



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

Introdução

A sintaxe SAS para o Conjunto Reduzido sobre Funcionalidade – Melhorado do WG (WG-SS Melhorado) é extraída da sintaxe desenvolvida para o Conjunto Alargado sobre Funcionalidade do WG (WG-ES).

A identificação de incapacidade para o WG-SS Melhorado baseia-se num nível de inclusão de pelo menos um domínio/pergunta codificado com MUITA DIFICULDADE ou NÃO CONSEGUE – ou – para os domínios da ansiedade ou da depressão, o nível mais elevado de dificuldade numa escala de quatro pontos.

O WG-SS Melhorado compreende o WG-SS MAIS a funcionalidade da parte superior do corpo, a ansiedade e a depressão: um total de 12 perguntas sobre 9 domínios de funcionalidade.

NOTA: para as análises de dados, use as suas técnicas de ponderação e estimação normais.

A sintaxe SAS baseia-se nas *etiquetas de variáveis* indicadas no quadro abaixo. O módulo WG-SS Melhorado completo inclui mais perguntas do que as apresentadas no quadro. O estado de incapacidade é determinado através da dificuldade nas atividades universais básicas sem uso de tecnologia de assistência ou outro auxílio.

Não estão incluídas perguntas sobre o uso de medicação para sintomas de ansiedade ou depressão entre as variáveis analíticas consideradas para a sintaxe.

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/>.

Somente as perguntas/variáveis abaixo são usadas na determinação de identificadores de incapacidade. **Certifique-se de usar as mesmas *etiquetas de variáveis* OU reveja a sintaxe SAS para refletir as *etiquetas de variáveis* 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.

Perguntas/domínios do Conjunto Alargado do WG	Etiqueta da variável	Padrão de resposta
VISÃO		
1. Tem dificuldade em ver, mesmo usando óculos?	VIS_SS	1
COMUNICAÇÃO		
2. Usando a sua linguagem habitual, tem dificuldade em comunicar (por exemplo, compreender ou fazer-se compreender por outros)?	COM_SS	1
AUDIÇÃO		
3. Tem dificuldade em ouvir, mesmo usando um aparelho auditivo?	HEAR_SS	1
COGNIÇÃO		
4. Tem dificuldade em lembrar-se ou concentrar-se?	COG_SS	1
AUTOUIDADOS/PARTE SUPERIOR DO CORPO		
5. Tem dificuldade em (autocuidados como) tomar banho ou vestir-se?	SC_SS	1
6. Dificuldade em levantar uma garrafa de 2 litros de água do nível da cintura até ao nível dos olhos?	UB_1	1
7. Grau de dificuldade em usar as mãos e os dedos	UB_2	1
MOBILIDADE		
8. Tem dificuldade em andar ou subir degraus?	MOB_SS	1
SENTIMENTO (ANSIEDADE)		
9. Com que frequência se sente preocupado(a), nervoso(a) ou ansioso(a)?	ANX_1	2
10. Nível dos sentimentos na última vez em que se sentiu preocupado(a), nervoso(a) ou ansioso(a)?	ANX_3	3
SENTIMENTO (DEPRESSÃO)		
11. Com que frequência se sente deprimido(a)?	DEP_1	2

12. Que nível de depressão sentiu na última vez em que esteve deprimido(a)?	DEP_3	3
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NOTA: **Vermelho** refere-se ao Conjunto Reduzido do Washington Group (**WG-SS**).
Verde refere-se ao Conjunto Alargado do Washington Group (**WG-ES**).
As perguntas **Vermelhas** mais **Verdes** estão incluídas no Conjunto Reduzido – Melhorado do Washington Group (**WG-SS Melhorado**).

Padrões de resposta:

	Padrão 1	Padrão 2	Padrão 3*
1	Nenhuma dificuldade	Diariamente	Leve
2	Sim, alguma dificuldade	Semanalmente	Intenso
3	Sim, muita dificuldade	Mensalmente	Algo entre leve e intenso
4	Não consegue	Algumas vezes por ano	
5		Nunca	
7	Recusou	Recusou	
8	Não determinado	Não determinado	
9	Não sabe	Não sabe	

*** NA SINTAXE ABAIXO, NOTE QUE OS ITENS COM O PADRÃO DE RESPOSTA 6 (ANX_3 E DEP_3) ESTÃO RECODIFICADOS PARA QUE “ALGO ENTRE” FIQUE NUMERICAMENTE POSICIONADO ENTRE “LEVE” E “INTENSO”.**

A sintaxe SAS apresentada abaixo inclui alguns elementos específicos do conteúdo do WG-SS Melhorado.

Em primeiro lugar, é importante definir identificadores únicos específicos para os domínios de funcionalidade que incluam várias perguntas (funcionalidade da parte superior do corpo, ansiedade e depressão). Por exemplo, a funcionalidade da parte superior do corpo inclui duas perguntas, com cada uma a evocar uma ação específica e única: dificuldade em levantar uma garrafa do nível da cintura até ao nível dos olhos (braços/ombros) e dificuldade em usar as mãos e os dedos. Estas duas perguntas foram analisadas e combinadas para gerar um indicador único da parte superior do corpo com quatro níveis de dificuldade que vão de 1 – dificuldade baixa a 4 – dificuldade elevada, um pouco como as categorias de resposta às perguntas únicas do WG-SS: “nenhuma dificuldade”, “alguma dificuldade”, “muita dificuldade” e “não consegue”. Tal como acontece com o domínio da parte superior do corpo, os outros domínios do WG-SS Melhorado respeitantes à ansiedade e à depressão têm diferentes padrões de resposta que não se “convertem” prontamente no padrão de resposta habitual do WG. Para esses domínios de funcionalidade, foi elaborado e anotado um padrão de resposta com uma escala de quatro níveis, de 1 a 4, em que 1 é o mais baixo nível de dificuldade e 4 o mais elevado.

Em segundo lugar, foram aferidos indicadores de domínios individuais a fim de determinar o ponto

de corte adequado para inclusão num identificador de incapacidade geral, com o propósito de estimar a prevalência e desagregar os indicadores de resultados por estado de incapacidade.

NOTA:

Para todas as variáveis, os códigos (7) *Recusou*, (8) *Não determinado* e (9) *Não sabe* são recodificados como *Em falta*.

SAS WG-SS Enhanced 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 individual domain questions – **cross-tabulations** on multiple domain questions, and calculates INDICATOR variables for domains with multiple questions – for use in the determination of disability identifiers.

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=EH.SS_Enhanced13;  
Tables Vision;  
Run;
```

NOTE: EH.SS_Enhanced13 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=EH.SS_Enhanced13;

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=EH.SS_Enhanced13;

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=EH.SS_Enhanced13;

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=EH.SS_Enhanced13;
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=EH.SS_Enhanced13;
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		

UPPER BODY

Step 2. Generate frequency distributions and cross-tabulations for Upper body domain questions and determine the Upper Body Indicator.

UB_1 is Difficulty raising 2 liter bottle of water from waist to eye level.

UB_2 is Difficulty using hands and fingers

If UB_1 in (1, 2, 3, 4) **then** UB_1_R=UB_1;
Else If UB_1 in (7, 8, 9) **then** UB_1_R=.;

If UB_2 in (1, 2, 3, 4) **then** UB_2_R=UB_2;
Else If UB_2 in (7, 8, 9) **then** UB_2_R=.;

First, calculate frequency distributions on the two extended set questions.

```
Proc Freq Data= EH.SS_Enhanced13;  

Tables UB_1_R UB_2_R;  

Run;
```

UB_1_R: Diff raising 2 liter bottle of water from waist to eye level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No difficulty	15677	90.5	93.6	93.6
	Some difficulty	743	4.3	4.4	98.0
	A lot of difficulty	167	1.0	1.0	99.0
	Cannot do at all	166	1.0	1.0	100.0
	Total	16753	96.7	100.0	
Missing		573	3.3		
Total		17326	100.0		

UB_2_R: Degree of difficulty using hands and fingers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No difficulty	15199	87.7	90.7	90.7
	Some difficulty	1229	7.1	7.3	98.1
	A lot of difficulty	255	1.5	1.5	99.6
	Cannot do at all	70	.4	.4	100.0
	Total	16753	96.7	100.0	
Missing		573	3.3		
Total		17326	100.0		

Step 3. Generate a cross-tabulation of the two Upper body Extended Set questions: UB_2_R and UB_1_R.

The syntax below produces a cross-tabulation of the two Extended Set questions: UB_1_R: *Difficulty raising a 2 liter bottle of water from waste to eye level* UB_2_R: *Difficulty using hands and fingers* to determine a single UPPER BODY INDICATOR (UB_INDICATOR).

```
Proc Freq Data=EH.SS_Enhanced13;
Tables UB_2_R*UB_1_R /NOROW NOCOL NOPERCENT;
Run;
```

UB_2_R: Difficulty using hands and fingers		UB_1_R: Diff raising 2 liter bottle of water from waist to eye level				
		No difficulty	Some difficulty	A lot of difficulty	Cannot do at all	Total
Degree of difficulty using hands and fingers	No difficulty	14786	309	58	44	15197
	Some difficulty	782	355	51	40	1228
	A lot of difficulty	98	73	51	33	255
	Cannot do at all	9	5	7	49	70
Total		15675	742	167	166	16750

Step 4. Create an UPPER BODY INDICATOR (UB_INDICATOR) based on the two additional upper body questions UB_2_R and UB_3_R.

Syntax below creates UB_INDICATOR based on the distribution in the cross-tabulation above.

```
If (UB_1_R = 4 OR UB_2_R = 4) then UB_INDICATOR = 4;
Else If UB_INDICATOR NE 4 AND (UB_1_R = 3 OR UB_2_R = 3)
then UB_INDICATOR = 3;
Else If UB_INDICATOR NE 4 AND UB_INDICATOR NE 3 AND (UB_1_R = 2 OR UB_2_R = 2)
then UB_INDICATOR = 2;
Else If UB_INDICATOR NE 4 AND UB_INDICATOR NE 3 AND UB_INDICATOR NE 2
AND (UB_1_R = 1 OR UB_2_R = 1) then UB_INDICATOR = 1.;
```


Proc Freq Data=EH.SS_Enhanced13;
Tables UB_INDICATOR;
Run;

UB_INDICATOR					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	14790	85.4	88.3	88.3
	2.00	1448	8.4	8.6	96.9
	3.00	331	1.9	2.0	98.9
	4.00	187	1.1	1.1	100.0
	Total	16756	96.7	100.0	
Missing		570	3.3		
Total		17326	100.0		

ANXIETY

Step 5. Generate frequency distribution on ANX_1.

First, calculate frequency distributions on ANX_1: *How often do you feel worried, nervous or anxious?*

If ANX_1 in (1, 2, 3, 4, 5) **then** ANX_1_R=ANX_1;

Else If ANX_1 in (7, 8, 9) **then** ANX_1_R=.;

Proc Freq Data=EH.SS_Enhanced13;

Tables ANX_1_R;

Run;

ANX_1_R: How often feel worried, nervous, or anxious?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	1632	9.4	9.8	9.8
	Weekly	1872	10.8	11.2	21.0
	Monthly	1558	9.0	9.3	30.4
	A few times a year	4898	28.3	29.4	59.7
	Never	6714	38.8	40.3	100.0
	Total	16674	96.2	100.0	
Missing		652	3.8		
Total		17326	100.0		

Step 6. The syntax below recodes ANX_3 into ANX_3Y

1) to create a NOT ASKED category based on those who responded NEVER to ANX_1_R and

2) to place "SOMEWHERE BETWEEN" numerically in-between "A LITTLE" and "A LOT".

If ANX_3 =1 then ANX_3Y=1;
Else If ANX_3 =2 then ANX_3Y=3;
Else If ANX_3 =3 then ANX_3Y=2;
Else If ANX_3 in (7, 8, 9) then ANX_3Y=.;

Recode ANX_3Y to 0 (not asked) If ANX_1 is 5 (Never).

If ANX_1 =5 then ANX_3Y=0;

Proc Freq Data=EH.SS_Enhanced13;

Tables ANX_3Y;

Run;

ANX_3Y: Level of feelings last time felt worried/nervous/anxious

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not asked	6714	38.8	40.3	40.3
	A little	5700	32.9	34.2	74.5
	In between a little and a lot	3076	17.8	18.5	92.9
	A lot	1176	6.8	7.1	100.0
	Total	16666	96.2	100.0	
Missing		660	3.8		
Total		17326	100.0		

Step 7. Generate a cross-tabulation of the anxiety Extended Set questions: ANX_1_R and ANX_3Y.

The syntax below produces a cross-tabulation of ANX_1_R: *How often you felt worried, nervous or anxious* (a measure of frequency) and ANX_3Y: *The level of those feeling the last time you felt worried, nervous or anxious* (a measure of intensity) – used to determine a single ANXIETY INDICATOR (ANX_INDICATOR).

Proc Freq Data=EH.SS_Enhanced13;

Tables ANX_3Y*ANX_1_R/NOROW NOCOL NOPERCENT;

Run;

ANX_3Y: Level of feelings last time felt worried, nervous or anxious	ANX_1_R: How often feel worried, nervous or anxious?					
	Daily	Weekly	Monthly	A Few Times A Year	Never	Total
Not asked	0	0	0	0	6714	6714
A little	489	887	897	3417	0	5690
In between a little and a lot	589	725	535	1221	0	3070
A lot	548	256	123	248	0	1175
Total	1626	1868	1555	4886	6714	16649

Step 8. Create an ANXIETY INDICATOR (ANX_INDICATOR) based on the two anxiety questions ANX_1_R and ANX_3Y.

Syntax below creates ANX_INDICATOR based on the distribution in the cross-tabulation above.

```

If (missing(ANX_1_R) OR missing(ANX_3Y)) then ANX_INDICATOR=.;
Else If ( ANX_3Y le 4 AND (ANX_1_R = 4 OR ANX_1_R = 5)) then ANX_INDICATOR=1;
Else If ((ANX_1_R = 3) OR (ANX_1_R LT 3 AND ANX_3Y=1) OR
(ANX_1_R = 2 AND ANX_3Y = 2)) then ANX_INDICATOR = 2;
Else If ((ANX_1_R = 1 AND ANX_3Y = 2) OR (ANX_1_R = 2 AND ANX_3Y = 3))
then ANX_INDICATOR = 3;
Else If ( ANX_1_R = 1 AND ANX_3Y = 3) then ANX_INDICATOR = 4;
Proc Freq Data=EH.SS_Enhanced13;
Tables ANX_INDICATOR;
Run;

```

		ANX_INDICATOR			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	11600	67.0	69.7	69.7
	2.00	3656	21.1	22.0	91.6
	3.00	845	4.9	5.1	96.7
	4.00	548	3.2	3.3	100.0
	Total	16649	96.1	100.0	
Missing		677	3.9		
Total		17326	100.0		

DEPRESSION

Step 9. Generate frequency distribution on DEP_1.

First, calculate frequency distributions on DEP_1: *How often do you feel depressed?*

```

If DEP_1 in (1, 2, 3, 4, 5) then DEP_1_R=DEP_1;
Else If DEP_1 in (7, 8, 9) then DEP_1_R=.;
Else DEP_1_R=.;

```

```

Proc Freq Data=EH.SS_Enhanced13;
Tables DEP_1_R;
Run;

```

DEP_1_R: How often do you feel depressed?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	756	4.4	4.5	4.5
	Weekly	926	5.3	5.6	10.1
	Monthly	1038	6.0	6.2	16.3
	A few times a year	4012	23.2	24.1	40.4
	Never	9929	57.3	59.6	100.0
	Total	16661	96.2	100.0	
Missing		665	3.8		
Total		17326	100.0		

Step 10. The syntax below recodes DEP_3 into DEP_3Y to place “SOMEWHERE BETWEEN” numerically in-between “A LITTLE” and “A LOT”. It also creates the category NOT ASKED, if DEP_1 is NEVER (1)

```
If DEP_3 =1 then DEP_3Y=1;
Else If DEP_3=2 then DEP_3Y=3;
Else If DEP_3=3 then DEP_3Y=2;
Else If DEP_3 in (7,8,9) then DEP_3Y=.;
```

```
If DEP_1 =5 then DEP_3Y=0;
```

```
Proc Freq Data=EH.SS_Enhanced13;
Tables DEP_3Y;
Run;
```

DEP_3Y: Level of feelings last time felt depressed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not asked	9929	57.3	59.6	59.6
	A little	3775	21.8	22.7	82.3
	In between a little and a lot	2016	11.6	12.1	94.4
	A lot	935	5.4	5.6	100.0
	Total	16655	96.1	100.0	
Missing		671	3.9		
Total		17326	100.0		

Step 11. Generate a cross-tabulation of the depression Extended Set questions: DEP_1_R and DEP_3Y.

The syntax below produces a cross-tabulation of DEP_1_R: *How often do you feel depressed* (a measure of frequency) and DEP_3Y: *The level of those feeling the last time you felt depressed* (a measure of intensity) – used to determine a single DEPRESSION INDICATOR (DEP_INDICATOR).

```
Proc Freq Data=EH.SS_Enhanced13;
```

Tables DEP_3Y*DEP_1_R/NOROW NOCOL NOPERCENT;
Run;

DEP_3Y: Level of feelings last time felt depressed	DEP_1_R: How often do you feel depressed?					Total
	Daily	Weekly	Monthly	A Few Times A Year	Never	
Not asked	0	0	0	0	9929	9929
A little	161	346	548	2708	0	3763
In between a little and a lot	209	384	378	1042	0	2013
A lot	381	191	112	248	0	932
Total	751	921	1038	3998	9929	16637

Step 12. Create a DEPRESSION INDICATOR (DEP_INDICATOR) based on the two depression questions DEP_1_R and DEP_3Y.

Syntax below creates DEP_INDICATOR based on the distribution in the cross-tabulation above.

```

If (missing(DEP_1_R) OR missing(DEP_3Y)) then DEP_INDICATOR = .;
Else If (DEP_3Y Le 4 AND (DEP_1_R = 4 OR DEP_1_R = 5)) then DEP_INDICATOR=1;
Else If ((DEP_1_R = 3) OR (DEP_1_R LT 3 AND DEP_3Y=1) OR
(DEP_1 = 2 AND DEP_3Y = 2)) then DEP_INDICATOR = 2;
Else If ((DEP_1_R = 1 AND DEP_3Y = 2) OR (DEP_1_R = 2 AND DEP_3Y = 3))
then DEP_INDICATOR = 3;
Else If (DEP_1_R = 1 AND DEP_3Y = 3) then DEP_INDICATOR = 4;

```

```

Proc Freq Data=EH.SS_Enhanced13;
Tables DEP_INDICATOR;
Run;

```

		DEP_INDICATOR			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	13927	80.4	83.7	83.7
	2.00	1929	11.1	11.6	95.3
	3.00	400	2.3	2.4	97.7
	4.00	381	2.2	2.3	100.0
	Total	16637	96.0	100.0	
Missing		689	4.0		
Total		17326	100.0		

Creating Disability Status Indicator for the WG-SS Enhanced

WG-SS Enhanced: WG-SS + Upper Body-indicator + Anxiety (level 4) + Depression (level 4)

The syntax below calculates the WG Short Set ENHANCED Disability Indicator (**SS_E**) based on the 12 questions at the recommended cut-off. The level of inclusion is: at least 1 domain/question is coded A LOT OF DIFFICULTY or CANNOT DO AT ALL for the six short set question; severity levels 3 or 4 for the Upper body-Indicators; and severity level 4 for Anxiety- and Depression-Indicators.

```

If (missing(vision) AND missing(hearing) AND missing(mobility) AND
missing(communication) AND missing(Self_Care) AND missing(Cognition) AND
missing(UB_INDICATOR) AND missing(ANX_INDICATOR) AND
missing(DEP_INDICATOR) ) then SS_E = .;
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) OR (UB_INDICATOR=3 OR UB_INDICATOR=4)
OR ANX_INDICATOR = 4 OR DEP_INDICATOR = 4)
then SS_E = 1;
Else SS_E = 2;
    
```

```

Proc Freq Data=EH.SS_Enhanced13;
Tables SS_E;
Run;
    
```

SS_E: WG-SS Enhanced Disability Indicator based on 9 domains and 12 questions

		Frequency	Percent	Valid Percent	Weighted Estimate
Valid	WITHOUT DISABILITY	14393	83.1	85.8	87.7
	WITH DISABILITY	2384	13.8	14.2	12.3
	Total	16777	96.9	100.0	
Missing		549	3.2		
Total		17326	100.1		

APPENDIX 1: SAS Code used in the NHIS data file

```
Data EH.SS_Enhanced13;
  Set NHIS.Funcdisb13 ;
  *Step 1: Generate frequency distributions on each of the six domain
  variables.;
  *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 If VIS_SS2 in (7,8,9) then 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 If COM_SS in (7,8,9) then 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 If UB_SS in (7,8,9) then Self_Care=.;
  *****
  *****;

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

```

Else If MOB_SS2 in (7,8,9) then Mobility=.;
*****
*****;
*Step 1: Generate frequency distributions on each of the six domain
variables.;

*Step 2. Generate frequency distributions and cross-tabulations for Upper
body domain questions and determine the Upper Body Indicator;

*UB_1 is Difficulty raising 2 liter bottle of water from waist to eye level;
*UB_2 is Difficulty using hands and fingers;

If UB_1 in (1, 2, 3, 4) then UB_1_R=UB_1;
Else If UB_1 in (7, 8, 9) then UB_1_R=.;

If UB_2 in (1, 2, 3, 4) then UB_2_R=UB_2;
Else If UB_2 in (7, 8, 9) then UB_2_R=.;

*Step 3. Generate a cross-tabulation of the two Upper body Extended Set
questions: UB_2_R and UB_1_R.;

*Step 4. Create an UPPER BODY INDICATOR (UB_INDICATOR) based on the two
additional upper body questions UB_2_R and UB_3_R.;
If (UB_1_R = 4 OR UB_2_R = 4) then UB_INDICATOR = 4;
Else If UB_INDICATOR NE 4 AND (UB_1_R = 3 OR UB_2_R = 3)
then UB_INDICATOR = 3;
Else If UB_INDICATOR NE 4 AND UB_INDICATOR NE 3 AND (UB_1_R = 2 OR UB_2_R =
2) then UB_INDICATOR = 2;
Else If UB_INDICATOR NE 4 AND UB_INDICATOR NE 3 AND UB_INDICATOR NE 2 AND
(UB_1_R = 1 OR UB_2_R = 1) then UB_INDICATOR = 1.;

*Step 5. Generate frequency distribution on ANX_1.
First, calculate frequency distributions on ANX_1: How often do you feel
worried, nervous or anxious?;
If ANX_1 in (1, 2, 3, 4, 5) then ANX_1_R=ANX_1;
Else If ANX_1 in (7, 8, 9) then ANX_1_R=.;

*Step 6. The syntax below recodes ANX_3 into ANX_3Y
1) to create a NOT ASKED category based on those who responded NEVER to
ANX_1_R and
2) to place "SOMEWHERE BETWEEN" numerically in-between "A LITTLE" and "A
LOT";

If ANX_3R =1 then ANX_3Y=1;
Else If ANX_3R =2 then ANX_3Y=3;
Else If ANX_3R =3 then ANX_3Y=2;
Else If ANX_3R in (7,8,9) then ANX_3Y=.;

*Recode ANX_3Y to 0 (not asked) if ANX_1 is 5 (Never).;
If ANX_1 =5 then ANX_3Y=0;

*Step 7. Generate a cross-tabulation of the anxiety Extended Set questions:
ANX_1_R and ANX_3Y.;
*Step 8. Create an ANXIETY INDICATOR (ANX_INDICATOR) based on the two anxiety
questions ANX_1_R and ANX_3Y.

```

Syntax below creates ANX_INDICATOR based on the distribution in the cross-tabulation above;


```

        If (missing(ANX_1_R) OR missing(ANX_3Y)) then ANX_INDICATOR=.;
    Else If ( ANX_3Y le 4 AND (ANX_1_R = 4 OR ANX_1_R = 5)) then ANX_INDICATOR=1;
    Else If ((ANX_1_R = 3) OR (ANX_1_R LT 3 AND ANX_3Y=1) OR (ANX_1_R = 2 AND
ANX_3Y = 2)) then ANX_INDICATOR = 2;
    Else If ((ANX_1_R = 1 AND ANX_3Y = 2) OR (ANX_1_R = 2 AND ANX_3Y = 3)) then
ANX_INDICATOR = 3;
    Else If ( ANX_1_R = 1 AND ANX_3Y = 3) then ANX_INDICATOR = 4;

```

*Step 9. Generate frequency distribution on DEP_1.
 First, calculate frequency distributions on DEP_1: How often do you feel depressed?;

```

        If DEP_1 in (1, 2, 3, 4, 5) then DEP_1_R=DEP_1;
    Else If DEP_1 in (7, 8, 9) then DEP_1_R=.;
    Else DEP_1_R=.;

```

*Step 10. The syntax below recodes DEP_3 into DEP_3Y to place "SOMEWHERE BETWEEN" numerically in-between "A LITTLE" and "A LOT".

```

    It also creates the category NOT ASKED, if DEP_1 is NEVER (1);
        If DEP_3R =1 then DEP_3Y=1;
    Else If DEP_3R =2 then DEP_3Y=3;
    Else If DEP_3R =3 then DEP_3Y=2;
    Else If DEP_3R in (7,8,9) then DEP_3Y=.;

```

```

*Recode DEP_3Y to 0 (not asked) if DEP_1 is 5 (Never).;
If DEP_1 =5 then DEP_3Y=0;

```

*Step 11. Generate a cross-tabulation of the depression Extended Set questions: DEP_1_R and DEP_3Y.;

*Step 12. Create a DEPRESSION INDICATOR (DEP_INDICATOR) based on the two depression questions DEP_1_R and DEP_3Y.

Syntax below creates DEP_INDICATOR based on the distribution in the cross-tabulation above.;

```

        If (missing(DEP_1_R) OR missing(DEP_3Y)) then DEP_INDICATOR = .;
    Else If (DEP_3Y le 4 AND (DEP_1_R = 4 OR DEP_1_R = 5)) then DEP_INDICATOR=1;
    Else If ((DEP_1_R = 3) OR (DEP_1_R LT 3 AND DEP_3Y=1) OR
(DEP_1 = 2 AND DEP_3Y = 2)) then DEP_INDICATOR = 2;
    Else If ((DEP_1_R = 1 AND DEP_3Y = 2) OR (DEP_1_R = 2 AND DEP_3Y = 3))
then DEP_INDICATOR = 3;
    Else If (DEP_1_R = 1 AND DEP_3Y = 3) then DEP_INDICATOR = 4;

```

*WG-SS Enhanced: WG-SS + Upper Body-indicator + Anxiety (level 4) + Depression (level 4)

The syntax below calculates the WG Short Set ENHANCED Disability Indicator (SS_E) based on the 12 questions at the recommended cut-off. The level of inclusion is: at least 1 domain/question is coded A LOT OF DIFFICULTY or CANNOT DO AT ALL for the six short set question, severity levels 3 or 4 for the Upper body-Indicators, and severity level 4 for Anxiety- and Depression-Indicators.;

```

        If (missing(vision) AND missing(hearing) AND missing(mobility) AND
missing(communication) AND missing(Self_Care) AND missing(Cognition) AND
missing(UB_INDICATOR) AND missing(ANX_INDICATOR) AND missing(DEP_INDICATOR)
) then SS_E = .;
    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)
OR (UB_INDICATOR=3 OR UB_INDICATOR=4)
OR ANX_INDICATOR = 4 OR DEP_INDICATOR = 4) then SS_E = 1;
Else SS_E = 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"
UB_1_R="Diff raising 2 liter bottle of water from waist to eye level"
UB_2_R="Degree of difficulty using hands and fingers"
UB_INDICATOR="UB INDICATOR"
ANX_1_R="How often feel worried, nervous, or anxious?"
ANX_3Y="Level of feelings last time felt worried/nervous/anxious"
ANX_INDICATOR="ANX INDICATOR"
DEP_1_R="How often do you feel depressed?"
DEP_3Y="Level of feelings last time felt depressed"
```

```

DEP_INDICATOR="DEP INDICATOR"
SS_E="WG-SS Enhanced"
;
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.
ANX_1_R DEP_1_R AnxDep. ANX_3Y DEP_3Y AnxDep3F. SS_E DisabF.;
Run;
Proc format library=EH.EH;
Value Diff
1="No Difficulty"
2="Some Difficulty"
3="A lot of Difficulty"
4="Cannot do at all"
.="Missing"
;
Value AnxDep
1="Daily"
2="Weekly"
3="Monthly"
4="A few times a year"
5="Never"
;
Value AnxDep3F
0="Not asked"
1="A little"
2="In between"
3="A lot"
;
Value DisabF
1="With Disability"
2="Without Disability"
;
Run;

```