ICD-9, ICD-10, SNOMED codes, and keywords representing patient reason for visit. These definitions can be used to disaggregate monitored health outcomes by disability status and type and will ultimately help improve emergency and ongoing surveillance efforts. We encourage National Syndromic Surveillance Program (NSSP) Community of Practice (CoP) members to work with disability organizations and members of the disability community within their jurisdictions when using the definitions, interpreting results, and developing recommendations based on these findings. This definition was tested and intended to run on the "CC and DD parsed free text" field in ESSENCE.

New or Revised Definition: New Definition

Date Added to ESSENCE: February 2025

Use-Cases for Definition:
Case-finding: Not Intended as Use Case
Trend monitoring: Primary
Early outbreak detection: Not Intended as Use Case
Emergent Condition: Not Intended as Use Case

Justification: Information on disability status and type are not systematically collected during emergency department visits, and, as such, monitored health outcomes cannot currently be disaggregated by this demographic. Identifying people with disabilities using definitions for syndromic surveillance could bolster ongoing surveillance before, during, and after emergencies. It could also improve national, state, and local capacity to respond to, detect, understand, and monitor health events among people living with disabilities during emergencies.

Data Source During Development: Emergency department visits

Validation Methods: The Association of State and Territorial Health Officials (ASTHO) worked collaboratively with CDC and the Council of State and Territorial Epidemiologists (CSTE)-led NSSP CoP to create diagnostic code-based definitions to identify emergency department visits from people with disabilities through a stakeholder-informed process. ASTHO, with support from Thought Bridge LLC, collected stakeholder feedback through a two-step process to inform the development of diagnostic code- and chief complaint-based definitions for disability to be used in NSSP. This two-step process included key informant interviews (KIIs) followed by five scientific panel sessions to inform definition development and broader dissemination efforts to promote uptake of the definitions. See Overall Disability (v1) Definition Fact Sheet & Technical Brief for a full description of definition development methods.

We used the following developed definitions from the CCW to develop the Cognition and Central Nervous System domain. If only ICD-10 was available in a definition, we used the prior version for ICD-9:

- Epilepsy
- Stroke/Transient Ischemic Attack
- Traumatic Brain Injury and Nonpsychotic Mental Disorders due to Brain Damage
- Alzheimer's Disease
- Non-Alzheimer's Dementia
- Parkinson's Disease and Secondary Parkinsonism

Using this initial set of codes, we abstracted relevant ICD-10 codes following inclusion criteria. An initial set of codes provided by CDC for identifying persons with intellectual or developmental disability coded for conditions, such as epilepsy and seizures in their code set. Since these codes fit more closely in this domain, rather than IDD, we included them here. Most of these codes overlap with the CCW definitions for epilepsy. Two codes not included in the existing mental health disorders domain, include nonpsychotic mental disorders due to brain damage, and other specified nonpsychotic mental disorders following organic brain damage. They are included here as sequelae of cognitive and nervous system disorders.

Keywords were developed from feedback following the third and fourth scientific panels, and from keywords included in the Washington Group Short Set related to cognition. Following state and local pilot testing, we excluded additional terms and excluded specific ICD-10 codes that were leading to false positive results.

A summary of documented changes made during each step of the development process is included in Table 3. We have also created an Excel sheet with all codes and chief complaints included in this definition as an appendix. The definition domain fact sheets offer versatile guidance, allowing users to employ them individually or collectively as a whole definition of disability based on the objectives of the jurisdiction. Utilizing the accompanying Excel sheets enables a comprehensive understanding of the conditions included within each domain.

Validation Results: Jurisdictions found that this definition was broadly able to capture the intended cases. A few false positives were identified, however showed limited impact on the definitions' ability to identify intended cases. The Cognition and Central Nervous System Disability (v1) definition was tested nationally and by two states: CA and AZ. CA tested this definition using data from only one local health jurisdiction that is onboarded as a site in BioSense. CA has 61 local health jurisdictions. Jurisdictions partnering with CDC and ASTHO to pilot this definition saw a positive predictive value (PPV) of 86% for CA and 99% for AZ. Based on feedback from the validation process the following changes were made to the definition including removing "sleep" from keywords list and including exclusion terms for "general weakness",

"headache", "fever", "abdominal pain", "minor complaints not otherwise specified". Codes often used in combination with stroke were moved from Specific Developmental, Behavioral, and Learning to Cognition and Central Nervous System (e.g., Agnosia, R48.1; Visual agnosia, R48.3; Other symbolic dysfunctions, R48.8; Unspecified symbolic dysfunctions, R48.9; Speech disturbances, not elsewhere classified, R47.0, R47.01, R47.02, R47.1, R47.8, R47.81, R47.82, R47.89, R47.9). Following edits made following jurisdiction testing and the second round of national-level testing, PPV at the national level was 98.4%.

Limitations: This definition has some limitations, including some false positives that remain (though infrequently).

Additionally, there are at least five limitations common to the Disability Overall (v1) definition and all seven disability domain-specific definitions. First, identifying people with disabilities as a demographic using diagnostic codes follows a medical model of disability, and does not capture the social or identity-based aspects of disability preferred by many disability advocates. However, NSSP-ESSENCE is limited by the information routinely collected in the medical record such as diagnostic codes and notes captured as "chief complaint" to document presenting medical and relevant information for the visit. Future efforts to also include self- or other-report of functional disability collected as a demographic at the point of care may inform refinements to these definitions. Second, diagnostic codes do not map directly to functional limitations and a person may have more than one disability type, yet only discuss certain chief complaints during an ED visit. However, we can assume that certain conditions can be reasonably expected to produce functional limitations (e.g., someone with muscular dystrophy could reasonably be categorized as having a mobility disability). Third, coding practices can vary by region, hospital, and provider. Fourth, this method depends on factors outside the provider's control (billing considerations; EMR systems such as Epic or Cerner may have limits on how many dx codes can be listed under a visit). As a definition that is dependent on secondary diagnosis codes for detection not necessarily captured by the chief complaint, the ability to identify a person with a disability is influenced by the number of diagnosis codes a facility submits for syndromic surveillance. Therefore, this definition may be better able to identify people with disabilities in better resourced facilities, while data from lower cost EMR systems may be more likely to underrepresent the disability community. Fifth, many people with disabilities will be missed using this method as it relies on existing data collected on electronic health records (EHR), rather than standard self-reported questions that are commonly used to identify people with disabilities. People presenting to an emergency department for a health crisis or emergency may not have disability-related diagnoses indicated on their EHR, because their disability was not recognized by the provider and/or disclosed by the patient. Mild (or non-apparent) disabilities and/or disabilities unrelated to the reason for the ED visit may be more frequently under-documented than more apparent disabilities or those directly associated with the reason for visit.

The definitions can be used to identify important trends and serve as a "signal" of group variation for key outcomes of interest. However, NSSP users must be aware that results are likely an incomplete indicator of disability status or type. Despite limitations, these definitions can help serve as a stopgap to identify people with disabilities within NSSP-ESSENCE while we work collectively to address systemic issues related to collecting disability as a demographic at the point of care.

Definition Fields and Structure: Cognition and Central Nervous System-related disability; includes unique chief complaint terms and unique diagnostic codes.

<u>Detailed Definition Components</u>

Table 1. Inclusion and exclusion terms based on a case definition using -specific discharge diagnosis codes, Cognition and Central Nervous System Disability (v1) definition.

Variable Type	Terms	Description (Diagnosis Codes Only)
Inclusions		
	290.4, 294.10	Vascular dementia Dementia in conditions classified elsewhere without behavioral disturbance
	310	Specific nonpsychotic mental disorders due to brain damage
	310.0, 310.1	Personality change due to known physiological condition
	310.1	Traumatic Brain Injury and Nonpsychotic Mental Disorders due to Brain Damage
	310.2	Postconcussional syndrome
	310.8	Other specified nonpsychotic mental disorders following organic brain damage
	310.81	Pseudobulbar affect
	310.89	Other personality and behavioral disorders due to known physiological condition
	331, 294.1	Alzheimers
	345	Epilepsy and recurrent seizures
	345.00, 345.01, 345.2	Absence epileptic syndrome
	345.1	Other generalized epilepsy and epileptic syndromes, not intractable, without status epilepticus
	345.10, 345.11, 345.3	Other generalized epilepsy and epileptic syndromes
	345.11	Other generalized epilepsy and epileptic syndromes, intractable, with status epilepticus
	345.3	Generalized idiopathic epilepsy and epileptic syndromes, not intractable, with status epilepticus
	345.4	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, not intractable, without status epilepticus
	345.40, 345.41	Epilepsy and recurrent seizures - symptomatic, complex partial
	345.41	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, intractable, without status epilepticus
	345.5	Localization-related (focal) (partial) epilepsy and epileptic syndromes with simple partial seizures
	345.50, 345.70, 345.80	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures, not intractable, with status epilepticus
	345.51, 345.71, 345.81	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures, intractable, with status epilepticus
	345.51	Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, intractable, without status epilepticus
	345.6	Epileptic spasms, not intractable, without status epilepticus

	345.61	Epileptic spasms, intractable, with status epilepticus
	345.7	Epilepsia partialis continua
	345.60, 345.61	Other epilepsy and recurrent seizures
	345.8	Other epilepsy, not intractable, without status epilepticus
	345.80, 345.81	Other seizures
	345.81	Other epilepsy, intractable, without status epilepticus
	345.90, 345.91	Epilepsy, unspecified
	345.9	Epilepsy, unspecified, not intractable, with status epilepticus
	345.91	Epilepsy, unspecified, intractable, without status epilepticus
	348.5	Traumatic cerebral edema
	430	Nontraumatic subarachnoid hemorrhage, unspecified
	431	Nontraumatic intracerebral hemorrhage
	433.01	Cerebral infarction due to unspecified occlusion or stenosis of basilar artery
	433.11	Cerebral infarction due to embolism of carotid artery
	433.31, 433.81	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery
	433.21	Cerebral infarction due to embolism of vertebral artery
	433.91	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries
	434.00, 434.10, 434.90	Occlusion and stenosis of anterior cerebral artery
	434.01	Occlusion and stenosis of cerebellar arteries
	434.11	Cerebral infarction due to embolism of unspecified cerebral artery
	434.91	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery
	435.0, 435.1, 435.3	Other transient cerebral ischemic attacks and related syndromes
	435.8	Other transient cerebral ischemic attacks and related syndromes
	435.9	Transient cerebral ischemic attack, unspecified
	436	Other cerebrovascular disease
	780.01, 780.03	Coma or persistent vegetative state
	907.0, 907.1	Unspecified intracranial injury
	907	Late effects of injuries to the nervous system
	997.02	Intraoperative or postprocedure cerebrovascular infarction
Discharge Diagnosis code – SNOMED	241006	Epileptic seizures related to external causes
	2776000	Delirium due to known physiological condition
	4223005	Malignant neuroleptic syndrome
	6204001	Juvenile myoclonic epilepsy [impulsive petit mal]
	15241006	Other disorders of autonomic nervous system
	17769000	Injury of other face and neck nerves
	19598007	Epilepsy and recurrent seizures - generalized idiopathic
	19972008	Postencephalitic parkinsonism
	20059004	Occlusion and stenosis of other cerebral arteries

26929004	Alzheimer's disease
32422007	Neurologic neglect syndrome
36217008	Personality change due to known physiological condition
40425004	Postconcussional syndrome
52448006	Unspecified dementia
62914000	Cerebral vasospasm and vasoconstriction
62914000	Other cerebrovascular disease
62914000	Other vascular syndromes of brain in cerebrovascular diseases
79631006	Absence epileptic syndrome Absence epileptic syndrome, not intractable, with status epilepticus Absence epileptic syndrome, not intractable, without status epilepticus Absence epileptic syndrome, intractable, with status epilepticus Absence epileptic syndrome, intractable, without status epilepticus
80690008	Alpers disease Corticobasal degeneration Dementia with Lewy bodies Leigh's disease Mild cognitive impairment, so stated Other specified degenerative diseases of nervous system Other specified degenerative diseases of nervous system
81308009	Other disorders of brain in diseases classified elsewhere
82999001	Epidural hemorrhage
84757009	Epilepsy, unspecified
86489003	Idiopathic peripheral autonomic neuropathy
102891000	Age-related cognitive decline
116224001	Intraoperative cerebrovascular infarction
127296001	Injury of left internal carotid artery, intracranial portion, not elsewhere classified
128200000	Complex regional pain syndrome I (CRPS I)
129618003	Autonomic dysreflexia
191519005	Dementia in other diseases classified elsewhere
195155004	Nontraumatic subarachnoid hemorrhage from carotid siphon and bifurcation
195160000	Nontraumatic subarachnoid hemorrhage from vertebral artery
195185009	Cerebral infarction due to thrombosis of carotid artery
195186005	Cerebral infarction due to embolism of basilar artery
195189003	Cerebral infarction due to thrombosis of anterior cerebral artery
195190007	Cerebral infarction due to embolism of anterior cerebral artery
195230003	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic
195232006	Occlusion and stenosis of middle cerebral artery
195233001	Occlusion and stenosis of anterior cerebral artery

195234007	Occlusion and stenosis of posterior cerebral artery
195235008	Occlusion and stenosis of cerebellar arteries
209987007	Traumatic subdural hemorrhage
210038008	Unspecified focal traumatic brain injury
212141007	Injury of optic nerve and pathways
223176004	Contusion, laceration, and hemorrhage of cerebellum
230270009	Frontotemporal dementia
230292008	Other secondary parkinsonism
230692004	Cerebral infarction due to unspecified occlusion or stenosis of basilar artery
230699008	Pure motor lacunar syndrome
230700009	Pure sensory lacunar syndrome
230736007	Transient global amnesia
230763008	Traumatic cerebral edema
238153009	Other systemic atrophy primarily affecting central nervous system in neoplastic disease Other systemic atrophy primarily affecting central nervous system in neoplastic disease Paraneoplastic neuromyopathy and neuropathy Senile degeneration of brain, not elsewhere classified Systemic atrophy primarily affecting central nervous system in other diseases classified elsewhere Systemic atrophy primarily affecting the central nervous system in myxedema
242995009	Accidental puncture and laceration of a nervous system organ or structure during a procedure
262693007	Diffuse traumatic brain injury
262955000	Traumatic subarachnoid hemorrhage
270907008	Nontraumatic subarachnoid hemorrhage from unspecified intracranial artery
274100004	Traumatic hemorrhage of cerebrum, unspecified
278510009	Epilepsy and recurrent seizures - idiopathic, localized onset Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, intractable, with status epilepticus Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, intractable, without status epilepticus Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, not intractable, with status epilepticus Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, not intractable, without status epilepticus
362975008	Degenerative disease of nervous system, unspecified
384821006	Other symptoms and signs involving cognitive functions and awareness
386557006	Coma or persistent vegetative state
386806002	Attention and concentration deficit

	407675009	Epilepsy and recurrent seizures - symptomatic, complex partial
	409083006	Unspecified symptoms and signs involving cognitive functions and awareness
	429998004	Vascular dementia
	432504007	Cerebral infarction due to unspecified occlusion or stenosis of anterior cerebral artery
	432776007	Pseudobulbar affect
	450410005	Traumatic hemorrhage of left cerebrum
	473459007	Postprocedural cerebrovascular infarction
	135761000119101	Degeneration of nervous system due to alcohol
	291571000119106	Nontraumatic intracerebral hemorrhage
	210038008, 95640005	Contusion, laceration, and hemorrhage of brainstem
	49049000, 312991009	Parkinson's disease
Discharge Diagnosis: ICD-10-CM	F01.50, F01.51	Vascular dementia
	F02.80, F02.81	Dementia in other diseases classified elsewhere
	F03.90, F03.91	Unspecified dementia
	F05	Delirium due to known physiological condition
	F07.0	Personality change due to known physiological condition
	F07.81	Postconcussional syndrome
	F07.89	Other personality and behavioral disorders due to known physiological condition
	F48.2	Pseudobulbar affect
	G13.0	Paraneoplastic neuromyopathy and neuropathy
	G13.1	Other systemic atrophy primarily affecting central nervous system in neoplastic disease
	G13.2	Systemic atrophy primarily affecting the central nervous system in myxedema
	G13.8	Systemic atrophy primarily affecting central nervous system in other diseases classified elsewhere
	G20, G31.83	Parkinson's disease
	G21.11	Neuroleptic induced parkinsonism
	G21.19	Other drug induced secondary parkinsonism
	G21.2	Secondary parkinsonism due to other external agents
	G21.3	Postencephalitic parkinsonism
	G21.4	Vascular parkinsonism
	G21.8	Other secondary parkinsonism
	G21.9	Secondary parkinsonism, unspecified
	G30.0, G30.1, G30.8, G30.9	Alzheimer's
	G31.01, G31.09	Frontotemporal dementia
	G31.1	Senile degeneration of brain, not elsewhere classified
	G31.2	Degeneration of nervous system due to alcohol
	G31.8	Other specified degenerative diseases of nervous system
	G31.81	Alpers disease
	G31.82	Leigh's disease

G31.83	Dementia with Lewy bodies
G31.84	Mild cognitive impairment, so stated
G31.85	Corticobasal degeneration
G31.89	Other specified degenerative diseases of nervous system
G31.9	Degenerative disease of nervous system, unspecified
G40.001	Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, not intractable, with status epilepticus
G40.009	Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, not intractable, without status epilepticus
G40.011	Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, intractable, with status epilepticus
G40.019	Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset, intractable, without status epilepticus
G40.101	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures, not intractable, with status epilepticus
G40.109	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures, not intractable, without status epilepticus
G40.111	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures, intractable, with status epilepticus
G40.119	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with simple partial seizures, intractable, without status epilepticus
G40.201	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, not intractable, with status epilepticus
G40.209	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, not intractable, without status epilepticus
G40.211	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, intractable, with status epilepticus
G40.219	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, intractable, without status epilepticus
G40.301	Generalized idiopathic epilepsy and epileptic syndromes, not intractable, with status epilepticus
G40.309	Generalized idiopathic epilepsy and epileptic syndromes, not intractable, without status epilepticus
G40.311	Generalized idiopathic epilepsy and epileptic syndromes, intractable, with status epilepticus
G40.319	Generalized idiopathic epilepsy and epileptic syndromes, intractable, without status epilepticus
G40.401	Other generalized epilepsy and epileptic syndromes, not intractable, with status epilepticus
G40.409	Other generalized epilepsy and epileptic syndromes, not intractable, without status epilepticus

	G40.411	Other generalized epilepsy and epileptic syndromes, intractable, with status epilepticus
	G40.419	Other generalized epilepsy and epileptic syndromes, intractable, without status epilepticus
	G40.501	Epileptic seizures related to external causes, not intractable, with status epilepticus
	G40.509	Epileptic seizures related to external causes, not intractable, without status epilepticus
	G40.801	Other epilepsy, not intractable, with status epilepticus
	G40.802	Other epilepsy, not intractable, without status epilepticus
	G40.803	Other epilepsy, intractable, with status epilepticus
	G40.804	Other epilepsy, intractable, without status epilepticus
	G40.811	Lennox-Gastaut syndrome, not intractable, with status epilepticus
	G40.812	Lennox-Gastaut syndrome, not intractable, without status epilepticus
	G40.813	Lennox-Gastaut syndrome, intractable, with status epilepticus
	G40.814	Lennox-Gastaut syndrome, intractable, without status epilepticus
	G40.821	Epileptic spasms, not intractable, with status epilepticus
	G40.822	Epileptic spasms, not intractable, without status epilepticus
	G40.823	Epileptic spasms, intractable, with status epilepticus
	G40.824	Epileptic spasms, intractable, without status epilepticus
	G40.89	Other seizures
	G40.901	Epilepsy, unspecified, not intractable, with status epilepticus
	G40.909	Epilepsy, unspecified, not intractable, without status epilepticus
	G40.911	Epilepsy, unspecified, intractable, with status epilepticus
	G40.919	Epilepsy, unspecified, intractable, without status epilepticus
	G40.A01	Absence epileptic syndrome, not intractable, with status epilepticus
	G40.A09	Absence epileptic syndrome, not intractable, without status epilepticus
	G40.A11	Absence epileptic syndrome, intractable, with status epilepticus
	G40.A19	Absence epileptic syndrome, intractable, without status epilepticus
	G40.B01	Juvenile myoclonic epilepsy, not intractable, with status epilepticus
	G40.B09	Juvenile myoclonic epilepsy, not intractable, without status epilepticus
	G40.B11	Juvenile myoclonic epilepsy, intractable, with status epilepticus
	G40.B19	Juvenile myoclonic epilepsy, intractable, without status epilepticus
	G45.0, G45.1, G45.2, G46.0, G46.1, G46.2, G46.3, G46.4, I60.20, I60.21, I60.22, I63.8, I66.3	Stroke / transient ischemic attack

G45.4	Transient global amnesia
G45.8	Other transient cerebral ischemic attacks and related syndromes
G45.9	Transient cerebral ischemic attack, unspecified
G46.5	Pure motor lacunar syndrome
G46.6	Pure sensory lacunar syndrome
G46.7	Other lacunar syndromes
G46.8	Other vascular syndromes of brain in cerebrovascular diseases
G90.01, G90.09	Idiopathic peripheral autonomic neuropathy
G90.4	Autonomic dysreflexia
G90.50	Complex regional pain syndrome I (CRPS I)
G90.511, G90.512, G90.513, G90.519	Complex regional pain syndrome I of upper limb
G90.521, G90.522, G90.523, G90.529	Complex regional pain syndrome I of lower limb
G90.59	Complex regional pain syndrome I of other specified site
G90.8, G90.9	Other disorders of autonomic nervous system
G90.A	Postural orthostatic tachycardia syndrome [POTS]
G94	Other disorders of brain in diseases classified elsewhere
G97.31, G97.32	Intraoperative hemorrhage and hematoma of a nervous system organ or structure complicating a procedure
G97.41, G97.48, G97.49	Accidental puncture and laceration of a nervous system organ or structure during a procedure
G97.51, G97.52	Postprocedural hemorrhage of a nervous system organ or structure following a procedure
I60.00, I60.01, I60.02	Nontraumatic subarachnoid hemorrhage from carotid siphon and bifurcation
I60.10, I60.11, I60.12	Nontraumatic subarachnoid hemorrhage from middle cerebral artery
I60.2	Nontraumatic subarachnoid hemorrhage from anterior communicating artery
I60.30, I60.31, I60.32	Nontraumatic subarachnoid hemorrhage from posterior communicating artery
I60.4	Nontraumatic subarachnoid hemorrhage from basilar artery
I60.50, I60.51, I60.52	Nontraumatic subarachnoid hemorrhage from vertebral artery
I60.6	Nontraumatic subarachnoid hemorrhage from other intracranial arteries
I60.7	Nontraumatic subarachnoid hemorrhage from unspecified intracranial artery
I60.8	Other nontraumatic subarachnoid hemorrhage
I60.9	Nontraumatic subarachnoid hemorrhage, unspecified
I61.0, I61.1, I61.2, I61.3, I61.4, I61.5, I61.6, I61.8, I61.9	Nontraumatic intracerebral hemorrhage
I63.00	Cerebral infarction due to thrombosis of unspecified precerebral artery
I63.011, I63.012, I63.013, I63.019	Cerebral infarction due to thrombosis of vertebral artery

I63.02	Cerebral infarction due to thrombosis of basilar artery
I63.031, I63.032, I63.033, I63.039	Cerebral infarction due to thrombosis of carotid artery
I63.09	Cerebral infarction due to thrombosis of other precerebral artery
I63.10	Cerebral infarction due to embolism of unspecified precerebral artery
I63.111, I63.112, I63.113, I63.119	Cerebral infarction due to embolism of vertebral artery
I63.12	Cerebral infarction due to embolism of basilar artery
I63.131, I63.132, I63.133, I63.139	Cerebral infarction due to embolism of carotid artery
I63.19	Cerebral infarction due to embolism of other precerebral artery
I63.20	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries
I63.211, I63.212, I63.213, I63.219	Cerebral infarction due to unspecified occlusion or stenosis of vertebral arteries
I63.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar artery
I63.231, I63.232, I63.233, I63.239	Cerebral infarction due to unspecified occlusion or stenosis of carotid arteries
I63.29	Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries
I63.30	Cerebral infarction due to thrombosis of unspecified cerebral artery
I63.311, I63.312, I63.313, I63.319	Cerebral infarction due to thrombosis of middle cerebral artery
I63.321, I63.322, I63.323, I63.329	Cerebral infarction due to thrombosis of anterior cerebral artery
I63.331, I63.332, I63.333, I63.339	Cerebral infarction due to thrombosis of posterior cerebral artery
I63.341, I63.342, I63.343, I63.349	Cerebral infarction due to thrombosis of cerebellar artery
I63.39	Cerebral infarction due to thrombosis of other cerebral artery
I63.40	Cerebral infarction due to embolism of unspecified cerebral artery
I63.411, I63.412, I63.413, I63.419	Cerebral infarction due to embolism of middle cerebral artery
I63.421, I63.422, I63.423, I63.429	Cerebral infarction due to embolism of anterior cerebral artery
I63.431, I63.432, I63.433, I63.439	Cerebral infarction due to embolism of posterior cerebral artery
I63.441, I63.442, I63.443, I63.449	Cerebral infarction due to embolism of cerebellar artery
I63.49	Cerebral infarction due to embolism of other cerebral artery
I63.50	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery
I63.511, I63.512, I63.513, I63.519	Cerebral infarction due to unspecified occlusion or stenosis of middle cerebral artery
I63.521, I63.522, I63.523, I63.529	Cerebral infarction due to unspecified occlusion or stenosis of anterior cerebral artery

I63.531, I63.532, I63.533, I63.539	Cerebral infarction due to unspecified occlusion or stenosis of posterior cerebral artery
I63.541, I63.542, I63.543, I63.549	Cerebral infarction due to unspecified occlusion or stenosis of cerebellar artery
I63.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery
I63.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic
I63.81, I63.89	Other cerebral infarction
I63.9	Cerebral infarction, unspecified
I66.01, I66.02, I66.03, I66.09	Occlusion and stenosis of middle cerebral artery
I66.11, I66.12, I66.13, I66.19	Occlusion and stenosis of anterior cerebral artery
I66.21, I66.22, I66.23, I66.29	Occlusion and stenosis of posterior cerebral artery
I66.30	Occlusion and stenosis of cerebellar arteries
I66.8	Occlusion and stenosis of other cerebral arteries
I66.9	Occlusion and stenosis of unspecified cerebral artery
I67.841, I67.848	Cerebral vasospasm and vasoconstriction
I67.850, I68.858	Hereditary cerebrovascular diseases
I67.89	Other cerebrovascular disease
I97.810, I97.811	Intraoperative cerebrovascular infarction
I97.820, I97.821	Postprocedural cerebrovascular infarction
R40.243, R40.3	Coma or persistent vegetative state
R41.4	Neurologic neglect syndrome
R41.81	Age-related cognitive decline
R41.840	Attention and concentration deficit
R41.841	Cognitive communication deficit
R41.842	Visuospatial deficit
R41.843	Psychomotor deficit
R41.844	Frontal lobe and executive function deficit
R41.89	Other symptoms and signs involving cognitive functions and awareness
R41.9	Unspecified symptoms and signs involving cognitive functions and awareness
S04.011, S04.012, S04.019, S04.02, S04.031, S04.032, S04.039, S04.041, S04.042, S04.049	Injury of optic nerve and pathways
S04.011S, S04.012S, S04.019S, S04.02XS, S04.031S, S04.032S, S04.039S, S04.041S, S04.042S, S04.049S, S04.10XS, S04.11XS, S04.12XS, S04.20XS, S04.21XS, S04.22XS, S04.30XS, S04.31XS, S04.32XS, S04.40XS,	Traumatic brain injury and nonpsychotic mental disorders due to brain damage

S04.41XS, S04.42XS, S04.50XS, S04.51XS, S04.52XS, S04.60XS, S04.61XS, S04.62XS, S04.70XS, S04.71XS, S04.72XS, S04.811S, S04.812S, S04.819S, S04.891S, S04.892S, S04.899S, S04.9XXS, S06.0X0S, S06.0X1S, S06.0X2S, S06.0X3S, S06.0X4S, S06.0X5S, S06.0X6S, S06.0X7S, S06.0X8S, S06.0X9S, S06.1X0S, S06.1X1S, S06.1X2S, S06.1X3S, S06.1X4S, S06.1X5S, S06.1X6S, S06.1X7S, S06.1X8S, S06.1X9S, S06.2X0S, S06.2X1S, S06.2X2S, S06.2X3S, S06.2X4S, S06.2X5S, S06.2X6S, S06.2X7S, S06.2X8S, S06.2X9S, S06.300S, S06.301S, S06.302S, S06.303S, S06.304S, S06.305S, S06.306S, S06.307S, S06.308S, S06.309S, S06.310S, S06.311S, S06.312S, S06.313S, S06.314S, S06.315S, S06.316S, S06.317S, S06.318S, S06.319S, S06.320S, S06.321S, S06.322S, S06.323S, S06.324S, S06.325S, S06.326S, S06.327S, S06.328S, S06.329S, S06.330S, S06.331S, S06.332S, S06.333S, S06.334S, S06.335S, S06.336S, S06.337S, S06.338S, S06.339S, S06.340S, S06.341S, S06.342S, S06.343S, S06.344S, S06.345S, S06.346S, S06.347S, S06.348S, S06.349S, S06.350S, S06.351S, S06.352S, S06.353S, S06.354S, S06.355S, S06.356S, S06.357S, S06.358S, S06.359S, S06.360S, S06.361S, S06.362S, S06.363S,	

	S06.364S, S06.365S, S06.366S, S06.367S, S06.368S, S06.369S, S06.370S, S06.371S, S06.372S, S06.373S, S06.374S, S06.375S, S06.376S, S06.377S, S06.378S, S06.379S, S06.380S, S06.381S, S06.382S, S06.383S, S06.384S, S06.385S, S06.386S, S06.387S, S06.388S, S06.389S, S06.4X0S, S06.4X1S, S06.4X2S, S06.4X3S, S06.4X4S, S06.4X5S, S06.4X6S, S06.4X7S, S06.4X8S, S06.4X9S, S06.5X0S, S06.5X1S, S06.5X2S, S06.5X3S, S06.5X4S, S06.5X5S, S06.5X6S, S06.5X7S, S06.5X8S, S06.5X9S, S06.6X0S, S06.6X1S, S06.6X2S, S06.6X3S, S06.6X4S, S06.6X5S, S06.6X6S, S06.6X7S, S06.6X8S, S06.6X9S, S06.810S, S06.811S, S06.812S, S06.813S, S06.814S, S06.815S, S06.816S, S06.817S, S06.818S, S06.819S, S06.820S, S06.821S, S06.822S, S06.823S, S06.824S, S06.825S, S06.826S, S06.827S, S06.828S, S06.829S, S06.890S, S06.891S, S06.892S, S06.893S, S06.894S, S06.895S, S06.896S, S06.897S, S06.898S, S06.899S, S06.9X0S, S06.9X1S, S06.9X2S, S06.9X3S, S06.9X4S, S06.9X5S, S06.9X6S, S06.9X7S, S06.9X8S,S06.9X9S	
	S04.10, S04.11, S04.12, S04.20, S04.21, S04.22, S04.30, S04.31, S04.32, S04.40, S04.41, S04.42, S04.50, S04.51, S04.52, S04.60, S04.61, S04.62, S04.70, S04.71, S04.72, S04.811, S04.812,	Injury of other face and neck nerves

S04.819, S04.891, S04.892, S04.899	
S04.9	Injury of unspecified cranial nerve
S06.1X0, S06.1X1, S06.1X2, S06.1X3, S06.1X4, S06.1X5, S06.1X6, S06.1X7, S06.1X8, S06.1X9	Traumatic cerebral edema
S06.2X0, S06.2X1, S06.2X2, S06.2X3, S06.2X4, S06.2X5, S06.2X6, S06.2X7, S06.2X8, S06.1X9	Diffuse traumatic brain injury
S06.300, S06.301, S06.302, S06.303, S06.304, S06.305, S06.306, S06.307, S06.308, S06.309	Unspecified focal traumatic brain injury
S06.340, S06.341, S06.342, S06.343, S06.344, S06.345, S06.346, S06.347, S06.348, S06.349	Traumatic hemorrhage of right cerebrum
S06.350, S06.351, S06.352, S06.353, S06.354, S06.355, S06.356, S06.357, S06.358, S06.359	Traumatic hemorrhage of left cerebrum
S06.360, S06.361, S06.362, S06.363, S06.364, S06.365, S06.366, S06.367, S06.368, S06.369	Traumatic hemorrhage of cerebrum, unspecified
S06.370, S06.371, S06.372, S06.373, S06.374, S06.375, S06.376, S06.377, S06.378, S06.379	Contusion, laceration, and hemorrhage of cerebellum
S06.380, S06.381, S06.382, S06.383, S06.384, S06.385, S06.386, S06.387, S06.388, S06.389	Contusion, laceration, and hemorrhage of brainstem
S06.4X0, S06.4X1, S06.4X2, S06.4X3, S06.4X4, S06.4X5, S06.4X6, S06.4X7, S06.4X8, S06.4X9	Epidural hemorrhage
S06.5X0, S06.5X1, S06.5X2, S06.5X3, S06.5X4, S06.5X5, S06.5X6, S06.5X7, S06.5X8, S06.5X9	Traumatic subdural hemorrhage
S06.6X0, S06.6X1, S06.6X2, S06.6X3,	Traumatic subarachnoid hemorrhage

	S06.6X4, S06.6X5, S06.6X6, S06.6X7, S06.6X8, S06.6X9	
	S06.810, S06.811, S06.812, S06.813, S06.814, S06.815, S06.816, S06.817, S06.818, S06.819	Injury of right internal carotid artery, intracranial portion, not elsewhere classified
	S06.820, S06.821, S06.822, S06.823, S06.824, S06.825, S06.826, S06.827, S06.828, S06.829	Injury of left internal carotid artery, intracranial portion, not elsewhere classified
	S06.890, S06.891, S06.892, S06.893, S06.894, S06.895, S06.896, S06.897, S06.898, S06.899	Other specified intracranial injury
	S06.9X0, S06.9X1, S06.9X2, S06.9X3, S06.9X4, S06.9X5, S06.9X6, S06.9X7, S06.9X8, S06.9X9	Unspecified intracranial injury
	S06.A0, A06.A1	Traumatic brain compression and herniation
Chief Complaint Terms		senile, alzheimer*, dementia, adaptive neurological modifications, (trouble, hard, difficult, impair, problems, deficit) AND (concentrat, memor, cognitive, cognition)
Exclusions		
Chief Complaint Terms		sleep, general weakness, headache, fever, abdominal pain, minor complaints not otherwise specified

Plain Language Syntax Description: The Cognition and Central Nervous System Disability (v1) definition intends to identify emergency department visits by people with cognition-related disabilities. The definition includes diagnosis codes and words related to functional difficulty related to remembering, concentrating, or making decisions. Users can combine the Cognition and Central Nervous System Disorders definition with other definitions used to track important public health outcomes (e.g., heat-related illness, suicide attempts, or infection) to find out if emergency department visits for these important outcomes are more common among people with cognition-related disabilities compared to people without cognition-related disabilities. This definition will not capture everyone with a cognition-related disability, but it can be used to look at trends and help public health professionals better understand the impact of health concerns on the disability community. This information can be used to help make sure the needs of people with disabilities are considered and addressed when responding to health concerns.

Table 2. ESSENCE syntax, Cognition and Central Nervous System Disability (v1) Definition

This definition was tested and intended to run on the "CC and DD parsed free text" field in ESSENCE.

Cognition and Central Nervous System
- ICD9
  - (,^;43[01456];^,or,^;43[01456][0-9];^,or,^;43[01456][0-9][0-9];^,or,^;433[012389];^,or,^;99702;^,or,^;2904;^,or,^;29410;^,or,^;2941;^,or,^;2941[0-9];^,or,^;310;^,or,^;310[0-9];^,or,^;310[0-9][0-9];^,or,^;331;^,or,^;331[0-9];^,or,^;331[0-9][0-9];^,or,^;345;^,or,^;345[0-9];^,or,^;345[0-9][0-9];^,or,^;36816;^,or,^;7800[13];^,or,^;7846;^,or,^;78469;^,or,^;7845[129];^,or,^;907;^,or,^;907[0-9];^,or,^;907[0-9][0-9];^,),ANDNOT,(,^;800;^,or,^;800[0-9];^,or,^;800[0-9][0-9];^,or,^;8049;^,or,^;8049[0-9];^,or,^;850;^,or,^;850[0-9];^,or,^;850[0-9][0-9];^,or,^;8541;^,or,^;8541[0-9];^,)
- ICD10
  - ^;G45[01289]^,or,^;G46^,or,^;G973[12]^,or,^;I6[013456]^,or,^;I678[49]^,or,^;I978[12]^,or,^;S0190XA^,or,^;S02[0123][0129X][0-9X][AB]^,or,^;S02[89][0-9X][0-9X][AB]^,or,^;S0211[GH][AB]^,or,^;S0212[129][DGKS]^,or,^;S024[0-9][0-9A-B][AB]^,or,^;S026[0-9][0-9X][AB]^,or,^;S028[345][129X][DGKS]^,or,^;S06[012]X[1-9][AB]^,or,^;S06[456]X[0-9]A^,or,^;S063[0-9][0-9]A^,or,^;S068[129][0-9]A^,or,^;S069X[0-9]A^,or,^;Z51.89^,or,^;A06A1^,or,^;F01^,or,^;F028[12]^,or,^;F03^,or,^;F05^,or,^;F070^,or,^;F078^,or,^;F482^,or,^;G13^,or,^;G20^,or,^;G21^,or,^;G30^,or,^;G31^,or,^;G318[12459]^,or,^;G40^,or,^;G454^,or,^;G90[A04589]^,or,^;G94^,or,^;G97[45]^,or,^;I67850^,or,^;I68858^,or,^;R40243^,or,^;R403^,or,^;R414^,or,^;R418[49]^,or,^;R470[0-2]^,or,^;R471^,or,^;R478[129]^,or,^;R479^,or,^;R48[1389]^,or,^;S04[0-9][0-9][0-9X]S^,or,^;S060-9][0-9X][0-9]S^,or,^;S06A0^
- SNOMED
  - ^;29164008;^,or,^;25762009;^,or,^;271721006;^,or,^;26929004;^,or,^;79631006;^,or,^;19598007;^,or,^;278510009;^,or,^;407675009;^,or,^;230390002;^,or,^;84757009;^,or,^;241006;^,or,^;6204001;^,or,^;270907008;^,or,^;195230003;^,or,^;195190007;^,or,^;195186005;^,or,^;195189003;^,or,^;42341009;^,or,^;432504007;^,or,^;230692004;^,or,^;62914000;^,or,^;195185009;^,or,^;116224001;^,or,^;291571000119106;^,or,^;195155004;^,or,^;195160000;^,or,^;195233001;^,or,^;195235008;^,or,^;195232006;^,or,^;20059004;^,or,^;195234007;^,or,^;230698000;^,or,^;266257000;^,or,^;473459007;^,or,^;230699008;^,or,^;230700009;^,or,^;210038008;^,or,^;223176004;^,or,^;262693007;^,or,^;82999001;^,or,^;127296001;^,or,^;212141007;^,or,^;17769000;^,or,^;36217008;^,or,^;40425004;^,or,^;432776007;^,or,^;230763008;^,or,^;274100004;^,or,^;450410005;^,or,^;262955000;^,or,^;209987007;^,or,^;102891000;^,or,^;362975008;^,or,^;2776000;^,or,^;191519005;^,or,^;80690008;^,or,^;230270009;^,or,^;81308009;^,or,^;238153009;^,or,^;52448006;^,or,^;4

29998004;^,or,^;95640005;^,or,^;4223005;^,or,^;230292008;^,or,^;49049000;^,or,^;1997
2008;^,or,^;230296006;^,or,^;312991009;^,or,^;242995009;^,or,^;230736007;^,or,^;3868
06002;^,or,^;32422007;^,or,^;384821006;^,or,^;409083006;^,or,^;129618003;^,or,^;1282
00000;^,or,^;86489003;^,or,^;15241006;^,or,^;135761000119101;^,or,^;386557006;^

- All Together
  - (,^;43[01456];^,or,^;43[01456][0-9];^,or,^;43[01456][0-9][0-
9];^,or,^;433[012389];^,or,^;99702;^,or,^;2904;^,or,^;29410;^,or,^;2941;^,or,^;2941[0-
9];^,or,^;310;^,or,^;310[0-9];^,or,^;310[0-9][0-9];^,or,^;331;^,or,^;331[0-9];^,or,^;331[0-
9][0-9];^,or,^;345;^,or,^;345[0-9];^,or,^;345[0-9][0-
9];^,or,^;36816;^,or,^;7800[13];^,or,^;7846;^,or,^;78469;^,or,^;7845[129];^,or,^;907;^,or,^;
907[0-9];^,or,^;907[0-9][0-
9];^,or,^;G45[01289]^,or,^;G46^,or,^;G973[12]^,or,^;I6[013456]^,or,^;I678[49]^,or,^;I978[
12]^,or,^;S0190XA^,or,^;S02[0123][0129X][0-9X][AB]^,or,^;S02[89][0-9X][0-
9X][AB]^,or,^;S0211[GH][AB]^,or,^;S0212[129][DGKS]^,or,^;S024[0-9][0-9A-
B][AB]^,or,^;S026[0-9][0-9X][AB]^,or,^;S028[345][129X][DGKS]^,or,^;S06[012]X[1-
9][AB]^,or,^;S06[456]X[0-9]A^,or,^;S063[0-9][0-9]A^,or,^;S068[129][0-9]A^,or,^;S069X[0-
9]A^,or,^;Z51.89^,or,^;A06A1^,or,^;F01^,or,^;F028[12]^,or,^;F03^,or,^;F05^,or,^;F070^,o
r,^;F078^,or,^;F482^,or,^;G13^,or,^;G20^,or,^;G21^,or,^;G30^,or,^;G31^,or,^;G318[1245
9]^,or,^;G40^,or,^;G454^,or,^;G90[A04589]^,or,^;G94^,or,^;G97[45]^,or,^;I67850^,or,^;I6
8858^,or,^;R40243^,or,^;R403^,or,^;R414^,or,^;R418[49]^,or,^;R470[0-
2]^,or,^;R471^,or,^;R478[129]^,or,^;R479^,or,^;R48[1389]^,or,^;S04[0-9][0-9][0-
9X]S^,or,^;S060-9][0-9X][0-
9]S^,or,^;S06A0^,or,^;29164008;^,or,^;25762009;^,or,^;271721006;^,or,^;26929004;^,or,
^;79631006;^,or,^;19598007;^,or,^;278510009;^,or,^;407675009;^,or,^;230390002;^,or,^
;84757009;^,or,^;241006;^,or,^;6204001;^,or,^;270907008;^,or,^;195230003;^,or,^;1951
90007;^,or,^;195186005;^,or,^;195189003;^,or,^;42341009;^,or,^;432504007;^,or,^;2306
92004;^,or,^;62914000;^,or,^;195185009;^,or,^;116224001;^,or,^;291571000119106;^,or
,^;195155004;^,or,^;195160000;^,or,^;195233001;^,or,^;195235008;^,or,^;195232006;^,
or,^;20059004;^,or,^;195234007;^,or,^;230698000;^,or,^;266257000;^,or,^;473459007;^,
or,^;230699008;^,or,^;230700009;^,or,^;210038008;^,or,^;223176004;^,or,^;262693007;
^,or,^;82999001;^,or,^;127296001;^,or,^;212141007;^,or,^;17769000;^,or,^;36217008;^,
or,^;40425004;^,or,^;432776007;^,or,^;230763008;^,or,^;274100004;^,or,^;450410005;^,
or,^;262955000;^,or,^;209987007;^,or,^;102891000;^,or,^;362975008;^,or,^;2776000;^,o
r,^;191519005;^,or,^;80690008;^,or,^;230270009;^,or,^;81308009;^,or,^;238153009;^,or,
^;52448006;^,or,^;429998004;^,or,^;95640005;^,or,^;4223005;^,or,^;230292008;^,or,^;4
9049000;^,or,^;19972008;^,or,^;230296006;^,or,^;312991009;^,or,^;242995009;^,or,^;23
0736007;^,or,^;386806002;^,or,^;32422007;^,or,^;384821006;^,or,^;409083006;^,or,^;12
9618003;^,or,^;128200000;^,or,^;86489003;^,or,^;15241006;^,or,^;135761000119101;^,
or,^;386557006;^,),or,^senile^,or,^alzh[ei][ie]mer^,or,^dementia^,or,(,(,(,(,^trouble^,or,^har
d^,or,^difficult^,or,^impair^,or,^problems^,or,^deficit^,),AND,(,^concentrat^,or,^memor^,o
r,^cognitive^,or,^cognition^,),),or,^adaptive neurological modifications^,or,^central
nervous system disorder^,or,^CNS disorder^,),ANDNOT,(,^;800;^,or,^;800[0-
9];^,or,^;800[0-9][0-9];^,or,^;8049;^,or,^;8049[0-9];^,or,^;850;^,or,^;850[0-9];^,or,^;850[0-
9][0-9];^,or,^;8541;^,or,^;8541[0-9];^,or,^General
weakness^,or,^headache^,or,^fever^,or,^abdominal pain^,or,^minor complaints not
otherwise specified^,)

Appendix

<u>Definition Evolution During Development</u>: Cognition and Central Nervous System Disability (v1)

Iteration 1: The first iteration of the definition included domains of Hearing, Vision, Mobility, Intellectual and Developmental, and Cognition and Central Nervous System. This first definition was presented to the scientific panel.
 	
• General
    ○ The scientific panel suggested we capture more domains and conditions, like those included in disability policies like the Americans with Disabilities Act (ADA). As a result, we excluded conditions generally expected to last less than 6 months, those that can be treated surgically or through medication, and are acute or generally self-limiting conditions (e.g., conditions that do not result in functional impairments or limitations to daily life).
    ○ We included additional domains for Self-care and Learning
    ○ Mapped ICD-10 to ICD-9 where needed

Iteration 2: The second iteration was provided to the scientific panel for feedback and edits. The following changes were made: • Cognition and Central Nervous System   ○ Kept all CWS epilepsy conditions in for consistency

Iteration 3: The third iteration was provided to the scientific panel for feedback and edits. The following changes were made:
 	
• Cognition and Central Nervous System
    ○ None
• General
    ○ Added numerous keywords provided during breakout sessions of the scientific panel

Iteration 4: Following the third scientific panel, CDC pilot-tested the definition at the national level. The following changes were made: • General   ○ Added key chief complaint terms discussed during the panel meeting to each domain

Iteration 5: Following state and local pilot testing of the definition, the following changes were made:
 	
• Cognition and Central Nervous System
    ○ Cleaned up ICD-9, ICD-10, and SNOMED of duplicate codes in Excel sheet.
    ○ Suggestion to reduce false positives by removing "hard" or "sleep"
        ▪ Removed "sleep" from keywords list.
    ○ Suggestion to include exclusion terms for "General weakness", "headache", "fever", "abdominal pain", "minor complaints not otherwise specified"
        ▪ All added to exclusions.

Iteration 6: Prior to the fourth scientific panel, the definition development team met with members of a project team at the Office of the Assistance Secretary of Planning and Evaluation (ASPE) regarding an ongoing ASPE project to develop a definition for IDD. The definition development team conducted a crosswalk of the two definitions resulting in the following changes: • General   ○ Description for how keywords were collected and references to the Washington Group Short Set were added to each relevant fact sheet
Iteration 7: CDC conducted additional round of pilot testing of the definition at the national level to address concerns with inconsistent and/or low PPVs at the state and local level. Due to the scope of

proposed revisions as described below, the definition development team decided to hold an ad-hoc fifth scientific panel meeting in May 2024.

- Cognition and Central Nervous System
    - Suggested to move several codes often used in combination with stroke from specific developmental or learning to cognition and CNS (e.g., Agnosia, R48.1; Apraxia, R48.2; Visual agnosia, R48.3; Other symbolic dysfunctions, R48.8; Unspecified symbolic dysfunctions, R48.9; Speech disturbances, not elsewhere classified, R47.0, R47.01, R47.02, R47.1, R47.8, R47.81, R47.82, R47.89, R47.9).

Iteration 8: Following the fifth and final scientific panel, the following changes were made:

- Cognition and Central Nervous System
    - Moved agnosia, other/unspecified symbolic dysfunctions, and speech disturbances, not elsewhere classified from specific developmental to Cognition and Central Nervous System domain

Note: Table includes revisions for Cognition and Central Nervous System domain only. See Overall Disability (v1) Definition Fact Sheet & Technical Brief for a full list of revisions.