

Understanding and Using NAMCS and NHAMCS Data

Part 2 –Using public-use files

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Overview

- Notes on exercises:

- Calculating rates
- Calculating drug mentions
- Procedures used

- For each program (SAS, Stata, SUDAAN):

- Review public use files
- Create dataset
- Run exercises

- Other notes/considerations:

- Combining multiple years of data
- Multiple settings

Calculating Rates

Example: Visits per 100 persons

Method: Create a new weight

```
totrt = (patwt/total population) * 100
```

Example: Visits per 100 persons (for each sex)

```
if sex=female then
```

```
    sexwt=(patwt/female pop) * 100
```

```
else if sex=male then
```

```
    sexwt=(patwt/male pop) * 100  etc.
```

Calculating Drug Mentions

Note: 90000=No drug mention.

Record	Med1	Med2	Med3	Med4	Med5	Med6	Med 7	Med 8	Total
1	32905	90000	90000	90000	90000	90000	90000	90000	1
2	95005	02995	90000	90000	90000	90000	90000	90000	2
3	26740	90000	90000	90000	90000	90000	90000	90000	1
4	90000	90000	90000	90000	90000	90000	90000	90000	0
5	21228	35465	40295	90000	90000	90000	90000	90000	3

Calculating Drug Mentions, cont.

Method: Use an array to sum the number mentions in each record

```
total=0;

array meds(8) med1-med8;
do j=1 to 8;
    if meds(j) ne '90000' then
        total=total+1;
end;
```

Calculating Drug Mentions, cont.

Medications: Up to 8 ... $j=1$ to 8

Drug class: 8 meds * 3 classes ... $j=1$ to 24

Drug ingredients: 8 meds * 5 ing ... $j=1$ to 40

Another example:

X-rays: chest, extremity, other ... $j=1$ to 3

Procedures

Program	Categorical Variables	Continuous Variables
SAS	PROC SURVEYFREQ	PROC SURVEYMEANS
STATA	SVY: TAB	SVY: MEAN
SUDAAN	PROC CROSSTAB	PROC DESCRIPT

Hands-on Exercises

C:\NAMCS\DUC

Combining Multiple Years of Data

Need to consider changes to the survey over the years:

- Variables: sometimes rotate on and off survey
- Annual estimate: divide estimate by the number of years
- Weighting:
 - Beginning in 2004, calendar quarter was used in nonresponse adjustments. Change in weight did not significantly alter estimates.
 - Beginning in 2003, the number of weekly visits and the number of weeks in the year the physicians saw patients was also used.
*****New weight increased visit estimation by 12% (therefore old weight not comparable to new – see 2003 NAMCS ADR for more info)
- ICD codes: currently using ICD-9-CM, prior to 1979 used ICDA (based on ICD-8)

Combining Multiple Years of Data (cont.)

Design variables: beginning in 2003, multi stage design variables that were available in prior years were changed to single stage (ultimate cluster design).

Code to create ultimate cluster design variables (for each year prior to 2002):

```
CPSUM=PSUM;  
CSTRATM = STRATM;  
IF CPSUM IN(1, 2, 3, 4) THEN DO;  
CPSUM = PROVIDER +100000;  
CSTRATM = (STRATM*100000) +(1000*(MOD(YEAR,100))) +  
(SUBFILE*100) + PROSTRAT;  
END;  
ELSE CSTRATM = (STRATM*100000);
```

Combining multiple settings

- NAMCS, ED, and OPD can be combined in one or multiple years:
SETTYPE=1 (NAMCS), 2 (ED), or 3 (OPD)
- OPD and NAMCS should be combined to get estimates of ambulatory physician care especially for African-American, Medicaid or adolescent subpopulations
- ED and OPD were sampled together and should therefore be combined initially (can “subpop” the setting of interest afterwards)
- Only NAMCS has physician specialty

Where to get more information?

- Public Use Documentation:
 - A description of the survey
 - Record format
 - Marginal data (summaries)
 - Various definitions
 - Reason for Visit classification codes
 - Medication & generic names
 - Therapeutic classes
- www.cdc.gov/nchs/namcs.htm
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