12 de maio de 2020

Diretrizes analíticas: Criação de identificadores de incapacidade por meio da sintaxe SAS do Conjunto Reduzido sobre Funcionalidade do Washington Group (WG-SS)

Introdução

A incapacidade é mais bem entendida como um espetro. Em termos de dificuldade na funcionalidade, a "dificuldade" pode ser operacionalizada através de um conjunto de descritores que vão da inexistência de dificuldade, passando por alguma dificuldade e muita dificuldade, até à completa impossibilidade de realizar a ação. Cada um desses descritores representa um ponto de corte ou limiar na determinação de um identificador de incapacidade final; por exemplo, para definir as pessoas com e sem incapacidade. Tais níveis de funcionalidade estão também representados nas categorias de resposta ao Conjunto Reduzido sobre Funcionalidade do WG (WG-SS).

A prevalência da incapacidade não é uma estatística única, antes pode ser calculada em função de vários limiares, dependendo das finalidades da recolha de dados e do relato. Por exemplo, se a finalidade for a de facultar acesso equitativo a espaços públicos, o nível de inclusão para um identificador de incapacidade pode ser *alguma dificuldade,* uma vez que mesmo as pessoas com níveis reduzidos de dificuldade na funcionalidade provavelmente beneficiariam de adaptações para remover barreiras e facilitar o acesso. A instalação de escadas rolantes em vez de lanços de escadas, por exemplo, é um elemento de conceção universal comum que beneficia as pessoas com uma ampla gama de dificuldades de mobilidade. Em alternativa, se a finalidade for a de conceder subsídios ou abonos, o nível de inclusão para um identificador de incapacidade pode ser *não consegue,* uma vez que só as pessoas com limitações funcionais mais graves cumpririam critérios de elegibilidade mais rigorosos.

A sintaxe SAS descrita neste documento prevê o cálculo de quatro identificadores de incapacidade em quatro limiares. A população das pessoas *com incapacidade* que usa estes quatro limiares diferentes gera os quatro identificadores de

Os **Documentos de Implementação** do **Washington Group** abrangem as ferramentas desenvolvidas pelo Washington Group sobre Estatísticas de Incapacidade (WG) para a recolha de dados sobre incapacidade internacionalmente comparáveis em censos e inquéritos. Os documentos abordam melhores práticas na implementação do Conjunto Reduzido, do Conjunto Alargado, do Conjunto Reduzido – Melhorado, dos Módulos sobre Funcionalidade da Criança do WG/UNICEF para crianças dos 2 aos 4 e dos 5 aos 17 anos e do Módulo sobre Incapacidade do IFT do WG/OIT, bem como de outras ferramentas do WG. Os temas incluem: tradução, especificações das perguntas, diretrizes analíticas, código de programação para análise, utilização de ferramentas para efeitos de desagregação e não só.

Para localizar outros Documentos de Implementação do WG e mais informações, visite o sítio *web* do Washington Group: http://www.washingtongroup-disability.com/.

incapacidade seguintes:

- **INCAPACIDADE1**: o nível de inclusão é de pelo menos um domínio/pergunta codificado com ALGUMA DIFICULDADE ou MUITA DIFICULDADE ou NÃO CONSEGUE.

- **INCAPACIDADE2**: o nível de inclusão é de pelo menos dois domínios/perguntas codificados com ALGUMA DIFICULDADE ou de um domínio/pergunta codificado com MUITA DIFICULDADE ou NÃO CONSEGUE.
- **INCAPACIDADE3**: o nível de inclusão é de um domínio/pergunta codificado com MUITA DIFICULDADE ou NÃO CONSEGUE.

  NOTA: A INCAPACIDADE3 É O PONTO DE CORTE RECOMENDADO PELO WG.

- **INCAPACIDADE4**: o nível de inclusão é de um domínio/pergunta codificado com NÃO CONSEGUE.

NOTA: a sintaxe SAS baseia-se nas *etiquetas de variáveis e etiquetas de valores* indicadas nos quadros abaixo. Certifique-se de usar as mesmas *etiquetas de variáveis e valores* OU reveja a sintaxe SAS para refletir as *etiquetas* usadas na sua base de dados.

O WG-SS é ministrado como parte do National Health Interview Survey (NHIS) dos EUA. Os dados usados na preparação destas diretrizes são provenientes do NHIS de 2013.

***Nota para os utilizadores do NHIS**: os nomes de variáveis no ficheiro de dados e na documentação do NHIS podem diferir dos usados neste documento; ou seja, a variável do domínio dos autocuidados referenciada como SC-SS neste documento é designada como UB_SS no ficheiro de dados e na documentação do NHIS.*

O código SAS usado para gerar os resultados deste documento está integralmente incluído no Anexo.

Perguntas/domínios do Conjunto Reduzido do WG	**Etiqueta da variável**
1. Tem dificuldade em ver, mesmo usando óculos?	VIS_SS
2. Tem dificuldade em ouvir, mesmo usando um aparelho auditivo?	HEAR_SS
3. Tem dificuldade em andar ou subir degraus?	MOB_SS
4. Tem dificuldade em lembrar-se ou concentrar-se?	COG_SS
5. Tem dificuldade em (autocuidados como) tomar banho ou vestir-se?	SC_SS
6. Usando a sua linguagem habitual, tem dificuldade em comunicar (por exemplo, compreender ou fazer-se compreender por outros)?	COM_SS

As etiquetas de valores usadas para cada uma das perguntas do WG-SS são:

1. Nenhuma dificuldade
2. Sim, alguma dificuldade
3. Sim, muita dificuldade
4. Não consegue
7. Recusou
8. Não determinado
9. Não sabe

SAS WG Short Set Syntax Annotated with Output Tables

Actual SAS syntax is indented and are in **Bold** **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.Funcdisb13;
Tables Vision;
Run;
```

NOTE: *SS.Funcdisb13* 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
	A lot of difficulty	**333**	**1.9**	**2.0**	**99.8**
	Cannot do at all	**36**	**.2**	**.2**	**100.0**
	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.Funcdisb13;
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
	A lot of difficulty	**310**	**1.8**	**1.8**	**99.9**
	Cannot do at all	**23**	**.1**	**.1**	**100.0**
	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
	A lot of difficulty	**792**	**4.6**	**4.7**	**97.7**
	Cannot do at all	**380**	**2.2**	**2.3**	**100.0**
	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
	A lot of difficulty	**94**	**.5**	**.6**	**99.7**
	Cannot do at all	**43**	**.2**	**.3**	**100.0**
	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
	A lot of difficulty	**114**	**.7**	**.7**	**99.6**
	Cannot do at all	**68**	**.4**	**.4**	**100.0**
	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
	A lot of difficulty	**382**	**2.2**	**2.3**	**99.9**
	Cannot do at all	**20**	**.1**	**.1**	**100.0**
	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;
```

SUM_234

		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.Funcdisb13;
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.Funcdisb13;
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;
```