Specific Developmental, Behavioral, and Learning Disability (v1) Definition Fact Sheet & Technical Brief

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<u>Definition Description</u>: The Specific Developmental, Behavioral, and Learning 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

<u>Use-Cases for Definition:</u> 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

<u>Justification</u>: Information on disability status and type are not systematically collected during health encounters, 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

<u>Validation Methods</u>: 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 Chronic Conditions Data Warehouse to develop the Specific Developmental, Behavioral, and Learning domain. If only ICD-10 was available in a definition, we used the prior version for ICD-9.

Learning Disabilities

Using this initial set of codes, we abstracted relevant ICD-10 codes following inclusion criteria. The scientific panel discussed the best domain to include conduct disorders, ADHD, and hyperkinetic syndromes. Ultimately the panel decided the best place for these codes was in this domain. Note that most of these codes are also included in the existing NSSP mental health definition. Keywords were developed from feedback following the third and fourth scientific panels, and from keywords included in the Washington Group Short Set related to this domain. Following state and local pilot testing, we excluded additional terms and excluded specific ICD-10 codes that were leading to false positive results.

Important analytic notes: If users plan to explore the co-occurrence of this domain with the vision disability domain, revision of the keyword negations should be conducted as this domain excludes "vision impaired" and "vision problems" whereas the vision domain includes these as keywords. Additionally, several mental health-related conditions are included in the Specific Developmental, Behavioral, and Learning domain, including codes related to attention-deficit/hyperactivity disorder (ADHD) and conduct disorders. If using the mental health code list (or the existing NSSP mental health definition) in combination with the disability definitions to examine mental health as an outcome among people with disabilities analysts will need to decide whether to consider ADHD and conduct disorders as disabilities or as outcomes to examine among people with disabilities depending on the purpose of the analysis and then adjust the definitions accordingly.

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.

This project was supported by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling \$650,000 with 100 percent funded by CDC/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, the U.S. Government, Government, the California Department of Public Health or the California Health and Human Services Agency.

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 IDD 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.

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Validation Results: Jurisdictions found that this definition was broadly able to capture the intended cases. A few false positives were identified, including picking up cases where there was a language barrier. The Specific Developmental, Behavioral, and Learning Disability (v1) definition was tested nationally and by two states: CA and IL. 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 83% for CA and 92% for IL. Based on the validation process, the following revisions were made to the definition including excluding common phrases that are capturing false positives: Clear speech; denies difficult speech; Difficulty breathing; Difficulty seeing; Difficulty swallow; Difficulty walking; Does not speak English; Hard to swallow; Respiratory distress; Language barrier; No motor function; no slurred speech; NO speech difficulty; Primary language; PTS disorder; speech clear; Vision impaired; Vision Problems; Will not speak. A few false positives were identified, however showed limited impact on the definitions ability to identify intended cases. The cognition and CNS 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 for agnosia, other/unspecified symbolic dysfunctions, and speech disturbances, not elsewhere classified were moved to Cognition/CNS domain as they commonly follow stroke. Following edits made following jurisdiction testing and the second round of national-level testing, PPV at the national level was 96.53%.

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

Diagnostic codes associated with Intellectual and Developmental and Specific Developmental, Behavioral, and Learning domains may be applied differently for children and adults; therefore, data users should be aware that certain codes may be more or less frequently used depending on age. Examples are developmental disorders that are more commonly diagnosed in school-aged children, such as learning disabilities (dyslexia, dyscalculia, dysgraphia, etc.), attention-deficit/hyperactivity disorder (ADHD), and behavioral disorders, such as conduct disorder. Intellectual disability may also not be clinically recognized, particularly among adults, depending on the severity or underlying cause (see <u>Patel</u> <u>et al., 2020</u>).

Additionally, there are at least five limitations common to the Overall Disability (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.

<u>Definition Fields and Structure</u>: Specific Developmental, Behavioral, and Learning Disability, including unique chief complaint terms and diagnostic codes.

Detailed Definition Components

Table 1. Inclusion and exclusion terms based on a case definition using hearing disability-specific discharge diagnosis codes, Disability – Specific Developmental, Behavioral, and Learning definition

Variable Type	Terms	Description (Diagnosis Codes Only)
Inclusions		
Discharge Diagnosis: ICD-10- CM	F63.0	Pathological gambling
	F63.1	Pyromania
	F63.2	Kleptomania
	F63.3	Trichotillomania
	F63.81	Intermittent explosive disorder
	F63.89	Other impulse disorders
	F63.9	Impulse disorder, unspecified
	F80.0	Phonological disorder
	F80.1	Expressive language disorder
	F80.2	Mixed receptive-expressive language disorder
	F80.4	Speech and language development delay due to hearing loss
	F80.81	Childhood onset fluency disorder
	F80.82	Social pragmatic communication disorder

	F80.89	Other developmental disorders of speech and language
	F80.9	Developmental disorder of speech and language, unspecified
	F81.0	Specific reading disorder
	F81.2	Mathematics disorder
	F81.81	Disorder of written expression
	F81.89	
		Other developmental disorders of scholastic skills
	F81.9	Developmental disorder of scholastic skills, unspecified
	F82	Specific developmental disorder of motor function
	F90.0	Attention-deficit hyperactivity disorder, predominantly inattentive type
	F90.1	Attention-deficit hyperactivity disorder, predominantly hyperactive type
	F90.2	Attention-deficit hyperactivity disorder, combined type
	F90.8	Attention-deficit hyperactivity disorder, other type
	F90.9	Attention-deficit hyperactivity disorder, unspecified type
	F91.0	Conduct disorder confined to family context
	F91.1	Conduct disorder, childhood-onset type
	F91.2	Conduct disorder, adolescent-onset type
	F91.3	Oppositional defiant disorder
	F91.8	Other conduct disorders
	F91.9	Conduct disorder, unspecified
	H93.25	Central auditory processing disorder
	R47.0, R47.01,	Speech disturbances, not elsewhere classified
	R47.02, R47.1,	
	R47.8, R47.81,	
	R47.82, R47.89,	
	R47.9	
	R48.0	Dyslexia and alexia
	R48.2	Apraxia
Discharge	312.30	Impulse disorder, unspecified
Diagnosis: ICD-9-	312.31	Pathological gambling
СМ	312.32	Kleptomania
	312.33	Pyromania
	312.39	Trichotillomania
	312.9	Conduct disorder, unspecified
	313.81	Oppositional defiant disorder
	314.01	Attention-deficit hyperactivity disorder, predominantly hyperactive
	514.01	type
	314.2	Hyperkinetic conduct disorder
	314.8	Other specified manifestations of hyperkinetic syndrome
	314.9	Unspecified hyperkinetic syndrome
	314.9 315	Specific delays in development
	315	Specific delays in development
	315 315.1 315.2	Specific delays in development Dyscalculia Other developmental disorders of scholastic skills
	315 315.1 315.2 315.3, 315.31	Specific delays in development Dyscalculia Other developmental disorders of scholastic skills Expressive language disorder
	315 315.1 315.2 315.3, 315.31 315.32	Specific delays in development Dyscalculia Other developmental disorders of scholastic skills Expressive language disorder Central auditory processing disorder
	315 315.1 315.2 315.3, 315.31 315.32 315.34	Specific delays in development Dyscalculia Other developmental disorders of scholastic skills Expressive language disorder Central auditory processing disorder Speech and language development delay due to hearing loss
	315 315.1 315.2 315.3, 315.31 315.32 315.34 315.35	Specific delays in development Dyscalculia Other developmental disorders of scholastic skills Expressive language disorder Central auditory processing disorder Speech and language development delay due to hearing loss Childhood onset fluency disorder
	315 315.1 315.2 315.3, 315.31 315.32 315.34	Specific delays in development Dyscalculia Other developmental disorders of scholastic skills Expressive language disorder Central auditory processing disorder Speech and language development delay due to hearing loss Childhood onset fluency disorder Dyslexia, developmental
	315 315.1 315.2 315.3, 315.31 315.32 315.34 315.35	Specific delays in development Dyscalculia Other developmental disorders of scholastic skills Expressive language disorder Central auditory processing disorder Speech and language development delay due to hearing loss Childhood onset fluency disorder Dyslexia, developmental Other developmental disorders of speech and language
	315 315.1 315.2 315.3, 315.31 315.32 315.34 315.35	Specific delays in development Dyscalculia Other developmental disorders of scholastic skills Expressive language disorder Central auditory processing disorder Speech and language development delay due to hearing loss Childhood onset fluency disorder Dyslexia, developmental Other developmental disorders of speech and language Phonological disorder
	315 315.1 315.2 315.3, 315.31 315.32 315.34 315.35 315.39	Specific delays in development Dyscalculia Other developmental disorders of scholastic skills Expressive language disorder Central auditory processing disorder Speech and language development delay due to hearing loss Childhood onset fluency disorder Dyslexia, developmental Other developmental disorders of speech and language Phonological disorder Social pragmatic communication disorder
	315 315.1 315.2 315.3, 315.31 315.32 315.34 315.35	Specific delays in development Dyscalculia Other developmental disorders of scholastic skills Expressive language disorder Central auditory processing disorder Speech and language development delay due to hearing loss Childhood onset fluency disorder Dyslexia, developmental Other developmental disorders of speech and language Phonological disorder

	784.61	Dyslexia
	312.00, 312.01, 312.02, 312.03,	Conduct disorder, childhood-onset type
	312.81	
	312.10, 312.11, 312.12, 312.13, 312.4, 312.89	Other conduct disorders
	312.20, 312.21, 312.22, 312.23, 312.82	Conduct disorder, adolescent-onset type
	312.34, 312.35	Intermittent explosive disorder
	312.4, 312.81, 312.82, 312.89	
	314, 314.00, 314.1	Attention-deficit hyperactivity disorder, unspecified type
	314.1, 314.2	Attention-deficit hyperactivity disorder, other type
	315.0, 315.00, 315.01, 315.02	Dyslexia and alexia
	315.09, 315.2	Disorder of written expression
	784.69	Apraxia (approximate match)
	V40.0	Developmental disorder of scholastic skills, unspecified
Discharge	600009	Pyromania
Diagnosis code –	1855002	Developmental disorder of scholastic skills, unspecified
SNOMED	7461003	Attention-deficit hyperactivity disorder, predominantly hyperactive type
	17155009	Trichotillomania
	17961008	Conduct disorder, childhood-onset type
	18085000	Pathological gambling
	18941000	Oppositional defiant disorder
	22181003	Central auditory processing disorder
	25766007	Mixed receptive-expressive language disorder
	31177006	Attention-deficit hyperactivity disorder, combined type
	35253001	Attention-deficit hyperactivity disorder, predominantly inattentive type
	40987004	Intermittent explosive disorder
	45677003	Disorder of written expression
	47916000	Dyscalculia
	48826008	Conduct disorder, adolescent-onset type
	66347000	Impulse disorder, unspecified
	68345001	Apraxia
	69361009	Kleptomania
	106170009	Dyslexia
	161129001	Other developmental disorders of scholastic skills
	192136006	Specific reading disorder
	229719002	Phonological disorder
	229733002 229751001	Expressive language disorder
	231540008	Social pragmatic communication disorder Conduct disorder confined to family context
	268672004	Developmental disorder of speech and language, unspecified
	268672004	Specific developmental disorder of motor function
	280032002	Other developmental disorders of speech and language

	281016006	Dysgraphia	
	406506008	Attention-deficit hyperactivity disorder, other type	
	430909002	Conduct disorder, unspecified	
	441719005	Speech and language development delay due to hearing loss	
	288271000119103	Childhood onset fluency disorder	
Chief Complaint Terms	nonverbal, hard to understand, difficulty finding words (trouble, hard, difficulty, impair, problems, reduced) AND (learning, speech, speech development, language, language development, motor function, communicat), (learning, speech, language) AND (difficulty, difficulties, disorder, delay, disability)		
Exclusions			
Chief Complaint Terms	clear speech, (denie, deny, no) AND (difficult speech, speech difficulty, difficulty breathing, difficulty seeing, difficulty swallow, Difficulty walking, motor function, slurred speech), Does not speak English, Hard to swallow, Respiratory distress, Language barrier, Primary language, PTS disorder, speech clear, Vision impaired, Vision Problems, Will not speak		

<u>Plain Language Syntax Description</u>: The Specific Developmental, Behavioral, and Learning Disability (v1) definition intends to identify emergency department visits by people with specific developmental, behavioral, and learning disabilities. The definition includes diagnosis codes and words related to specific developmental, behavioral, and learning disabilities. Users can combine the Specific Developmental, Behavioral, and Learning Disability (v1) 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 specific developmental, behavioral, and learning disabilities. This definition will not capture everyone with specific developmental, behavioral, and learning disabilities, but it can be used to look at trends and help public health professionals better understand the impact of health concerns on the disabilities are considered and addressed when responding to health concerns.

Table 2. ESSENCE syntax, Specific Developmental, Behavioral, and Learning Disability (v1) Definition

This definition w	vas tested and intended to run on the "CC and DD parsed free text" field in ESSENCE.
Specific Develo	pmental, Behavioral, and Learning
• ICD9	-
0	^;31[245];^,or,^;3124;^,or,^;31[2345][0-9][0-9];^,or,^;31381;^,or,^;314[12];^,or,^;315[0- 9];^,or,^;315[0-9][0-9];^,or,^;7813;^,or,^;78461;^
 ICD10 	
0	^;F63[01239]^,or,^;F638[19]^,or,^;F80[01249]^,or,^;F808[129]^,or,^;F81[0249]^,or,^;F81 8[19]^,or,^;F82^,or,^;F90[0-9]^,or,^;F91[0-9]^,or,^;H9325^,or,^;R48[02]^,or,^;V400^
 SNOM 	
0	^;1855002;^,or,^;22181003;^,or,^;25766007;^,or,^;45677003;^,or,^;47916000;^,or,^;683 45001;^,or,^;106170009;^,or,^;161129001;^,or,^;192136006;^,or,^;229719002;^,or,^;229 733002;^,or,^;229751001;^,or,^;268672004;^,or,^;268674003;^,or,^;280032002;^,or,^;28 1016006;^,or,^;441719005;^,or,^;288271000119103;^,or,^;31177006;^,or,^;406506008;^, or,^;7461003;^,or,^;35253001;^,or,^;66347000;^,or,^;430909002;^,or,^;231540008;^,or, ^;40987004;^,or,^;69361009;^,or,^;18941000;^,or,^;18085000;^,or,^;600009;^,or,^;1715 5009;^,or,^;48826008;^,or,^;17961008;^
 All Tog 	lether
o	A:31[245];^,or,^;3124;^,or,^;31[2345][0-9][0-9];^,or,^;31381;^,or,^;314[12];^,or,^;315[0-9];^,or,^;7813;^,or,^;78461;^,or,^;F63[01239]^,or,^;F638[19]^,or,^;F80[01249]^,or,^;F808 [129]^,or,^;F81[0249]^,or,^;F818[19]^,or,^;F82^,or,^;F90[0-9]^,or,^;F91[0-9]^,or,^;F81[0249]^,or,^;F818[19]^,or,^;F82^,or,^;F90[0-9]^,or,^;F91[0-9]^,or,^;H9325^,or,^;R48[02]^,or,^;K400^,or,^;1855002;^,or,^;22181003;^,or,^;25766007;^,or,^;45677003;^,or,^;247916000;^,or,^;68345001;^,or,^;106170009;^,or,^;161129001;^,or,^;192136006;^,or,^;229719002;^,or,^;229733002;^,or,^;229751001;^,or,^;268674003;^,or,^;280032002;^,or,^;281016006;^,or,^;441719005;^,or,^;268674003;^,or,^;280032002;^,or,^;281016006;^,or,^;441719005;^,or,^;66347000;^,or,^;31177006;^,or,^;406506008;^,or,^;7461003;^,or,^;35253001;^,or,^;66347000;^,or,^;18085000;^,or,^;231540008;^,or,^;740987004;^,or,^;69361009;^,or,^;18941000;^,or,^;18085000;^,or,^;600009;^,or,^;17155009;^,or,^;48826008;^,or,^;17961008;^,or,^ <non finding<="" p="" to="" understand^,or,^difficulty="" verbal^,or,^hard=""> words^,or,(,(,^trouble^,or,^hard^,or,^difficulty^,or,^impair^,or,^problems^,or,^reduced^,), AND,(,^learning^,or,^speech^,or,^delay^,or,^disability^,),),ANDNOT,(,^clear speech^,or,^Does not speak English^,or,^Hard to swallow^,or,^Respiratory distress^,or,^Language barrier^,or,^Primary language^,or,^PTS disorder^,or,^speech clear^,or,Vision impaired^,or,^deny^,or,^onficulty seeing^,or,^difficulty swallow^,or,^Difficulty</non>

Appendix

<u>Definition Evolution During Development</u>: Specific Developmental, Behavioral, and Learning Disability (v1)

Iteration 1: The first iteration of the definition included domains of Hearing, Vision, Mobility, IDD, and Cognition and Central Nervous System Disorders. 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:

- Specific Developmental and Learning
 - o None

Iteration 3: The third iteration was provided to the scientific panel for feedback and edits. The following changes were made:

- General
 - o 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:

- Specific Developmental and Learning
 - Cleaned up ICD-9, ICD-10, and SNOMED of duplicate codes in Excel sheet.
 - Deleted and added codes for scientific panels final decision to move ADHD and Conduct disorders into this domain.
 - Suggestion to exclude common phrases that are capturing false positives: Clear speech; denies difficult speech; Difficulty breathing; Difficulty seeing; Difficulty swallow; Difficulty walking; Does not speak English; Hard to swallow; Respiratory distress; Language barrier; No motor function; No slurred speech; NO speech difficulty; Primary language; PTS disorder; Speech clear; Vision impaired; Vision problems; Will not speak
 - Reviewed "All Together" syntax and included all codes from ICD-9, ICD-10 and SNOMED in final query

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:

• Specific developmental and learning

- Added all relevant specific developmental and learning ASPE codes to syntax and Excel
- 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.

- Specific Developmental and Learning
 - Suggested to change title of domain name to Specific Developmental, Behavioral, and Learning to incorporate conduct disorder diagnosed in childhood.
 - Suggested to remove a subset of conduct disorders typically diagnosed in adults (e.g., Pathological gambling, F63.0; Pyromania, F63.1; Kleptomania, F63.2;Trichotillomania, F63.3; Intermittent explosive disorder, F63.81; Other impulse disorders, F63.89; and Impulse disorder, unspecified, F63.9) as these disorders may not occur in childhood and are included in existing mental health domain. We suggested keeping conduct disorders that are considered developmental (e.g., Conduct disorder, childhood-onset type; Oppositional defiant disorder).
 - Suggested to move several codes often used in combination with stroke to cognition/CNS domain (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:

- Specific Developmental, Behavioral, and Learning
 - Changed title of domain name to Specific Developmental, Behavioral, and Learning
 - Panel decided to leave in a subset of conduct disorders typically diagnosed in adulthood
 - They are all possibly diagnosed in childhood
 - In blue sky day, may not expect a lot of hospitalizations from this group, but maybe if schools were shut down or disrupted/the technical supports are gone and someone is out in a less supported environment, then yes
 - Having the behavioral change in the title helps capture these
 - Moved agnosia, other/unspecified symbolic dysfunctions, and speech disturbances, not elsewhere classified to Cognition/CNS domain, but decided not to move apraxia
 - Concern if we remove, we will miss childhood apraxia; it is the same code for children as for adults; it is something that is often starting in childhood and persists and co-occurs with other conditions as well

Note: Table includes revisions for specific developmental, behavioral, and learning domain only. See Overall Disability (v1) Definition Fact Sheet & Technical Brief for a full list of revisions.