



## Directives analytiques : Créer des éléments d'identification du handicap à l'aide de la syntaxe SAS pour la brève série de questions du Groupe de Washington sur le fonctionnement

### Introduction

Le concept de handicap est mieux compris en tant que spectre. Concernant les difficultés fonctionnelles, le terme « difficulté » peut se caractériser par tout un éventail de descriptifs allant de « pas du tout de difficultés » à « n'y parvient pas du tout », en passant par « un peu » et « beaucoup [de difficultés] ». Chacun de ces descriptifs représente un seuil permettant de déterminer un élément final d'identification du handicap ; par exemple en vue de définir qui présente un handicap et qui n'en présente pas. On retrouve également ces niveaux de fonctionnement dans les catégories de réponses de la brève série de questions du Groupe de Washington sur le fonctionnement.

La prévalence du handicap n'est pas une statistique figée ; elle peut être calculée à partir de divers seuils en fonction de la finalité de la collecte de données ainsi que de la communication des informations. Par exemple, si la finalité consiste à fournir un accès équitable aux espaces publics, alors le niveau d'inclusion pour un élément d'identification du handicap pourrait être « *un peu de difficultés* », car les adaptations réalisées pour éliminer les obstacles et faciliter l'accès bénéficieraient probablement aussi aux personnes éprouvant des difficultés fonctionnelles mineures. Par exemple, l'installation d'escaliers mécaniques au lieu d'escaliers classiques est un élément de conception universel courant qui profite à toutes les personnes éprouvant des difficultés en matière de mobilité, quel qu'en soit le niveau. À l'inverse, si la finalité consiste à fournir des aides ou des allocations, le niveau d'inclusion pourrait être « *n'y parvient pas du tout* », car seules les personnes confrontées à des limites fonctionnelles plus graves répondraient à des critères d'octroi plus stricts.

La syntaxe SAS (pour système d'analyse statistique) décrite dans le présent document fournit des calculs pour quatre éléments d'identification du handicap à quatre seuils. Avec ces quatre seuils différents, on aboutit aux quatre éléments d'identification des personnes *présentant un handicap* suivants :

- **HANDICAP1** – le niveau d'inclusion est fixé à : au moins un domaine/une question est codé(e) UN PEU ou BEAUCOUP ou N'Y PARVIENT PAS DU TOUT.
- **HANDICAP2** – le niveau d'inclusion est fixé à : au moins deux domaines/questions sont codé(e)s UN PEU ou un des domaines/une des questions est codé(e) BEAUCOUP ou N'Y PARVIENT PAS DU TOUT.

Les **documents de mise en œuvre** du **Groupe de Washington**

couvrent les outils élaborés par le Groupe de Washington pour recueillir des données sur le handicap comparables à l'échelle internationale dans le cadre des recensements et des enquêtes. Les documents portent sur les bonnes pratiques de mise en œuvre concernant la brève série de questions, le questionnaire détaillé, la version enrichie de la brève série de questions, les modules sur le fonctionnement de l'enfant du Groupe de Washington et du Fonds des Nations Unies pour l'enfance (UNICEF) pour les enfants de 2 à 4 ans et de 5 à 17 ans, le module sur le handicap de l'enquête sur la population active du Groupe de Washington et de l'Organisation internationale du Travail (OIT), ainsi que d'autres outils du Groupe de Washington. Ces documents couvrent notamment les sujets suivants : traduction, précision des questions, directives analytiques, code de programmation pour les analyses, utilisation des outils à des fins de ventilation, etc.

Vous trouverez d'autres documents de mise en œuvre du Groupe de Washington et des informations supplémentaires sur le site Internet du Groupe de Washington :

<http://www.washingtongroup-disability.com/>.

- **HANDICAP3** – le niveau d’inclusion est fixé à : un des domaines/une des questions est codé(e) BEAUCOUP ou N’Y PARVIENT PAS DU TOUT.

**REMARQUE : HANDICAP3 EST LE SEUIL RECOMMANDÉ PAR LE GROUPE DE WASHINGTON.**

- **HANDICAP4** – le niveau d’inclusion est fixé à : un des domaines est codé N’Y PARVIENT PAS DU TOUT (4).

**REMARQUE :** La syntaxe SAS s’appuie sur les *étiquettes de variable* et les *étiquettes de valeur* figurant dans les tableaux ci-dessous. Veillez à utiliser les mêmes *étiquettes de variable* et de *valeur* OU révisiez la syntaxe SAS en fonction des *étiquettes* employées dans votre base de données.

La brève série de questions du Groupe de Washington est administrée dans le cadre de l’enquête nationale de santé des États-Unis (NHIS). Les données utilisées pour préparer les présentes directives sont tirées de la NHIS de 2013.

*Remarque à l’intention des utilisateurs de la NHIS : les noms des variables dans le fichier de données et la documentation de la NHIS peuvent être différents de ceux employés dans le présent document ; par exemple, la variable relative au domaine des soins de soi portant la référence SC\_SS dans le présent document est désignée par UB\_SS dans le fichier de données et la documentation de la NHIS.*

*Le code SAS utilisé pour produire les résultats figurant dans ce document est inclus dans son intégralité en annexe.*

Questions/domaines de la brève série de questions du Groupe de Washington	Étiquette de variable
1. Éprouvez-vous des difficultés à voir, même avec des lunettes ?	VIS_SS
2. Éprouvez-vous des difficultés à entendre, même avec une prothèse auditive ?	HEAR_SS
3. Éprouvez-vous des difficultés à marcher ou à monter des escaliers ?	MOB_SS
4. Éprouvez-vous des difficultés à vous rappeler certaines choses ou à vous concentrer ?	COG_SS
5. Éprouvez-vous des difficultés à prendre soin de vous, à vous laver ou à vous habiller, par exemple ?	SC_SS
6. Éprouvez-vous des difficultés à communiquer dans votre langue habituelle, à comprendre les autres ou à vous faire comprendre, par exemple ?	COM_SS

Les étiquettes de valeur utilisées pour chacune des questions de la brève série sont les suivantes :

1. Non, pas du tout.
2. Oui, un peu.
3. Oui, beaucoup.
4. N’y parvient pas du tout.
7. Refuse de répondre.
8. Incertain(e).
9. Ne sait pas.

## SAS WG Short Set Syntax Annotated with Output Tables

Actual SAS syntax is indented and are in **Blue text**.

NOTE: For data analysis, use your standard weighting and estimation techniques.

The syntax below produces frequency distributions on each the six domains. Codes 7 (REFUSED), 8 (NOT ASCERTAINED) and 9 (DON'T KNOW) are RECODED as **MISSING**.

Step 1: Generate frequency distributions on each of the six domain variables.

VIS\_SS is the WG-SS Vision question.

```
If VIS_SS in (1, 2, 3, 4) then Vision=VIS_SS;  
Else If VIS_SS in (7, 8, 9) then Vision=.;
```

```
Proc Freq Data=SS.Funclisb13;  
Tables Vision;  
Run;
```

NOTE: *SS.Funclisb13* is the name of the SAS file used for these analyses. When preparing your SAS code, replace this SAS file with the name of your SAS file.

### **Vision: Degree of difficulty seeing**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No difficulty	13690	79.0	81.6	81.6
	Some difficulty	2708	15.6	16.2	97.8
	<b>A lot of difficulty</b>	<b>333</b>	<b>1.9</b>	<b>2.0</b>	<b>99.8</b>
	<b>Cannot do at all</b>	<b>36</b>	<b>.2</b>	<b>.2</b>	<b>100.0</b>
	Total	16767	96.8	100.0	
Missing		559	3.2		
Total		17326	100.0		

HEAR\_SS is the WG-SS Hearing question.

```
If HEAR_SS in (1, 2, 3, 4) then Hearing =HEAR_SS;  
Else If HEAR_SS in (7, 8, 9 ) then Hearing =.;
```

```
Proc Freq Data=SS.Funclisb13;  
Tables Hearing;  
Run;
```

### Hearing: Degree of difficulty hearing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No difficulty	13680	79.0	81.6	81.6
	Some difficulty	2753	15.9	16.4	98.0
	<b>A lot of difficulty</b>	<b>310</b>	<b>1.8</b>	<b>1.8</b>	<b>99.9</b>
	<b>Cannot do at all</b>	<b>23</b>	<b>.1</b>	<b>.1</b>	<b>100.0</b>
	Total	16766	96.8	100.0	
Missing		560	3.2		
Total		17326	100.0		

MOB\_SS is the WG-SS Mobility question.

**If** MOB\_SS in (1, 2, 3, 4) **then** Mobility=MOB\_SS;  
**Else If** MOB\_SS in (7, 8, 9 ) **then** Mobility=.;

**Proc Freq Data**=SS.Funcdisb13;  
**Tables** Mobility;  
**Run**;

### Mobility: Degree of difficulty walking or climbing steps

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No difficulty	13424	77.5	80.1	80.1
	Some difficulty	2165	12.5	12.9	93.0
	<b>A lot of difficulty</b>	<b>792</b>	<b>4.6</b>	<b>4.7</b>	<b>97.7</b>
	<b>Cannot do at all</b>	<b>380</b>	<b>2.2</b>	<b>2.3</b>	<b>100.0</b>
	Total	16761	96.7	100.0	
Missing		565	3.3		
Total		17326	100.0		

COM\_SS is the WG-SS Communication question.

**If** COM\_SS in (1, 2, 3,4) **then** Communication =COM\_SS;  
**Else If** COM\_SS in (7, 8, 9 ) **then** Communication =.;

**Proc Freq Data**=SS.Funcdisb13;  
**Tables** Communication;  
**Run**;

**Communication: Degree of difficulty communicating using usual language**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No difficulty	15874	91.6	94.7	94.7
	Some difficulty	745	4.3	4.4	99.2
	<b>A lot of difficulty</b>	<b>94</b>	<b>.5</b>	<b>.6</b>	<b>99.7</b>
	<b>Cannot do at all</b>	<b>43</b>	<b>.2</b>	<b>.3</b>	<b>100.0</b>
	Total	16756	96.7	100.0	
Missing		570	3.3		
Total		17326	100.0		

SC\_SS is the WG-SS Self-care question.

**If** SC\_SS in (1, 2, 3, 4) **then** Self\_Care=SC\_SS;  
**Else If** SC\_SS in (7, 8, 9) **then** Self\_Care=.;

**Proc Freq Data**=SS.Funcdisb13;  
**Tables** Self\_Care;  
**Run**;

**Self\_Care Degree of difficulty with self-care**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No difficulty	16029	92.5	95.7	95.7
	Some difficulty	544	3.1	3.2	98.9
	<b>A lot of difficulty</b>	<b>114</b>	<b>.7</b>	<b>.7</b>	<b>99.6</b>
	<b>Cannot do at all</b>	<b>68</b>	<b>.4</b>	<b>.4</b>	<b>100.0</b>
	Total	16755	96.7	100.0	
Missing		571	3.3		
Total		17326	100.0		

COG\_SS is the WG-SS Cognition question.

**If** COG\_SS in (1, 2, 3, 4) **then** Cognition=COG\_SS;  
**Else If** COG\_SS in (7, 8, 9) **then** Cognition=.;

**Proc Freq Data**=SS.Funcdisb13;  
**Tables** Cognition;  
**Run**;

### Cognition: Degree of difficulty remembering or concentrating

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No difficulty	13719	79.2	81.9	81.9
	Some difficulty	2632	15.2	15.7	97.6
	<b>A lot of difficulty</b>	<b>382</b>	<b>2.2</b>	<b>2.3</b>	<b>99.9</b>
	<b>Cannot do at all</b>	<b>20</b>	<b>.1</b>	<b>.1</b>	<b>100.0</b>
	Total	16753	96.7	100.0	
Missing	573	3.3			
Total	17326	100.0			

#### Step 2: Calculate a variable, SUM\_234

SUM\_234 summates the number of domains coded SOME DIFFICULTY (2) or A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4) for each person. This new variable is used in the determination of disability identifiers: **DISABILITY1** and **DISABILITY2**.

The syntax below **counts** the number of domains/questions a person has that are coded SOME DIFFICULTY (2) or A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4).

Possible range 0: no difficulties in any domain, to 6: all six domains coded SOME DIFFICULTY (2) or A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4).

MISSING (9) are those who have coded 7, 8 or 9 on all six domains.

```

If missing(Vision) and missing(Hearing) and missing(Mobility) and missing(Cognition) and
missing(Self_Care) and missing(Communication) then SumPoints=.;
Else If (Vision =1) and (Hearing =1) and (Mobility =1) and (Cognition =1) and (Self_Care =1)
and (Communication =1) then SumPoints=0;
Else SumPoints=SUM( (Vision in(2,3,4)),(Hearing in(2,3,4)),(Mobility in(2,3,4)),(Cognition
in(2,3,4)),(Self_Care in(2,3,4)),(Communication in(2,3,4)) );

```

```

If SumPoints =. then SUM_234 =.;
Else If SumPoints = 1 then SUM_234=1;
Else If SumPoints = 2 then SUM_234=2;
Else If SumPoints = 3 then SUM_234=3;
Else If SumPoints = 4 then SUM_234=4;
Else If SumPoints = 5 then SUM_234=5;
Else If SumPoints = 6 then SUM_234=6;
Else If SumPoints = 0 then SUM_234=0;

```

```

Proc Freq Data=SS.Funcdisb13;
Tables SUM_234;
Run;

```

		<b>SUM_234</b>			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	9266	53.5	55.2	55.2
	1.00	3839	22.2	22.9	78.1
	2.00	1892	10.9	11.3	89.4
	3.00	989	5.7	5.9	95.3
	4.00	481	2.8	2.9	98.2
	5.00	232	1.3	1.4	99.5
	6.00	78	.5	.5	100.0
	Total	16777	96.8	100.0	
Missing		549	3.2		
Total		17326	100.0		

Step 3: Calculate a variable, SUM\_34

SUM\_34 summates the number of domains\_coded A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4) for each person. This new variable is used in the determination of disability identifier: **DISABILITY2**.

The syntax below counts the number of domains/questions a person has that are coded A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4)

Possible range 0: no difficulties coded A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4) in any domain, to 6: all six domains coded A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4). MISSING (9) are those who have coded 7, 8 or 9 on all six domains.

```

If missing(Vision) and missing(Hearing) and missing(Mobility) and missing(Cognition) and
missing(Self_Care) and missing(Communication) then SumPoints2=.;
Else If (Vision in(1,2)) and (Hearing in(1,2)) and (Mobility in(1,2)) and (Cognition in(1,2)) and
(Self_Care in(1,2)) and (Communication in(1,2)) then SumPoints2=0;
Else SumPoints2=SUM( (Vision in(3,4)),(Hearing in(3,4)),(Mobility in(3,4)),(Cognition
in(3,4)),(Self_Care in(3,4)),(Communication in(3,4)) );

```

```

If SumPoints2 = . then SUM_34 =.;
Else If SumPoints2 = 1 then SUM_34=1;
Else If SumPoints2 = 2 then SUM_34=2;
Else If SumPoints2 = 3 then SUM_34=3;
Else If SumPoints2 = 4 then SUM_34=4;
Else If SumPoints2 = 5 then SUM_34=5;
Else If SumPoints2 = 6 then SUM_34=6;
Else If SumPoints2 = 0 then SUM_34=0;

```

```

Proc Freq Data=SS.Funcdisb13;

```

```

Tables SUM_34;

```

```

Run;

```

		SUM_34			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	14905	86.0	88.8	88.8
	1.00	1367	7.9	8.1	97.0
	2.00	345	2.0	2.1	99.0
	3.00	117	.7	.7	99.7
	4.00	31	.2	.2	99.9
	5.00	9	.1	.1	100.0
	6.00	3	.0	.0	100.0
	Total	16777	96.8	100.0	
Missing		549	3.2		
Total		17326	100.0		

Step 4: Calculate Disability Identifier: **DISABILITY1**

The syntax below calculates the first disability identifier: **DISABILITY1** where the level of inclusion is at least one domain/question is coded SOME DIFFICULTY or A LOT OF DIFFICULTY or CANNOT DO AT ALL.

MISSING (.) are those who have coded 7, 8 or 9 on all six domains.

**If** missing(Vision) and missing(Hearing) and missing(Mobility) and missing(Cognition) and missing(Self\_Care) and missing(Communication) **then** Disability1=.;  
**Else If** SUM\_234 >=1 **then** Disability1=1;  
**Else** Disability1=2;

NOTE: SUM\_234 >= 1 means that at least one of the six domains is coded at least SOME DIFFICULTY (2).

**Proc Freq Data**=SS.Funclisb13;  
**Tables** Disability1;  
**Run**;

		DISABILITY1				
		Frequency	Percent	Valid Percent	Cumulative Percent	Weighted Percent*
Valid	without disability	9266	53.5	55.2	55.2	58.1
	with disability	7511	43.4	44.8	100.0	41.9
	Total	16777	96.8	100.0		100.0
Missing		549	3.2			
Total		17326	100.0			

\*Weighted estimate provided – but is not part of the SAS syntax.



Step 5: Calculate Disability Identifier: **DISABILITY2**

The syntax below calculates the second disability identifier: **DISABILITY2** where the level of inclusion is: at least 2 domains/questions are coded SOME DIFFICULTY or any 1 domain/question is coded A LOT OF DIFFICULTY or CANNOT DO AT ALL.

MISSING (9) are those who have coded 7, 8 or 9 on all six domains.

**If** missing(Vision) and missing(Hearing) and missing(Mobility) and missing(Cognition) and missing(Self\_Care) and missing(Communication) **then** Disability2=.;  
**Else If** (SUM\_234 >=2 OR SUM\_34=1) **then** Disability2=1;  
**Else** Disability2=2;

NOTE: The above syntax identifies those with at least two of the six domains coded as at least SOME DIFFICULTY (2): SUM\_234 >= 2, OR those who have one domain that is coded A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4): SUM\_34 = 1.

**Proc Freq Data**=SS.Funcdisb13;  
**Tables** Disability2;  
**Run**;

**DISABILITY2**

		Frequency	Percent	Valid Percent	Cumulative Percent	Weighted Percent*
Valid	without disability	12707	73.3	75.7	75.7	78.3
	with disability	4070	23.5	24.3	100.0	21.7
	Total	16777	96.8	100.0		100.0
Missing		549	3.2			
Total		17326	100.0			

\*Weighted estimate provided – but is not part of the SAS syntax.

Step 6: Calculate Disability Identifier: **DISABILITY3**

The syntax below calculates the third disability identifier: **DISABILITY3** where the level of inclusion is: any 1 domain/question is coded A LOT OF DIFFICULTY or CANNOT DO AT ALL.

MISSING (9) are those who have coded 7, 8 or 9 on all six domains.

**THIS IS THE CUT-OFF RECOMMENDED BY THE WG.**

**If** missing(Vision) and missing(Hearing) and missing(Mobility) and missing(Cognition) and missing(Self\_Care) and missing(Communication) **then** Disability3=.;  
**Else If** ((Vision = 3 OR Vision = 4) OR (Hearing= 3 OR Hearing = 4) OR (Mobility= 3 OR Mobility = 4) OR (Communication= 3 OR Communication = 4) OR (Self\_Care = 3 OR Self\_Care = 4) OR (Cognition = 3 OR Cognition = 4)) **then** Disability3=1;  
**Else** Disability3 = 2;

**Proc Freq Data**=SS.Funcdisb13;  
**Tables** Disability3;  
**Run**;

### DISABILITY3

		Frequency	Percent	Valid Percent	Cumulative Percent	Weighted Percent*
Valid	without disability	14905	86.0	88.8	88.8	90.5
	with disability	1872	10.8	11.2	100.0	9.5
	Total	16777	96.8	100.0		100.0
Missing		549	3.2			
Total		17326	100.0			

\*Weighted estimate provided – but is not part of the SAS syntax.

### Step 7: Calculate Disability Identifier: **DISABILITY4**

The syntax below calculates the fourth disability identifier: **DISABILITY4** where the level of inclusion is any one domain is coded CANNOT DO AT ALL (4).

MISSING (.) are those who have coded 7, 8 or 9 on all six domains.

**If** missing(Vision) and missing(Hearing) and missing(Mobility) and missing(Cognition) and missing(Self\_Care) and missing(Communication) **then** Disability4=.;

**Else If** ((Vision = 4) OR (Hearing = 4) OR (Mobility = 4) OR (Communication = 4) OR (Self\_Care = 4) OR (Cognition = 4)) **then** Disability4=1;

**Else** Disability4 = 2;

**Proc Freq Data**=SS.Funclisb13;

**Tables** Disability4;

**Run;**

### DISABILITY4

		Frequency	Percent	Valid Percent	Cumulative Percent	Weighted Percent*
Valid	without disability	16312	94.1	97.2	97.2	97.8
	with disability	465	2.7	2.8	100.0	2.2
	Total	16777	96.8	100.0		100.0
Missing		549	3.2			
Total		17326	100.0			

\*Weighted estimate provided – but is not part of the SAS syntax.

## APPENDIX

### SAS Code Used with the 2013 NHIS Data File

```
Data SS.Funcdisb13;
    Set NHIS.Funcdisb13 ;

*The syntax below produces frequency distributions on each the six domains. Codes 7
(REFUSED), 8 (NOT ASCERTAINED) and 9 (DON'T KNOW) are INCLUDED as MISSING.;

*Vision;
*Generate frequency distribution for each domain question. Convert 7,8,9 to
missing;
    If VIS_SS2 in (1,2,3,4) then Vision=VIS_SS2;
    Else Vision=.;

*Communication;
*Generate frequency distribution for each domain question. Convert 7,8,9 to
missing;
    If COM_SS in (1,2,3,4) then Communication=COM_SS;
    Else Communication=.;

*Hearing;
*Generate frequency distribution for each domain question. Recode 7,8,9 to .;
    If HEAR_SS2 in (1,2,3,4) then Hearing=HEAR_SS2;
    Else If HEAR_SS2 in (7,8,9 ) then Hearing=.;

*Cognition: Degree of difficulty remembering or concentrating;
*Generate frequency distribution for each domain question. Recode 7,8,9 to .;
    If COG_SS in (1,2,3,4) then Cognition=COG_SS;
    Else If COG_SS in (7,8,9) then Cognition=.;

*Self care;
    If UB_SS in (1,2,3,4) then Self_Care=UB_SS;
    Else Self_Care=.;

*Mobility;
    If MOB_SS2 in (1,2,3,4) then Mobility=MOB_SS2;
    Else Mobility=.;

*Step 1: Generate frequency distributions on each of the six domain variables.;

*Step 2: Calculate a variable, SUM_234. SUM_234 summates the number of domains
coded SOME DIFFICULTY (2) or A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4) for
each person. This new variable is used in the determination of disability
identifiers: DISABILITY1 and DISABILITY2.
The syntax below counts the number of domains/questions a person has that are coded
SOME DIFFICULTY (2) or A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4).
Possible range 0: no difficulties in any domain, to 6: all six domains coded SOME
DIFFICULTY (2) or A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4).
MISSING (9) are those who have coded 7, 8 or 9 on all six domains.;

    If missing(Vision) and missing(Hearing) and missing(Mobility) and
missing(Cognition) and missing(Self_Care) and missing(Communication) then
SumPoints=.;
    Else If (Vision =1) and (Hearing =1) and (Mobility =1) and (Cognition =1) and
(Self_Care =1) and (Communication =1) then SumPoints=0;
```

```
Else SumPoints=SUM( (Vision in(2,3,4)), (Hearing in(2,3,4)), (Mobility
in(2,3,4)), (Cognition in(2,3,4)), (Self_Care in(2,3,4)), (Communication
in(2,3,4)) );
```

```
      If SumPoints =.      then  SUM_234 =.;
Else If SumPoints = 1  then  SUM_234=1;
Else If SumPoints = 2  then  SUM_234=2;
Else If SumPoints = 3  then  SUM_234=3;
Else If SumPoints = 4  then  SUM_234=4;
Else If SumPoints = 5  then  SUM_234=5;
Else If SumPoints = 6  then  SUM_234=6;
Else If SumPoints = 0  then  SUM_234=0;
```

**\*Step 3:** Calculate a variable, SUM\_34. SUM\_34 summates the number of domains coded A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4) for each person.

This new variable is used in the determination of disability identifier: DISABILITY2.

The syntax below counts the number of domains/questions a person has that are coded A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4)

Possible range 0: no difficulties coded A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4) in any domain, to 6: all six domains coded A LOT OF DIFFICULTY (3) or CANNOT DO AT ALL (4). MISSING (9) are those who have coded 7, 8 or 9 on all six domains.;

```
If missing(Vision) and missing(Hearing) and missing(Mobility) and
missing(Cognition) and missing(Self_Care) and missing(Communication) then
SumPoints2=.;
Else If (Vision in(1,2)) and (Hearing in(1,2)) and (Mobility in(1,2)) and
(Cognition in(1,2)) and (Self_Care in(1,2)) and (Communication in(1,2))
then SumPoints2=0;
Else SumPoints2=SUM( (Vision in(3,4)), (Hearing in(3,4)), (Mobility
in(3,4)), (Cognition in(3,4)), (Self_Care in(3,4)), (Communication in(3,4)) );
```

```
      If SumPoints2 =.      then  SUM_34 =.;
Else If SumPoints2 = 1  then  SUM_34=1;
Else If SumPoints2 = 2  then  SUM_34=2;
Else If SumPoints2 = 3  then  SUM_34=3;
Else If SumPoints2 = 4  then  SUM_34=4;
Else If SumPoints2 = 5  then  SUM_34=5;
Else If SumPoints2 = 6  then  SUM_34=6;
Else If SumPoints2 = 0  then  SUM_34=0;
```

**\*Step 4:** Calculate Disability Identifier: DISABILITY1. The syntax below calculates the first disability identifier: DISABILITY1 where the level of inclusion is at least one domain/question is coded SOME DIFFICULTY or A LOT OF DIFFICULTY or CANNOT DO AT ALL. MISSING (9) are those who have coded 7, 8 or 9 on all six domains;

```
If missing(Vision) and missing(Hearing) and missing(Mobility) and
missing(Cognition) and missing(Self_Care) and missing(Communication) then
Disability1=.;
Else If SUM_234 >=1 then Disability1=1;
Else Disability1=2;
```

**\*Step 5:** Calculate Disability Identifier: DISABILITY2. The syntax below calculates the second disability identifier: DISABILITY2 where the level of inclusion is: at least 2 domains/questions are coded SOME DIFFICULTY or any 1 domain/question is coded A LOT OF DIFFICULTY or CANNOT DO AT ALL.

MISSING (9) are those who have coded 7, 8 or 9 on all six domains;

```

If missing(Vision) and missing(Hearing) and missing(Mobility) and
missing(Cognition) and missing(Self_Care) and missing(Communication) then
Disability2=.;
Else If (SUM_234 >=2 OR SUM_34=1 ) then Disability2=1;
Else Disability2=2;

```

**\*Step 6:** Calculate Disability Identifier: DISABILITY3. The syntax below calculates the third disability identifier: DISABILITY3 where the level of inclusion is: any 1 domain/question is coded A LOT OF DIFFICULTY or CANNOT DO AT ALL. MISSING (9) are those who have coded 7, 8 or 9 on all six domains.  
THIS IS THE CUT-OFF RECOMMENDED BY THE WG.;

```

If missing(Vision) and missing(Hearing) and missing(Mobility) and
missing(Cognition) and missing(Self_Care) and missing(Communication) then
Disability3=.;
Else IF ((vision = 3 OR vision = 4) OR (Hearing= 3 OR Hearing = 4) OR
(mobility= 3 OR mobility = 4) OR (Communication= 3 OR Communication = 4) OR
(Self_Care = 3 OR Self_Care = 4) OR (Cognition = 3 OR Cognition = 4)) then
Disability3=1;
Else Disability3 = 2;

```

**\*Step 7:** Calculate Disability Identifier: DISABILITY4. The syntax below calculates the fourth disability identifier: DISABILITY4 where the level of inclusion is any one domain is coded CANNOT DO AT ALL (4). MISSING (9) are those who have coded 7, 8 or 9 on all six domains;

```

If missing(Vision) and missing(Hearing) and missing(Mobility) and
missing(Cognition) and missing(Self_Care) and missing(Communication) then
Disability4=.;
Else IF ((vision = 4) OR (Hearing = 4) OR (mobility = 4) OR (Communication =
4) OR (Self_Care = 4) OR (Cognition = 4)) then Disability4=1;
Else Disability4 = 2;

```

Label

```

Vision="Degree of difficulty seeing"
Communication="Degree of difficulty communicating using usual language"
Hearing="Degree of difficulty hearing"
Cognition="Degree of difficulty remembering or concentrating"
Self_Care="Degree of difficulty with self-care"
Mobility="Degree of difficulty walking or climbing steps";

```

```

Format Vision Communication Hearing HEAR_3_R HEAR_4_R Cognition Self_Care
UB_1_R UB_2_R Mobility MOB_4_R MOB_5_R Diff.

```

```

Disability1 Disability2 Disability3 Disability4 DisabF.;

```

```

Run;

```

```

Title "NHIS 2013: Unweighted frequencies with missing included in the percent";

```

```

Proc freq data=SS.Funcdisb13;

```

```

Tables Vision Hearing Mobility Communication Self_Care Cognition SUM_234
SUM_34 Disability1 Disability2 Disability3 Disability4/missing;

```

```

Run;

```

```

Title;

```

```

Title "NHIS 2013: Unweighted frequencies";

```

```

Proc freq data=SS.Funcdisb13;

```

```

Tables Vision Hearing Mobility Communication Self_Care Cognition SUM_234
SUM_34 Disability1 Disability2 Disability3 Disability4;

```

```

Run;

```

```

Title;

```

```
Proc format library=SS.SS;  
  Value Diff  
    1="No Difficulty"  
    2="Some Difficulty"  
    3="A lot of Difficulty"  
    4="Cannot do at all"  
    .="Missing"  
;  
  Value DisabF  
    1="With Disability"  
    2="Without Disability"  
;  
Run;
```