```
NOTE: Copyright (c) 1999-2001 by SAS Institute Inc., Cary, NC, USA.
NOTE: SAS (r) Proprietary Software Release 8.2 (TS2M0)
     Licensed to AGENCY FOR HEALTHCARE RESEARCH & QUALITY, Site 0040776001.
NOTE: This session is executing on the WIN_PRO platform.
1
          options ls=120 ps=79 nodate;
2
          ods noproctitle;
          /*****************************
3
                      c:\meps\prog\Example_L4.sas
          Program:
          Description: This example shows how to:
                       (1) Identify persons with specific condition(s)
8
                       (2) Subset condition file to person level
9
                       (3) Make one variable from five variables
                       (4) Use SUDAAN to calculate standard errors
10
11
12
          Input Files: c:\meps\data\h61.sas7bdat (2001 Conditions)
13
                       c:\meps\data\h60.sas7bdat (2001 Full-Year Persons)
          14
15
16
         libname hc 'c:\meps\data';
NOTE: Libref HC was successfully assigned as follows:
     Engine:
     Physical Name: c:\meps\data
17
18
          title 'AHRO MEPS DATA USERS WORKSHOP (LINKING) -- NOV/DEC 2004';
19
          title2 'Link 2001 Household File and 2001 Conditions File';
20
21
          proc format;
22
            value ovr 1-4='1-4';
NOTE: Format OVR has been output.
23
            value overall
24
             1='1 Very Serious'
25
              2='2 Somewhat Serious'
              3='3 Not Very Serious'
26
27
              4='4 Not at All'
              5='5 Missing'
28
              6='6 Not Have Asthma';
NOTE: Format OVERALL has been output.
30
           value asthma
31
             1='1 Has Asthma'
32
             2='2 No Asthma';
NOTE: Format ASTHMA has been output.
           value agecat 1='1. 0-17' 2='2. 18+';
NOTE: Format AGECAT has been output.
34
         run;
35
36
                  /* Identify persons with asthma */
37
          title3 'Persons with Asthma';
38
          data; set hc.h61(where=(icd9codx='493') keep=dupersid panel01 condrn icd9codx
39
           ovrall1-ovrall5);
40
          run;
```

NOTE: There were 1695 observations read from the data set HC.H61.

panel01\*condrn\*ovrall1\*ovrall2\*ovrall3\*ovrall4\*ovrall5/list missing;

46

47

48

proc freq; tables

format ovrall1-ovrall5 ovr.;

```
2
                                                     The SAS System
49
          run;
NOTE: There were 1644 observations read from the data set WORK.DATA2.
NOTE: The PROCEDURE FREQ printed page 1.
50
51
                    /* Assign first-reported OVRALLi to OVERALL */
52
          data asthma; set _last_; by dupersid;
53
             if ovrall1 > -1 then overall = ovrall1;
54
               else if ovrall2 > -1 then overall = ovrall2;
55
               else if ovrall3 > -1 then overall = ovrall3;
56
               else if ovrall4 > -1 then overall = ovrall4;
57
               else if ovrall5 > -1 then overall = ovrall5;
58
             if overall=. then overall=5;
59
          run;
NOTE: There were 1644 observations read from the data set WORK.DATA2.
NOTE: The data set WORK.ASTHMA has 1644 observations and 10 variables.
60
61
          proc freq; tables
62
             overall
63
             overall*ovrall1*ovrall2*ovrall3*ovrall4*ovrall5/list missing;
64
             format ovrall1-ovrall5 ovr. overall overall.;
65
          run;
NOTE: There were 1644 observations read from the data set WORK.ASTHMA.
NOTE: The PROCEDURE FREQ printed pages 2-3.
66
67
          title3 'All Persons (with Positive Weight)';
68
          data pers; merge
            hc.h60(keep=dupersid perwt01f varstr01 varpsu01 age31x age42x age53x)
69
70
             asthma(in=a drop=panel01 condrn icd9codx ovrall1-ovrall5); by dupersid;
71
             if perwt01f > 0;
72
             if a then asthma=1; else asthma=2;
73
             if overall=. then overall=6;
74
             if age53x ge 0 then age=age53x;
75
              else if age42x ge 0 then age=age42x;
76
               else if age31x ge 0 then age=age31x;
77
             if 0 le age < 18 then agecat=1;
78
               else if age ge 18 then agecat=2;
79
             drop age31x age42x age53x;
80
             label
81
               overall='How Asthma Affects Overall Health'
82
               asthma ='1 if P Has Asthma'
83
               agecat ='Age 0-17, 18+';
84
          run;
NOTE: There were 33556 observations read from the data set HC.H60.
NOTE: There were 1644 observations read from the data set WORK.ASTHMA.
```

NOTE: The data set WORK.PERS has 32122 observations and 8 variables.

```
85
          proc sort; by varstr01 varpsu01; run;
NOTE: There were 32122 observations read from the data set WORK.PERS.
NOTE: The data set WORK.PERS has 32122 observations and 8 variables.
86
87
          proc freq; tables
88
            asthma (asthma overall)*agecat/missing;
89
            format asthma asthma. overall overall. agecat agecat.;
90
NOTE: There were 32122 observations read from the data set WORK.PERS.
NOTE: The PROCEDURE FREQ printed page 4.
91
92
                   /* Output on asthma */
93
          proc crosstab data=pers filetype=sas design=wr notot norow;
            nest varstr01 varpsu01/missunit;
94
95
            weight perwt01f;
96
            subgroup asthma;
97
            levels 2;
98
            tables asthma;
99
            print / style=nchs wsumfmt=f15.0 nodate notime;
```

rformat asthma asthma.;

100

3 The SAS System

101 run;

\*

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\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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Opened SAS data file PERS for reading.

NOTE: There were 32122 observations read from the data set WORK.PERS.

NOTE: The PROCEDURE CROSSTAB printed pages 5-6.

102 103 /\* How asthma affects health \*/ proc crosstab data=pers filetype=sas design=wr notot norow; 104 105 nest varstr01 varpsu01/missunit; 106 weight perwt01f; 107 subgroup overall agecat; 108 levels 5 2; 109 subpopn asthma=1; tables overall overall\*agecat; 110 111 print / style=nchs wsumfmt=f15.0 nodate notime; 112 rformat overall overall.; 113 rformat agecat agecat.; 114 run;

\*

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\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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Opened SAS data file PERS for reading.

NOTE: There were 32122 observations read from the data set WORK.PERS.

NOTE: The PROCEDURE CROSSTAB printed pages 7-9.

NOTE: SAS Institute Inc., SAS Campus Drive, Cary, NC USA 27513-2414

## AHRQ MEPS DATA USERS WORKSHOP (LINKING) -- NOV/DEC 2004 Link 2001 Household File and 2001 Conditions File Persons with Asthma

PANEL01 CONDRN OVRALL1 OVRALL2 OVRALL3 OVRALL4 OVRALL5 Frequency Per	Cumulative Cumulative
	.44 73 4.44
	.61 83 5.05
	.85 97 5.90
	.85 111 6.75
	.03 128 7.79
	.55 137 8.33
	.40 160 9.73
	.35 248 15.09
	.06 249 15.15
	.43 289 17.58
	.55 298 18.13
	.06 299 18.19
	.30 304 18.49
	.12 306 18.61
	.06 307 18.67
	.55 316 19.22
	.85 330 20.07
	.06 331 20.13
	.06 332 20.19
	.67 343 20.86
	.58 369 22.45
	.61 379 23.05
	.36 385 23.42
	.40 408 24.82
	.06 409 24.88
	.67 420 25.55
	.40 443 26.95
	.58 469 28.53
	.06 470 28.59
	.09 488 29.68
	1.68 532 32.36
	.06 533 32.42
	.06 534 32.48
	.24 538 32.73
	.93 652 39.66
	.06 653 39.72
	.06 654 39.78
	.18 657 39.96
	.06 658 40.02
	.76 802 48.78
	.59 861 52.37
	.06 862 52.43
	.06 863 52.49
	.78 958 58.27
	.52 1246 75.79
	.24 1250 76.03
	.12 1252 76.16
6 2 -1 -1 -1 -1 50 3	.04 1302 79.20

6	2	-1	1-4	-1	-1	-1	83	5.05	1386	84.31	
6	2	-1	1-4	1-4	-1	-1	90	5.47	1476	89.78	
6	3	-1	-1	-9	-1	-1	2	0.12	1478	89.90	
6	3	-1	-1	-1	-1	-1	44	2.68	1522	92.58	
6	3	-1	-1	1-4	-1	-1	122	7.42	1644	100.00	

## AHRQ MEPS DATA USERS WORKSHOP (LINKING) -- NOV/DEC 2004 Link 2001 Household File and 2001 Conditions File Persons with Asthma

overall	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1 Very Serious	219	13.32	219	13.32
2 Somewhat Serious	456	27.74	675	41.06
3 Not Very Serious	445	27.07	1120	68.13
4 Not at All	150	9.12	1270	77.25
5 Missing	374	22.75	1644	100.00

overall	OVRALL1	OVRALL2	OVRALL3	OVRALL4	OVRALL5	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1 Very Serious	-9	1-4	-1	-1	-1	1	0.06	1	0.06
1 Very Serious	-9	1-4	1-4	-1	-1	2	0.12	3	0.18
1 Very Serious	-1	-1	-1	-1	1-4	8	0.49	11	0.67
1 Very Serious	-1	-1	-1	1-4	-1	5	0.30	16	0.97
1 Very Serious	-1	-1	-1	1-4	1-4	7	0.43	23	1.40
1 Very Serious	-1	-1	1-4	-1	-1	14	0.85	37	2.25
1 Very Serious	-1	-1	1-4	1-4	-1	11	0.67	48	2.92
1 Very Serious	-1	-1	1-4	1-4	1-4	29	1.76	77	4.68
1 Very Serious	-1	1-4	-1	-1	-1	7	0.43	84	5.11
1 Very Serious	-1	1-4	1-4	-1	-1	13	0.79	97	5.90
1 Very Serious	1-4	-1	-1	-1	-1	22	1.34	119	7.24
1 Very Serious	1-4	-1	1-4	-1	-1	8	0.49	127	7.73
1 Very Serious	1-4	1-4	-1	-1	-1	16	0.97	143	8.70
1 Very Serious	1-4	1-4	1-4	-1	-1	76	4.62	219	13.32
2 Somewhat Serious	-9	1-4	1-4	-1	-1	1	0.06	220	13.38
2 Somewhat Serious	-1	-1	-9	-1	1-4	1	0.06	221	13.44
2 Somewhat Serious	-1	-1	-1	-1	1-4	23	1.40	244	14.84
2 Somewhat Serious	-1	-1	-1	1-4	-1	10	0.61	254	15.45
2 Somewhat Serious	-1	-1	-1	1-4	1-4	24	1.46	278	16.91
2 Somewhat Serious	-1	-1	1-4	-1	-1	65	3.95	343	20.86
2 Somewhat Serious	-1	-1	1-4	-1	1-4	6	0.36	349	21.23
2 Somewhat Serious	-1	-1	1-4	1-4	-1	11	0.67	360	21.90
2 Somewhat Serious	-1	-1	1-4	1-4	1-4	49	2.98	409	24.88
2 Somewhat Serious	-1	1-4	-9	-1	-1	1	0.06	410	24.94
2 Somewhat Serious	-1	1-4	-1	-1	-1	15	0.91	425	25.85
2 Somewhat Serious	-1	1-4	1-4	-1	-1	28	1.70	453	27.55
2 Somewhat Serious	1-4	-8	-1	-1	-1	1	0.06	454	27.62
2 Somewhat Serious	1-4	-1	-9	-1	-1	1	0.06	455	27.68
2 Somewhat Serious	1-4	-1	-8	-1	-1	1	0.06	456	27.74
2 Somewhat Serious	1-4	-1	-1	-1	-1	50	3.04	506	30.78
2 Somewhat Serious	1-4	-1	1-4	-1	-1	19	1.16	525	31.93
2 Somewhat Serious	1-4	1-4	-7	-1	-1	1	0.06	526	32.00
2 Somewhat Serious	1-4	1-4	-1	-1	-1	41	2.49	567	34.49
2 Somewhat Serious	1-4	1-4	1-4	-1	-1	108	6.57	675	41.06
3 Not Very Serious	-9	1-4	1-4	-1	-1	1	0.06	676	41.12
3 Not Very Serious	-1	-1	-1	-1	1-4	26	1.58	702	42.70
3 Not Very Serious	-1	-1	-1	1-4	-1	14	0.85	716	43.55
3 Not Very Serious	-1	-1	-1	1-4	1-4	8	0.49	724	44.04
3 Not Very Serious	-1	-1	1-4	-1	-1	72	4.38	796	48.42

3 Not Very Serious	-1	-1	1-4	-1	1-4	9	0.55	805	48.97
3 Not Very Serious	-1	-1	1-4	1-4	-1	13	0.79	818	49.76
3 Not Very Serious	-1	-1	1-4	1-4	1-4	34	2.07	852	51.82
3 Not Very Serious	-1	1-4	-1	-1	-1	48	2.92	900	54.74
3 Not Very Serious	-1	1-4	1-4	-1	-1	38	2.31	938	57.06
3 Not Very Serious	1-4	-9	1-4	-1	-1	1	0.06	939	57.12
3 Not Very Serious	1-4	-1	-9	-1	-1	1	0.06	940	57.18
3 Not Very Serious	1-4	-1	-1	-1	-1	50	3.04	990	60.22
3 Not Very Serious	1-4	-1	1-4	-1	-1	25	1.52	1015	61.74
3 Not Very Serious	1-4	1-4	-1	-1	-1	31	1.89	1046	63.63
3 Not Very Serious	1-4	1-4	1-4	-1	-1	74	4.50	1120	68.13
4 Not at All	-1	-1	-1	-1	1-4	6	0.36	1126	68.49
4 Not at All	-1	-1	-1	1-4	-1	9	0.55	1135	69.04
4 Not at All	-1	-1	-1	1-4	1-4	6	0.36	1141	69.40
4 Not at All	-1	-1	1-4	-1	-1	16	0.97	1157	70.38
4 Not at All	-1	-1	1-4	-1	1-4	5	0.30	1162	70.68
4 Not at All	-1	-1	1-4	1-4	-1	3	0.18	1165	70.86
4 Not at All	-1	-1	1-4	1-4	1-4	13	0.79	1178	71.65
4 Not at All	-1	1-4	-1	-1	-1	13	0.79	1191	72.45
4 Not at All	-1	1-4	1-4	-1	-1	11	0.67	1202	73.11
4 Not at All	1-4	-1	-9	-1	-1	1	0.06	1203	73.18
4 Not at All	1-4	-1	-1	-1	-1	22	1.34	1225	74.51
4 Not at All	1-4	-1	1-4	-1	-1	7	0.43	1232	74.94

#### AHRQ MEPS DATA USERS WORKSHOP (LINKING) -- NOV/DEC 2004 Link 2001 Household File and 2001 Conditions File Persons with Asthma

	overall	OVRALL1	OVRALL2	OVRALL3	OVRALL4	OVRALL5	Frequency	Percent	Cumulative Frequency	Cumulative Percent
4 Not at Al	11	1-4	1-4	-8	-1	-1	1	0.06	1233	75.00
4 Not at Al	11	1-4	1-4	-1	-1	-1	7	0.43	1240	75.43
4 Not at Al	11	1-4	1-4	1-4	-1	-1	30	1.82	1270	77.25
5 Missing		-9	-1	-1	-1	-1	1	0.06	1271	77.31
5 Missing		-1	-9	-1	-1	-1	4	0.24	1275	77.55
5 Missing		-1	-8	-1	-1	-1	2	0.12	1277	77.68
5 Missing		-1	-1	-9	-1	-1	3	0.18	1280	77.86
5 Missing		-1	-1	-1	-9	-1	1	0.06	1281	77.92
5 Missing		-1	-1	-1	-8	-1	1	0.06	1282	77.98
5 Missing		-1	-1	-1	-1	-9	1	0.06	1283	78.04
5 Missing		-1	-1	-1	-1	-1	361	21.96	1644	100.00

## AHRQ MEPS DATA USERS WORKSHOP (LINKING) -- NOV/DEC 2004 Link 2001 Household File and 2001 Conditions File All Persons (with Positive Weight)

## 1 if P Has Asthma

				Cumulative	Cumulative
	asthma	Frequency	Percent	Frequency	Percent
1 Has	Asthma	1584	4.93	1584	4.93
2 No .	Asthma	30538	95.07	32122	100.00

## Table of asthma by agecat

asthma(1 if P Has	Asthma)	
-------------------	---------	--

	agecat(A	Age 0-17,	18+)
Frequency			
Percent			
Row Pct			
Col Pct	1. 0-17	2. 18+	Total
	+	+	-+
1 Has Asthma	638	946	1584
	1.99	2.95	4.93
	40.28	59.72	
	6.97	4.12	
	+	+	+
2 No Asthma	8519	22019	30538
	26.52	68.55	95.07
	27.90	72.10	
	93.03	95.88	
	+	+	+
Total	9157	22965	32122
	28.51	71.49	100.00

## Table of overall by agecat

overall(How Asthma Affects Overall Health)

·	agecat(A	ge 0-17,	18+)
Frequency			
Percent			
Row Pct			
Col Pct	1. 0-17	2. 18+	Total
1 Very Serious	+   59	153	+   212
	0.18	0.48	0.66
	27.83	72.17	ĺ
	0.64	0.67	
2 Somewhat Serio	+   183	+   258	+   441
us	0.57	0.80	1.37
	41.50	58.50	ĺ
	2.00	1.12	
	+	+	+
3 Not Very Serio	191	238	429

us     	0.59   44.52   2.09	0.74   55.48   1.04	1.34
4 Not at All	54   0.17   36.99   0.59	92   0.29   63.01   0.40	146 0.45
5 Missing       	151   0.47   42.42   1.65	205   0.64   57.58   0.89	356 1.11
6 Not Have Asthm   a	8519   26.52   27.90   93.03	22019   68.55   72.10   95.88	30538 95.07
Total	9157 28.51	22965 71.49	32122 100.00

#### AHRQ MEPS DATA USERS WORKSHOP (LINKING) -- NOV/DEC 2004 Link 2001 Household File and 2001 Conditions File All Persons (with Positive Weight)

#### SUDAAN

Software for the Statistical Analysis of Correlated Data Copyright Research Triangle Institute January 2002 Release 8.0.1

Number of observations read : 32122 Weighted count :284247327

Denominator degrees of freedom : 412

# Research Triangle Institute The CROSSTAB Procedure

Page : 1 Table : 1

Variance Estimation Method: Taylor Series (WR) by: 1 if P Has Asthma.

\_\_\_\_\_

1 if P Has Asthma					
	Sample		SE	Col	SE Col
	Size	Weighted Size	Weighted	Percent	Percent
Total	32122	284247327	5547456.33	100.00	0.00
1 Has Asthma	1584	13352919	517338.63	4.70	0.14
2 No Asthma	30538	270894408	5235504.11	95.30	0.14

## 7

#### AHRQ MEPS DATA USERS WORKSHOP (LINKING) -- NOV/DEC 2004 Link 2001 Household File and 2001 Conditions File All Persons (with Positive Weight)

#### SUDAAN

Software for the Statistical Analysis of Correlated Data Copyright Research Triangle Institute January 2002 Release 8.0.1

Number of observations read : 32122 Weighted count :284247327 Observations in subpopulation : 1584 Weighted count: 13352919

Denominator degrees of freedom : 412

# Research Triangle Institute The CROSSTAB Procedure

Page : 1 Table : 1

Variance Estimation Method: Taylor Series (WR)

For Subpopulation: ASTHMA = 1

by: How Asthma Affects Overall Health.

How Asthma Affects Overall Health	Sample Size	Weighted Size	SE Weighted	Col Percent	SE Col Percent
m. b. 1	1584	13352919	517338.63	100.00	0.00
Total	1584	13352919	51/338.63	100.00	0.00
1 Very Serious	212	1586408	124844.38	11.88	0.89
2 Somewhat Serious	441	3743390	236614.66	28.03	1.27
3 Not Very Serious	429	3675241	228900.38	27.52	1.39
4 Not at All	146	1267870	133836.21	9.50	0.93
5 Missing	356	3080010	220302.46	23.07	1.36

# Research Triangle Institute The CROSSTAB Procedure

Page : 2 Table : 2

Variance Estimation Method: Taylor Series (WR)

For Subpopulation: ASTHMA = 1

by: How Asthma Affects Overall Health, Age 0-17, 18+.

Overall Health Age 0-17, 18+	Sample			Percent	Percent
Total					
Total	1584	13352919	517338.63	100.00	0.0
1. 0-17	638	4915235	283712.67	100.00	0.0
2. 18+	946	8437683	385883.91	100.00	0.0
1 Very Serious					
Total	212	1586408	124844.38	11.88	0.8
1. 0-17	59	362945	53864.21	7.38	1.0
2. 18+	153	1223463	114693.22	14.50	1.2
2 Somewhat Serious					
Total	441	3743390	236614.66	28.03	1.2
1. 0-17	183	1398136	124503.56	28.44	1.9
2. 18+	258	2345254	178058.01	27.79	1.5
3 Not Very Serious					
Total	429	3675241	228900.38	27.52	1.3
1. 0-17	191	1514348	135810.12	30.81	2.2
2. 18+	238	2160893	170910.52	25.61	1.7
4 Not at All					
Total	146	1267870	133836.21	9.50	0.9
1. 0-17	54	419114	74586.24	8.53	1.3
2. 18+	92	848756	109466.56	10.06	1.2
5 Missing					
Total	356	3080010	220302.46	23.07	1.3
1. 0-17	151	1220693	124876.98	24.83	2.0
2. 18+	205	1859317	169381.22	22.04	1.7