

Vision Disability (v1)
Definition Fact Sheet & Technical Brief

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Definition Description: The Vision 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 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 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 definition. 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 vision domain. If only ICD-10 was available in a definition, we used the prior version for ICD-9:

- [Sensory - Blindness and Visual Impairment](#)

Using this initial set of codes, we abstracted relevant ICD-10 codes following inclusion criteria. Additional codes were collected from an ongoing project at the Massachusetts Department of Health, Office of Health Equity. Many of these codes overlapped with the existing CCW definition. We also used one research paper to identify additional codes by [Liu et al. \(2020\)](#). Keywords were developed from feedback following the third and fourth scientific panels, and from keywords included in the Washington Group Short Set related to vision. 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 are 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 conditions included within each domain.

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Definition Fields and Structure: Vision-related disability, including unique chief complaint terms and diagnostic codes.

Validation Results: Jurisdictions found that this definition was broadly able to capture the intended cases. Several false positives were identified, often because of misspellings or the presence of negations. The Vision Disability (v1) definition was tested nationally and by three states: TN, GA, and CO. Jurisdictions partnering with CDC and ASTHO to pilot this definition saw a positive predictive value (PPV) of 25% for TN, 71% for GA and 51% for CO. As a result of the validation process, it was decided to remove H53.9, H53.8, H53.2, H53.4 (but include H53.4[1-9][1-9], add H02.829 to negations. H57.11 (and H57 overall) is not included in syntax, but may have been captured with keywords, so this was added to negations. Additionally, negations were added for blurred/blurry vision, visual disturbance, vision problem, migraines, seeing care (misspellings of seeking), negations were added for 'DENIE', 'DENY', or 'NO' in combination with ('VISION', 'EYE', 'SIGHT', 'SEEING') and ('LOSS', 'PROBLEM'), and negations were added for 'SEEING' accompanied by words related to medical personnel or other words such as 'STARS', 'BLOOD', 'PEOPLE', 'FACES', 'FLASHING LIGHT', 'BLACK DOTS/SPOTS'. As a result of the low jurisdiction PPV, validation on this definition was conducted again at the national level following the conclusion of final

definition revisions. Following edits made following jurisdiction testing and the second round of national-level testing, PPV at the national level was 97.6%.

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

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.

Detailed Definition Components

Table 1. Inclusion and exclusion terms based on a case definition using vision-specific discharge diagnosis codes, Vision Disability (v1) definition

Variable Type	Terms	Description (Diagnosis Codes Only)
Inclusions		
Discharge Diagnosis:ICD- 10-CM	C69.0, C69.1, C69.2, C69.3, C69.4, C69.5, C69.6, C69.8, C69.9	Malignant neoplasm of eye
	D31.0, D31.1, D31.2, D31.3, D31.4, D31.5, D31.6, D31.9	Benign neoplasm of the eye
	E09.3, E13.3, E10.3, E11.3	Diabetes mellitus, including complications
	G36.0	Optic neuritis
	G45.3	Amaurosis fugax
	G60.1	Refsum's disease
	G90.2	Horner's syndrome
	H02.0, H02.1, H02.2, H02.3, H02.4, H02.5, H02.6, H02.7, H02.8, H02.9	Other eyelid disorders (e.g., entropion, ectropion, ptosis)
	H04.30	Dacryocystitis, obstruction of lacrimal duct
	H18.6	Keratoconus
	H18.9	Keratitis, corneal ulcer
	H20.1	Chronic iridocyclitis
	H25, H26	Cataract, excludes diabetic or congenital
	H27.0, H27.00, H27.01, H27.02, H27.03	Aphakia (disorder, acquired)
	H27.1, H27.10, H27.11, H27.111, H27.112, H27.113, H27.119, H27.12, H27.121, H27.122, H27.123, H27.129, H27.13, H27.131, H27.132, H27.133, H27.139	Dislocation of lens
	H27.8	Other specified disorders of lens
	H27.9	Unspecified disorder of lens
	H30, H31	Chorioretinal inflammation
	H33.0, H33.1, H33.2, H33.3, H33.4, H33.8	Retinal detachment
	H35	Macular degeneration
	H35.3	Hypertensive retinopathy and other retinal diseases not specifically listed
	H35.52	Retinitis pigmentosa
	H44.2	Myopia, astigmatism (except for the specific conditions defined by diagnostic code 371), presbyopia, and other disorders of refraction and accommodation
	H47.6	Disorders of visual cortex
	H49.0, H49.1, H49.2, H49.3, H49.4, H49.8, H49.9	Paralytic strabismus
	H50.0, H50.1, H50.2, H50.3, H50.4, H50.5, H50.6, H50.8, H50.9	Strabismus
	H53.0	Amblyopia, visual field defects
	H53.10, H53.11, H53.12X, H53.13X	Subjective visual disturbances: Asthenopia, Day blindness, Hemeralopia, Metamorphopsia, Photophobia, Scintillating scotoma, Sudden visual loss, Visual halos

H53.3, H53.31, H53.32, H53.33, H53.34	Other disorders of binocular vision: Abnormal retinal correspondence, Fusion with defective stereopsis, Simultaneous visual perception without fusion, Suppression of binocular vision
H53.41, H53.42, H53.43, H53.45, H53.46, H53.47, H53.48	Visual field defects: Enlarged blind spot, Generalized contraction of visual field, Hemianop(s)ia (heteronymous)(homonymous), Quadrant anop(s)ia, Scotoma: arcuate, Bjerrum, central, ring
H53.50, H53.51, H53.52, H53.53, H53.54, H53.55, H53.59	Color vision deficiencies: Achromatopsia, Acquired color vision deficiency, Color blindness, Deuteranomaly, Deuteranopia, Protanomaly, Protanopia, Tritanomaly, Tritanopia
H53.60, H53.61, H53.62, H53.63, H53.69	Night blindness
H53.8	Other visual disturbances
H54.0, H54.0X33, H54.0X34, H54.0X35, H54.0X43, H54.0X44, H54.0X45, H54.0X53, H54.0X54, H54.0X55	Blindness, both eyes
H54.10, H54.11, H54.1131, H54.1132, H54.1141, H54.1142, H54.1151, H54.1152, H54.12, H54.1213, H54.1214, H54.1215, H54.1223, H54.1224, H54.1225	Blindness one eye, low vision other eye
H54.2, H54.2X11, H54.2X12, H54.2X21, H54.2X22	Low vision, both eyes
H54.3	Unqualified visual loss, both eyes
H54.4, H54.40, H54.41, H54.413, H54.413A, H54.414, H54.414A, H54.415, H54.415A, H54.42, H54.42A, H54.42A3, H54.42A4, H54.42A5	Blindness, one eye
H54.50, H54.51, H54.511, H54.511A, H54.512A, H54.52, H54.52A, H54.52A1, H54.52A2	Low vision, one eye
H54.60, H54.61, H54.62	Unqualified visual loss, one eye
H54.7	Unspecified visual loss
H54.8	Legal blindness, as defined in USA
H55	Nystagmus and other irregular eye movements
Q10.0, Q10.1, Q10.2, Q10.3, Q10.4, Q10.5, Q10.6, Q10.7	Congenital malformations of eyelid, lacrimal apparatus and orbit
Q11.0, Q11.1, Q11.2, Q11.3	Congenital anophthalmos, microphthalmos and macrophthalmos
Q12.0, Q12.1, Q12.2, Q12.3, Q12.4, Q12.8, Q12.9	Congenital lens malformations
Q13.0, Q13.1, Q13.2, Q13.3, Q13.4, Q13.5, Q13.8, Q13.81, Q13.89, Q13.9	Congenital malformations of anterior segment of eye
Q14.0, Q14.1, Q14.2, Q14.3, Q14.8, Q14.9	Congenital malformations of posterior segment of eye

Discharge Diagnosis: ICD-9-CM	Q15.0	Congenital glaucoma
	Q15.8, Q15.9	Congenital malformations of eye
	190	Malignant neoplasm of eye
	224	Benign neoplasm of the eye
	356.3	Refsum's disease
	360	Aphakia (congenital)
	361	Retinal detachment
	362	Macular degeneration
	362.74	Retinitis pigmentosa
	363	Chorioretinal inflammation
	364	Iritis
	364.1	Chronic iridocyclitis
	366	Cataract, excludes diabetic or congenital
	367	Myopia, astigmatism (except for the specific conditions defined by diagnostic code 371), presbyopia, and other disorders of refraction and accommodation
	369	Blindness and low vision
	369.3	Unqualified visual loss, both eyes
	369.4	Legal blindness, as defined in USA
	369.6	Blindness, one eye
	369.7	Low vision, one eye
	369.8	Unqualified visual loss, one eye
	369.9	Unspecified visual loss
	370	Keratitis, corneal ulcer
	371	High myopia greater than 9 diopters; irregular astigmatism resulting from corneal grafting or corneal scarring from diseases
	374	Other eyelid disorders (e.g., entropion, ectropion, ptosis)
	375	Dacryocystitis, obstruction of lacrimal duct
	376	Keratoconus
	377	Optic neuritis
	377.7	Disorders of visual cortex
	378	Strabismus
	378.5	Paralytic strabismus
	379.31	Aphakia (disorder, acquired)
	379.39	Other specified disorders of lens
	379.39	Unspecified disorder of lens
	379.5	Nystagmus and other irregular eye movements
	743	Congenital anomalies of eye
	743.2	Congenital glaucoma
	743.3	Congenital lens malformations
	743.4	Congenital malformations of anterior segment of eye
	743.6	Congenital malformations of eyelid, lacrimal apparatus and orbit
	250.50, 250.51, 250.52, 250.53	Diabetes mellitus, including complications
	362.50, 362.51, 362.52, 362.53, 362.54, 362.55, 362.56, 362.57	Hypertensive retinopathy and other retinal diseases not specifically listed
	368.41, 368.42, 368.43, 368.44, 368.45, 368.46, 368.47	Amblyopia, visual field defects

Discharge Diagnosis: SNOMED concepts	369.0, 369.02, 369.03, 369.04, 369.05, 369.06, 369.07, 369.08	Profound vision impairment both eyes
	369.00, 369.01	Blindness, both eyes
	369.1, 369.1, 369.10, 369.11, 369.12, 369.13, 369.14, 369.15, 369.16, 369.17, 369.18	Blindness one eye, low vision other eye
	369.2, 369.20, 369.21, 369.22, 369.23, 369.24, 369.25	Low vision, both eyes
	369.70, 369.71, 369.72, 369.73, 369.74, 369.75, 369.76	Moderate or severe vision impairment one eye
	379.32, 379.33, 379.34	Dislocation of lens
	743.0, 743.1	Congenital anophthalmos, microphthalmos and macrophthalmos
	743.4, 743.5	Congenital malformations of posterior segment of eye
	743.8, 743.9	Congenital malformations of eye
	10810001	Other specified disorders of lens
	12184005	Visual field defects: Enlarged blind spot, Generalized contraction of visual field, Hemianop(s)ia (heteronymous)(homonymous), Quadrant anop(s)ia, Scotoma: arcuate, Bjerrum, central, ring
	15250008	Keratitis, corneal ulcer
	19416009	Congenital malformations of eye
	22066006	Strabismus
	24010005	Aphakia (disorder, acquired)
	25044007	Optic neuritis
	25362006	Refsum's disease
	32022003	High myopia greater than 9 diopters; irregular astigmatism resulting from corneal grafting or corneal scarring from diseases
	33521009	Congenital lens malformations
	35210752	Iritis
	35387008	Aphakia (congenital)
	60113004	Other eyelid disorders (e.g., entropion, ectropion, ptosis)
	63102001	Other visual disturbances
	65194006	Night blindness
	65636009	Keratoconus
	77971008	Chronic iridocyclitis
	78455002	Subjective visual disturbances: Asthenopia, Day blindness, Hemeralopia, Metamorphopsia, Photophobia, Scintillating scotoma, Sudden visual loss, Visual halos
	83275001	Other disorders of binocular vision: Abnormal retinal correspondence, Fusion with defective stereopsis, Simultaneous visual perception without fusion, Suppression of binocular vision
	85777005	Dacryocystitis, obstruction of lacrimal duct
	88032003	Amaurosis fugax
	105597003	Moderate or severe vision impairment both eyes
	128327004	Congenital malformations of eyelid, lacrimal apparatus and orbit
	128329001	Disorders of visual cortex
	128534003	Congenital malformations of posterior segment of eye

	193638002	Amblyopia ex anopsia
	193699007	Blindness, both eyes
	193731001	Legal blindness and low vision
	193745007	Low vision, one eye
	204113001	Congenital glaucoma
	230659005	Horner's syndrome
	267611002	Hypertensive retinopathy and other retinal diseases not specifically listed
	267664003	Nystagmus and other irregular eye movements
	267727004	Unqualified visual loss, both eyes
	367469000	Color vision deficiencies: Achromatopsia, Acquired color vision deficiency, Color blindness, Deuteranomaly, Deuteranopia, Protanomaly, Protanopia, Tritanomaly, Tritanopia
	400942002	Paralytic strabismus
	424416009	Dislocation of lens
	429448005	Congenital malformations of anterior segment of eye
	764939004	Retinitis pigmentosa
	218951000119100.00	Blindness one eye, low vision other eye
	19620000, 193329008, 38599001, 193338005, 34711008, 42059000	Retinal detachment
	25093002, 5368009, 739681000, 422099009	Diabetes mellitus, including complications
	371481006, 93764002, 93766000, 93987004, 93755007, 93756008, 371993008, 187906008, 109948008, 371986009	Malignant neoplasm of eye
	39450006, 193570009	Cataract, excludes diabetic or congenital
	46627006, 128468007	Chorioretinal inflammation
	58882000, 7183006, 61142002, 93181004	Congenital anophthalmus, microphthalmos and macrophthalmos
	92068002, 92070006, 92321003, 92059004, 92060009, 92169007, 92258000, 92097004	Benign neoplasm of the eye
Chief Complaint Terms	vision impair, brail, large print, vision device (trouble, hard, difficulty, impair, problem, loss, reduced, low) AND (vision, blind, blindness, seeing, sight)	
Exclusions		
Discharge Diagnosis: ICD-10-CM	H57	Other disorders of eye and adnexa
	H02.829	Cyst of eyelid
Discharge Diagnosis: ICD-9-CM	374.84	Cyst of eyelid
Chief Complaint Terms	supervision, seeing care, migraines, blurry vision, blurred vision, visual disturbance, (denie, deny, no) AND (vision, eye, sight, seeing) AND (loss, problem), (stars, blood, people, faces, lights, flashing light) AND (seeing), black AND (dots, spots)	

Plain Language Syntax Description: The Vision definition intends to identify emergency department visits by people with vision-related disabilities. The definition includes diagnosis codes and words related to functional difficulty related to seeing. Users can combine the Vision 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 vision-related disabilities compared to people without vision-related disabilities. This definition will not capture everyone with a vision-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, Vision Disability (v1) Definition

This definition was tested and intended to run on the “CC and DD parsed free text” field in ESSENCE.	
Vision Disability	
<ul style="list-style-type: none"> ICD9 <ul style="list-style-type: none"> ^;190^,or,^;224^,or,^;250^,or,^;3563^,or,^;36[01234679]^,or,^;3684[1-7]^,or,^;37[0145678]^,or,^;379[35]^,or,^;743^;190[0-9]^,or,^;224[0-9]^,or,^;2505[0-3]^,or,^;3563^,or,^;36[01234679]^,or,^;36[01234679][0-9]^,or,^;3684[0-7]^,or,^;37[0145678][0-9]^,or,^;3793[123459]^,or,^;379[5]^,or,^;743[0-9]^,or,^;743[0-9][0-9]^,ANDNOT,^;37484,^ ICD10 <ul style="list-style-type: none"> ^;C69^,or,^;D31^,or,^;E093^,or,^;E133^,or,^;E103^,or,^;E113^,or,^;G360^,or,^;G453^,or,^;G601^,or,^;G902^,or,^;H02[0-9][0-9][0-9]^,or,^;H023[0-9]^,or,^;H026[0-9]^,or,^;H0270^,or,^;H0289^,or,^;H029^,or,^;H0430^,or,^;H18[69]^,or,^;H201^,or,^;H2[567]^,or,^;H3[0135]^,or,^;H442^,or,^;H476^,or,^;H49^,or,^;H5[045]^,or,^;H53[0356]^,or,^;H534[1-9][1-9]^,or,^;H531[0123]^,or,^;Q1[0-5]^,ANDNOT,^;H02829^,or,^;H57^ SNOMED <ul style="list-style-type: none"> ^;193638002^,or,^;78455002^,or,^;24982008^,or,^;83275001^,or,^;12184005^,or,^;367469000^,or,^;65194006^,or,^;193699007^,or,^;218951000119100^,or,^;193722001^,or,^;267727004^,or,^;105597003^,or,^;193745007^,or,^;193731001^,or,^;371481006^,or,^;92068002^,or,^;25093002^,or,^;35387008^,or,^;19620000^,or,^;35387008^,or,^;19620000^,or,^;267611002^,or,^;35210752^,or,^;39450006^,or,^;32022003^,or,^;15250008^,or,^;60113004^,or,^;85777005^,or,^;65636009^,or,^;25044007^,or,^;22066006^,or,^;400942002^,or,^;128327004^,or,^;33521009^,or,^;429448005^,or,^;24010005^,or,^;10810001^,or,^;19416009^,or,^;10810001^,or,^;19416009^,or,^;204113001^,or,^;128534003^,or,^;88032003^,or,^;230659005^,or,^;46627006^,or,^;77971008^,or,^;128329001^,or,^;267664003^,or,^;25362006^,or,^;764939004^,or,^;93764002^,or,^;92070006^,or,^;5368009^,or,^;193329008^,or,^;193570009^,or,^;58882000^,or,^;128468007^,or,^;93766000^,or,^;128468007^,or,^;93766000^,or,^;92321003^,or,^;739681000^,or,^;38599001^,or,^;7183006^,or,^;61142002^,or,^;93181004^,or,^;93987004^,or,^;92059004^,or,^;422099009^,or,^;193338005^,or,^;93755007^,or,^;92060009^,or,^;34711008^,or,^;93756008^,or,^;92169007^,or,^;42059000^,or,^;371993008^,or,^;187906008^,or,^;371993008^,or,^;187906008^,or,^;109948008^,or,^;371986009^,or,^;92258000^,or,^;92097004,^ All Together <ul style="list-style-type: none"> ^;190^,or,^;224^,or,^;250^,or,^;3563^,or,^;36[01234679]^,or,^;3684[1-7]^,or,^;37[0145678]^,or,^;379[35]^,or,^;743^;190[0-9]^,or,^;224[0-9]^,or,^;2505[0-3]^,or,^;3563^,or,^;36[01234679]^,or,^;36[01234679][0-9]^,or,^;3684[0-7]^,or,^;37[0145678][0-9]^,or,^;3793[123459]^,or,^;379[5]^,or,^;743[0-9]^,or,^;743[0-9][0-9]^,or,^;C69^,or,^;D31^,or,^;E093^,or,^;E133^,or,^;E103^,or,^;E113^,or,^;G360^,or,^;G4 	

53^,or,^;G601^,or,^;G902^,or,^;H02[0-9][0-9][0-9]^,or,^;H023[0-9]^,or,^;H026[0-9]^,or,^;H0270^,or,^;H0289^,or,^;H029^,or,^;H0430^,or,^;H18[69]^,or,^;H201^,or,^;H2[567]^,or,^;H3[0135]^,or,^;H442^,or,^;H476^,or,^;H49^,or,^;H5[045]^,or,^;H53[0356]^,or,^;H534[1-9][1-9]^,or,^;H531[0123]^,or,^;Q1[0-5]^,or,^;193638002^,or,^;78455002^,or,^;24982008^,or,^;83275001^,or,^;12184005^,or,^;367469000^,or,^;65194006^,or,^;193699007^,or,^;218951000119100^,or,^;193722001^,or,^;267727004^,or,^;105597003^,or,^;193745007^,or,^;193731001^,or,^;371481006^,or,^;92068002^,or,^;25093002^,or,^;35387008^,or,^;19620000^,or,^;35387008^,or,^;19620000^,or,^;267611002^,or,^;35210752^,or,^;39450006^,or,^;32022003^,or,^;15250008^,or,^;60113004^,or,^;85777005^,or,^;65636009^,or,^;25044007^,or,^;22066006^,or,^;400942002^,or,^;128327004^,or,^;33521009^,or,^;429448005^,or,^;24010005^,or,^;10810001^,or,^;19416009^,or,^;10810001^,or,^;19416009^,or,^;204113001^,or,^;128534003^,or,^;88032003^,or,^;230659005^,or,^;46627006^,or,^;77971008^,or,^;128329001^,or,^;267664003^,or,^;25362006^,or,^;764939004^,or,^;93764002^,or,^;92070006^,or,^;5368009^,or,^;193329008^,or,^;193570009^,or,^;58882000^,or,^;128468007^,or,^;93766000^,or,^;128468007^,or,^;93766000^,or,^;92321003^,or,^;739681000^,or,^;38599001^,or,^;7183006^,or,^;61142002^,or,^;93181004^,or,^;93987004^,or,^;92059004^,or,^;422099009^,or,^;193338005^,or,^;93755007^,or,^;92060009^,or,^;34711008^,or,^;93756008^,or,^;92169007^,or,^;42059000^,or,^;371993008^,or,^;187906008^,or,^;371993008^,or,^;187906008^,or,^;109948008^,or,^;371986009^,or,^;92258000^,or,^;92097004^,or,^vision impair^,or,^brail^,or,^large print^,or,^vision device^,or,(, (^trouble^,or,^hard^,or,^difficulty^,or,^impair^,or,^problem^,or,^loss^,or,^reduced^,or,^low^),AND,(^vision^,or,^blind^,or,^blindness^,or,^seeing^,or,^sight^),),ANDNOT,(^;37484^,or,^;H02829^,or,^;H57^,or,^supervision^,or,^seeing care^,or,^migraines^,or,^blurry vision^,or,^blurred vision^,or,^visual disturbance^,or,(, (^stars^,or,^blood^,or,^people^,or,^faces^,or,^lights^,or,^flashing light^),AND,^seeing^),or,(, (^black^),AND,(^dots^,or,^spots^),),or,(, (^denie^,or,^deny ^,or,^no^),AND,(, (^vision^,or,^eye^,or,^sight^,or,^seeing^),AND,(^loss^,or,^problem^),),),)

Appendix

Table 3. Definition Development Revisions, *Vision Disability (v1) Definition*

<p>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.</p> <ul style="list-style-type: none"> • General <ul style="list-style-type: none"> ○ 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
<p>Iteration 2: The second iteration was provided to the scientific panel for feedback and edits. The following changes were made:</p> <ul style="list-style-type: none"> • Vision <ul style="list-style-type: none"> ○ None
<p>Iteration 3: The third iteration was provided to the scientific panel for feedback and edits. The following changes were made:</p> <ul style="list-style-type: none"> • Vision <ul style="list-style-type: none"> ○ Added code for macular degeneration (H35) to Vision domain • General <ul style="list-style-type: none"> ○ Added numerous keywords provided during breakout sessions of the scientific panel
<p>Iteration 4: Following the third scientific panel, CDC pilot-tested the definition at the national level. The following changes were made:</p> <ul style="list-style-type: none"> • General <ul style="list-style-type: none"> ○ Added key chief complaint terms discussed during the panel meeting to each domain
<p>Iteration 5: Following state and local pilot testing of the definition, the following changes were made:</p> <ul style="list-style-type: none"> • Vision <ul style="list-style-type: none"> ○ Suggestion to exclude H53.9 Unspecified visual disturbance; H53.8 Other visual disturbances; H53.2 Diplopia; H53.40 Unspecified visual field defects; H02.829 Cyst of eyelid; H57.11 OCULAR PAIN RIGHT EYE. <ul style="list-style-type: none"> ▪ Decided to remove H53.9, H53.8, H53.2, H53.4 (but include H53.4[1-9][1-9], added H02.829 to negations. H57.11 (and H57 overall) is not included in syntax, but may have been captured with keywords, so added to negations. ○ Cleaned up ICD-9, ICD-10, and SNOMED of duplicate codes in Excel sheet. ○ Removed incorrect ICD-9 codes from syntax. ○ Added suggestions for exclusions and variations to keywords including: <ul style="list-style-type: none"> ▪ Added negations for blurred/blurry vision, visual disturbance, vision problem, migraines, seeing care (misspellings of seeking), ▪ Added negations, due to -DENIE, DENY, or NO and -VISION, EYE, SIGHT, SEEING and -LOSS, PROBLEM ▪ Added negations for “SEEING” accompanied by words related to medical personnel or other words such as “STARS”, “BLOOD”, “PEOPLE”, “FACES”, “(FLASH)LIGHTS”, “(BLACK) DOTS/SPOTS”
<p>Iteration 6: Following feedback from the fourth scientific panel, the following changes were made:</p>

<ul style="list-style-type: none"> • General <ul style="list-style-type: none"> ○ Description for how keywords were collected and references to the Washington Group Short Set were added to each relevant fact sheet
<p>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.</p> <ul style="list-style-type: none"> • Vision <ul style="list-style-type: none"> ○ None
<p>Iteration 8: Following the fifth and final scientific panel, the following changes were made:</p> <ul style="list-style-type: none"> • Vision <ul style="list-style-type: none"> ○ None

*Table includes revisions for vision domain only. See Disability Overall (v1) Definition Fact Sheet & Technical Brief for a full list of revisions.