

WG Data Collection Tools & Data Analysis



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Determination of disability status

The WG defined an approach to measuring disability based on identifying those who:

- because of **difficulties** doing certain **universal, basic actions**,
- are at greater **risk** than the general population
- for **limitations in participation**
- in an **unaccommodating environment**.

This approach minimizes stigma, reduces respondent burden, maximizes the consistency of the response process.

WG Short Set

WG Data Collection Tools: Short Set

Because of a Health problem:

- 1) Do you have difficulty **seeing** even if wearing glasses?
- 2) Do you have difficulty **hearing** even if using a hearing aid?
- 3) Do you have difficulty **walking** or **climbing** stairs?
- 4) Do you have difficulty **remembering** or **concentrating**?
- 5) Do you have difficulty with (**self-care** such as) washing all over or dressing?
- 6) Using your usual language, do you have difficulty **communicating** (for example understanding or being understood by others)?

Response categories:

No difficulty; Some difficulty; A lot of difficulty; Cannot do at all

Creation of Disability Identifiers

SPSS syntax was developed to provide guidelines for the disaggregation of outcome indicators (like access to education or employment) by disability status.

The WG-SS allows for the determination of multiple disability identifiers based on the choice of the severity threshold or cut-off.

One of these is recommended by the WG for the international reporting of disability statistics.

Disability Identifiers – WG-SS

DISABILITY1: the level of inclusion is at least one domain is coded *some difficulty* or *a lot of difficulty* or *cannot do at all*.

DISABILITY2: the level of inclusion is at least 2 domains are coded *some difficulty* or any 1 domain is coded *a lot of difficulty* or *cannot do at all*.

DISABILITY3: the level of inclusion is any 1 domain is coded *a lot of difficulty* or *cannot do at all*.

This is the cut-off recommended by the WG.

DISABILITY4: the level of inclusion is any one domain is coded *cannot do at all*.

Disability prevalence USA

Person with disability has:	n	%
at least 1 Domain is 'some difficulty'	7511	41.9
at least 2 Domains are 'some difficulty'	3672	19.6
at least 1 Domain is 'a lot of difficulty'	1872	9.5
at least 1 Domain is 'unable to do it'	465	2.2

SPSS and SAS code available

Implementation Document #5

Analytic Guidelines: Creating Disability Identifiers
Using the Washington Group Short Set (WG-SS)
SPSS Syntax

http://www.washingtongroup-disability.com/wp-content/uploads/2016/12/WG-Document-5-SPSS-Analytic-Guidelines-for-the-Washington-Group-Short-Set_Oct-18_F.pdf

WG Extended Set on Functioning

WG Data Collection Tools: Extended Sets for Adults (WG-ES-F)

Extended set on functioning for adults adopted 2010

- is comprised of about 35 questions relating to 11 core domains of functioning that were selected based on their universality and commonality across cultures and countries at various stages of economic development.

WG Extended Set:

- includes domains of functioning that were not in the Short Set (upper body functioning, affect, pain, and fatigue)
- includes additional information on the domains already covered by the short set;
- includes information on the use and impact of assistive devices, thereby beginning to establish a link between functioning and the environment.

The Short Set is embedded in the Extended Set.

Creation of Disability Identifiers

As with the WG-SS, analysis of the WG-ES can also produce multiple disability identifiers based on the choice of the severity threshold or cut-off.

The SPSS syntax developed, however, allows for the determination of disability identifiers using different combinations of WG-ES domains, each using the recommended cut-off for international comparisons.

Disability Identifiers – WG-ES

WG-SS: Short Set: six questions, six domains.

WG-ES1: Complete Extended Set: 25 questions, 11 domains

WG-ES2: Modified Extended Set (WG-ES1 *minus* Pain and Fatigue): 20 questions, 9 domains

WG-ES3: Short Set Enhanced (WG-SS *plus* Upper body, Anxiety and Depression): 12 questions, 9 domains.

Disability prevalence USA

Disability identifier based on:		n	%
WG-SS	6 questions	1872	9.5
WG-ES1	11 domains / 25 questions	3503	17.7
WG-ES2	9 domains / 20 questions	3104	15.4
WG-ES3	9 domains / 12 questions	2384	11.9

SPSS and SAS code available

Implementation Document #6

Analytic Guidelines: Creating Disability Identifiers Using the Washington Group Extended Set (WG-ES) SPSS Syntax

http://www.washingtongroup-disability.com/wp-content/uploads/2016/12/WG-Document-6-SPSS-Analytic-Guidelines-for-the-Washington-Group-Extended-Set_OCT-2018_F.pdf

WG/UNICEF Child Functioning Module (CFM)

WG Data Collection Tools: Child Functioning module (CFM)

WG/UNICEF CFM adopted 2016

- module for 2-4 years of age is comprised of 16 questions covering 8 core domains of functioning
- module for 5-17 years of age is comprised of 24 questions covering 12 core domains of functioning
- Domains were selected based on their universality and commonality across cultures and countries at various stages of economic development.

Selected domains

1. Seeing*
2. Hearing*
3. Mobility**
4. Self-care (5-17)*
5. Dexterity (2-4)
6. Communication*
7. Learning (and Remembering 5-17)*
8. Emotions (5-17)**
9. Behaviour
10. Attention (5-17)
11. Coping with change (5-17)
12. Relationships (5-17)
13. Playing (2-4)

* Comparable WG SS questions

** Comparable WG ES questions

Disability Identifiers - CFM

Three levels of difficulty defined:

	Children age 2-4	Children age 5-17
Level 1: Mild to severe	<ul style="list-style-type: none"> At least 1 domain is some difficulty, a lot of difficulty or cannot do at all except Controlling behavior: coded more or a lot more 	<ul style="list-style-type: none"> At least 1 domain is some difficulty, a lot of difficulty or cannot do at all except Anxiety and Depression: coded weekly or daily
Level 2: Moderate to severe	<ul style="list-style-type: none"> At least 1 domain is a lot of difficulty or cannot do at all except Controlling behavior: coded more or a lot more 	<ul style="list-style-type: none"> At least 1 domain is a lot of difficulty or cannot do at all except Anxiety and Depression: coded daily
Level 3: Severe	<ul style="list-style-type: none"> At least 1 domain is cannot do at all except Controlling behavior: coded a lot more 	<ul style="list-style-type: none"> At least 1 domain is cannot do at all except Anxiety and Depression: coded daily

Field testing: Initial Results

Disability Prevalence Rate by Different Cut-offs		
	Samoa	Serbia
Level 1: Mild to severe difficulty		
Age 2-4	15.5	9.4
Age 5-17	9.0	25.0
All Ages	10.4	22.7
Level 2: Moderate to severe difficulty		
Age 2-4	2.9	3.8
Age 5-17	4.3	3.5
All Ages	4.0	3.5
Level 3: Severe difficulty		
Age 2-4	0.8	0.0
Age 5-17	2.4	2.2
All Ages	1.9	1.9
Number aged 2-4	2135	219
Number aged 5-17	7422	1250

SPSS and Stata code available

Module on Child Functioning: Tabulation plans, narrative and syntaxes

<https://data.unicef.org/resources/module-child-functioning-tabulation-plan-narrative/>

A question of severity

WG-SS Matrix of responses

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS Matrix of responses

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS Matrix of responses

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing				Red
Mobility				Red
Cognition		Grey		
Self-Care	Grey			
Communication			Red	

WG-SS Matrix of responses

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing	Grey			
Mobility		Grey		
Cognition			Red	
Self-Care	Grey			
Communication			Red	

WG-SS Matrix of responses

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS Matrix of responses

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS Matrix of responses

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS Matrix of responses

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

Severity Identifier #1

Severity scale 1-4, where 4 is most severe:

- 4: at least one domain is *cannot do at all*
- 3: no domain is *cannot do at all*, at least one domain is *a lot of difficulty*
- 2: no domain is *a lot of difficulty* or *cannot do at all*; at least one domain is *some difficulty*
- 1: all domains are *no difficulty*

WG-SS: Severity Identifier #1

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #1

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #1

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing				Red
Mobility				Red
Cognition		Green		
Self-Care	Grey			
Communication			Orange	

WG-SS: Severity Identifier #1

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing	Grey			
Mobility		Green		
Cognition			Orange	
Self-Care	Grey			
Communication			Orange	

WG-SS: Severity Identifier #1

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #1

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey	White	White	White
Hearing	White	White	Orange	White
Mobility	Grey	White	White	White
Cognition	White	Green	White	White
Self-Care	Grey	White	White	White
Communication	White	White	White	Red

WG-SS: Severity Identifier #1

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #1

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

Severity Identifier #1

Cell=Count

		Disability Status		
		without disability	with disability	Total
Severity1	1.00	9266	0	9266
	2.00	5639	0	5639
	3.00	0	1407	1407
	4.00	0	465	465
Total		14905	1872	16777

Severity Identifier #1

Cell=Row%		Employment Status Last Week= Working		
		not working	working	Total
Severity1	1.00	29.8	70.2	
	2.00	49.4	50.6	
	3.00	78.9	21.1	
	4.00	91.8	8.2	
Total		42.2	57.8	100.0

Severity Identifier #2

Severity scale 1-6, where 6 is most severe:

- 6: at least one domain is *cannot do at all*
- 5: no domain is *cannot do at all*, at least 4 domains are *a lot of difficulty*
- 4: no domain is *cannot do at all*, 2 or 3 domains are *a lot of difficulty* OR no domain is *a lot of difficulty* or *cannot do at all*; 5 or 6 domains are *some difficulty*
- 3: no domain is *cannot do at all*, 1 domain is *a lot of difficulty* OR no domain is *a lot of difficulty* or *cannot do at all*; 3 or 4 domains are *some difficulty*
- 2: no domain is *a lot of difficulty* or *cannot do at all*; 1 or 2 domains are *some difficulty*
- 1: all domains are *no difficulty*

WG-SS: Severity Identifier #2

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #2

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #2

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing				Red
Mobility				Red
Cognition		Green		
Self-Care	Grey			
Communication			Blue	

WG-SS: Severity Identifier #2

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing	Grey			
Mobility		Green		
Cognition			Yellow	
Self-Care	Grey			
Communication			Yellow	

WG-SS: Severity Identifier #2

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #2

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing			Blue	
Mobility	Grey			
Cognition		Green		
Self-Care	Grey			
Communication				Red

WG-SS: Severity Identifier #2

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #2

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

Severity Identifier #2

Cell=Count

		Disability Status		
		without disability	with disability	Total
Severity2	1.00	9266	0	9266
	2.00	4812	0	4812
	3.00	760	1107	1867
	4.00	67	261	348
	5.00	0	19	19
	6.00	0	465	465
Total		14905	1872	16777

Severity Identifier #2

Cell=Row%		Employment Status Last Week= Working		
		not working	working	Total
Severity2	1.00	29.8	70.2	
	2.00	46.1	53.9	
	3.00	72.5	27.5	
	4.00	87.1	12.9	
	5.00	100.0	0.0	
	6.00	91.8	8.2	
Total		42.2	57.8	100.0

Severity Identifier #3

Severity scale 1-5, where 5 is most severe:

- 5: at least 4 domains are *cannot do at all*
- 4: 1, 2 or 3 domains are *cannot do at all* OR no domain is *cannot do at all*, at least 4 domains are *a lot of difficulty*
- 3: no domain is *cannot do at all*; 1, 2 or 3 domains are *a lot of difficulty* OR no domain is *a lot of difficulty* or *cannot do at all*; at least 4 domains are *some difficulty*
- 2: no domain is *a lot of difficulty* or *cannot do at all*; 1, 2 or 3 domains are *some difficulty*
- 1: all domains are *no difficulty*

WG-SS: Severity Identifier #3

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #3

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #3

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing				Orange
Mobility				Orange
Cognition		Green		
Self-Care	Grey			
Communication			Blue	

WG-SS: Severity Identifier #3

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing	Grey			
Mobility		Green		
Cognition			Blue	
Self-Care	Grey			
Communication			Blue	

WG-SS: Severity Identifier #3

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #3

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing			Blue	
Mobility	Grey			
Cognition		Green		
Self-Care	Grey			
Communication				Orange

WG-SS: Severity Identifier #3

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #3

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing	Grey			
Mobility			Blue	
Cognition	Grey			
Self-Care	Grey			
Communication	Grey			

Severity Identifier #3

Cell=Count

Disability Status

		without disability	with disability	Total
Severity3	1.00	9266	0	9266
	2.00	5391	0	5391
	3.00	248	1388	1636
	4.00	0	478	478
	5.00	0	6	6
Total		14905	1872	16777

Severity Identifier #3

Cell=Row%		Employment Status Last Week= Working		
		not working	working	Total
Severity3	1.00	29.8	70.2	
	2.00	48.3	51.7	
	3.00	77.9	22.1	
	4.00	92.3	7.7	
	5.00	83.3	16.7	
Total		42.2	57.8	100.0

Severity Identifier #4

Severity scale 1-6, where 6 is most severe:

- 6: at least 2 domains are *cannot do at all*
- 5: only one domain is *cannot do at all*
- 4: no domain is *cannot do at all*, at least 3 domains are *a lot of difficulty*
- 3: no domain is *cannot do at all*, 1 or 2 domains are *a lot of difficulty* OR no domain is *a lot of difficulty* or *cannot do at all*; 5 or 6 domains are *some difficulty*
- 2: no domain is *a lot of difficulty* or *cannot do at all*; 1, 2, 3 or 4 domains are *some difficulty*
- 1: all domains are *no difficulty*

WG-SS: Severity Identifier #4

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #3

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #4

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing				Red
Mobility				Red
Cognition		Green		
Self-Care	Grey			
Communication			Blue	

WG-SS: Severity Identifier #4

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing	Grey			
Mobility		Green		
Cognition			Blue	
Self-Care	Grey			
Communication			Blue	

WG-SS: Severity Identifier #4

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #4

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision	Grey			
Hearing			Blue	
Mobility	Grey			
Cognition		Green		
Self-Care	Grey			
Communication				Orange

WG-SS: Severity Identifier #4

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

WG-SS: Severity Identifier #4

Core Domain	No difficulty	Some difficulty	A lot of difficulty	Cannot do
Vision				
Hearing				
Mobility				
Cognition				
Self-Care				
Communication				

Severity Identifier #4

Cell=Count

		Disability Status		
		without disability	with disability	Total
Severity4	1.00	9266	0	9266
	2.00	5572	0	5572
	3.00	67	1324	1391
	4.00	0	83	83
	5.00	0	381	381
	6.00	0	84	84
Total		14905	1872	16777

Severity Identifier #4

Cell=Row%		Employment Status Last Week= Working		
		not working	working	Total
Severity4	1.00	29.8	70.2	
	2.00	49.1	50.9	
	3.00	77.7	22.3	
	4.00	94.0	6.0	
	5.00	91.6	8.4	
	6.00	92.9	7.1	
Total		42.2	57.8	100.0

Deaf-Blind analysis

Cross-tabulation: Difficulty Seeing by Difficulty Hearing

		VIS_SS: Difficulty Seeing					Total
		DK*	None	Some	A lot	Unable	
HEAR_SS: Difficulty Hearing	DK*	4	6	0	1	0	11
	None	3	11734	1735	187	21	13680
	Some	3	1772	869	102	7	2753
	A lot	0	167	99	42	2	310
	Unable	0	11	5	1	6	23
Total		10	13690	2708	333	36	16777

*Refused/Not ascertained/Don't know

Prevalence of Deaf-Blind

Of 16,777 individuals 18 years and older:

- **51** or **0.3%** had *a lot* or *cannot do* on BOTH vision and hearing;
- **add** those with *a lot* or *cannot do* on one and *at least some* on the other (**213**), the prevalence is **1.5%**;
- **add** those with *at least some* on BOTH (**869**), the prevalence is **6.8%**.

Analytic and Data reporting Guidelines

Analytic guidelines

- SPSS and SAS syntax for Data disaggregation
- Other data analyses?
 - Number of domains included in disability identifier
 - Overall 'burden' of difficulties

Questions and Discussion
