



/\*This syntax finds kids of a certain age who have certain SCD diagnoses, as specified by Measure 13. Cases with 3 or more health care encounters are retained, the rest are discarded. The retained group is the denominator. The denominator group is then reviewed to determine how many of the kids received Transcranial Doppler (TCD) tests. This group is the numerator\*/

\*\*\*\*\*/  
\*\*\*\*\*MEASUREMENT YEAR 2005\*\*\*\*\*/  
\*\*\*\*\*/

LIBNAME MI 'D:\MI only';  
proc printto log='Z:\MAX data\SYNTAX\LOGS\Meas13 MI 2005.log' new; run;

\*\*\*\*\*It's faster to remove cases from IP and OT files, then merge\*\*\*\*\*/

\*\*\*Identify cases in 2005 data -- ie "measurement year"\*\*\*/

/\*Need to include TCD's that may have been performed during visits for a non-SCD event. So it is necessary to create a file that is cut by birthday but not DxSCD. The bdayCUT file will be merged in after denominator cases are correctly identified\*/

\*\*\*IP\*\*\*/  
DATA MI.ip2005\_MI\_bdayCUT (compress = yes); set MI.ip2005\_MI;

IF EL\_DOB > '20021231' /\*deletes cases who will be less than 2yrs old on Jan 1, 2005\*/  
OR EL\_DOB < '19900101' /\*deletes cases who turn 16yrs or older before Dec 31, 2005\*/  
THEN delete;

DATA MI.ip2005\_MI\_bdayDxCUT (compress = yes); set MI.ip2005\_MI\_bdayCUT;  
/\*Only include ICD codes specified in Measure 13\*/

/\*IP files have up to 9 DIAG\_CD variables\*/  
IF DIAG\_CD\_1 in ("02826","2826","28261","28262","D570","D571")  
OR DIAG\_CD\_2 in ("02826","2826","28261","28262","D570","D571")  
OR DIAG\_CD\_3 in ("02826","2826","28261","28262","D570","D571")  
OR DIAG\_CD\_4 in ("02826","2826","28261","28262","D570","D571")  
OR DIAG\_CD\_5 in ("02826","2826","28261","28262","D570","D571")  
OR DIAG\_CD\_6 in ("02826","2826","28261","28262","D570","D571")  
OR DIAG\_CD\_7 in ("02826","2826","28261","28262","D570","D571")  
OR DIAG\_CD\_8 in ("02826","2826","28261","28262","D570","D571")  
OR DIAG\_CD\_9 in ("02826","2826","28261","28262","D570","D571")  
THEN DxSCD=1; ELSE DxSCD=0;

IF DxSCD=0 THEN delete;

/\*Recode admission date so it has the same variable name as the OT files\*/  
ADMSN\_DT = SRVC\_BGN\_DT;

```
/*title1 'IP2005_bdayDxCUT';  
proc freq; tables ADMSN_DT SRVC_BGN_DT DxSCD; run; This frequency is for syntax testing only*/
```

```
/**OT**/
```

```
DATA MI.ot2005_MI_bdayCUT (compress = yes); set MI.ot2005_MI;
```

```
IF EL_DOB > '20021231' /*deletes cases who will be less than 2yrs old on Jan 1, 2005*/  
OR EL_DOB < '19900101' /*deletes cases who turn 16yrs or older before Dec 31, 2005*/  
THEN delete;
```

```
DATA MI.ot2005_MI_bdayDxCUT (compress = yes); set MI.ot2005_MI_bdayCUT;
```

```
/*Only include ICD codes specified in Measure 13*/
```

```
/*OT files only have 2 DIAG_CD variables*/
```

```
IF DIAG_CD_1 in ("02826","2826","28261","28262","D570","D571")  
OR DIAG_CD_2 in ("02826","2826","28261","28262","D570","D571")  
THEN DxSCD=1; ELSE DxSCD=0;
```

```
IF DxSCD=0 THEN delete;
```

```
/*title1 'ot2005_bdayDxCUT';
```

```
proc freq; tables SRVC_BGN_DT DxSCD; run; This frequency is for syntax testing only*/
```

```
/*****Merge cut by bday only version of IP and OT files*****/
```

```
/*This file is not cut by Dx, and will be merged in at the end, after list of desired  
IDs has been created*/
```

```
DATA MI.ip2005_MI_Meas13_bdayTCDCUT; SET MI.ip2005_MI_bdayCUT;  
KEEP TCD MSIS_ID ADMSN_DT PRCDR_CD_1 PRCDR_CD_2 PRCDR_CD_3  
PRCDR_CD_4 PRCDR_CD_5 PRCDR_CD_6;
```

```
/*Identify cases that received TCD (identified by procedure code) as specified by Measure 13*/
```

```
IF PRCDR_CD_1 in ('93886' '93888' '93890' '93892' '93893')  
OR PRCDR_CD_2 in ('93886' '93888' '93890' '93892' '93893')  
OR PRCDR_CD_3 in ('93886' '93888' '93890' '93892' '93893')  
OR PRCDR_CD_4 in ('93886' '93888' '93890' '93892' '93893')  
OR PRCDR_CD_5 in ('93886' '93888' '93890' '93892' '93893')  
OR PRCDR_CD_6 in ('93886' '93888' '93890' '93892' '93893')
```

```
THEN TCD=1; ELSE TCD=0;
```

```
IF TCD=0 THEN delete;
```

```
/*title1 'ip2005_MI_Meas13_bdayTCDCUT';
```

```
proc freq; tables TCD MSIS_ID PRCDR_CD_1 PRCDR_CD_2 PRCDR_CD_3 PRCDR_CD_4 PRCDR_CD_5  
PRCDR_CD_6; run; This frequency is for syntax testing only*/
```

```
/*Identify cases that received TCD (identified by procedure code) as specified by Measure 13*/  
DATA MI.ot2005_MI_Meas13_bdayTCDCUT; SET MI.ot2005_MI_bdayCUT;  
KEEP TCD MSIS_ID SRVC_BGN_DT PRCDR_CD;
```

```
IF PRCDR_CD in ('93886' '93888' '93890' '93892' '93893')
```

```
THEN TCD=1; ELSE TCD=0;
```

```
IF TCD=0 THEN delete;
```

```
/*title1 'ot2005_MI_Meas13_bdayTCDCUT';
```

```
proc freq; tables TCD MSIS_ID PRCDR_CD; run; This frequency is for syntax testing only*/
```

```
DATA MI.ipot2005_MI_Meas13_bdayTCDCUT;
```

```
SET MI.ip2005_MI_Meas13_bdayTCDCUT MI.ot2005_MI_Meas13_bdayTCDCUT; run;
```

```
/*title1 'ipot2005_MI_Meas13_bdayTCDCUT';
```

```
proc freq; tables TCD MSIS_ID PRCDR_CD PRCDR_CD_1 PRCDR_CD_2 PRCDR_CD_3 PRCDR_CD_4  
PRCDR_CD_5
```

```
PRCDR_CD_6; run; This frequency is for syntax testing only*/
```

```
/*Delete duplicate IDs (this not only deletes multiple claims for same TCD, it also ensures  
that children who have 2 or more separate TCD's during the year are only counted once)*/
```

```
Proc SQL;
```

```
Create Table MI.ipot2005_MI_Meas13_bdayTCDdedup
```

```
as Select Distinct MSIS_ID
```

```
from MI.ipot2005_MI_Meas13_bdayTCDCUT
```

```
Quit;
```

```
/*title1 'ipot2005_MI_Meas13_bdayTCDdedup';
```

```
proc freq; tables MSIS_ID; run; This frequency is for syntax testing only*/
```

```
/*****Merge cut by bday AND Dx version of IP and OT files*****/
```

```
DATA MI.ipot2005_MI_Meas13_bdayDxCUT;
```

```
SET MI.ip2005_MI_bdayDxCUT MI.ot2005_MI_bdayDxCUT; run;
```

```
/*title1 'IPOT2005_CUT';
```

```
proc freq; tables DxSCD PRCDR_CD PRCDR_CD_1; run; This frequency is for syntax testing only*/
```

/\*IP and OT visits occurring on the same date are considered to be part of a single Healthcare Encounter (HCE). Therefore, IP and OT files must be merged BEFORE deleting duplicates by Date of Service.

IP and OT files use different variable names for Date of Service. The IP files

have had the variable recoded into a variable that matches the variable name for OT\*/

```
/* de-dup source keys by loading into hash */
data MI.ipot2005_MI_meas13_dedup;
set
  MI.ipot2005_MI_Meas13_bdayDxCUT (keep=MSIS_ID SRVC_BGN_DT)
end=last;
;

if _n_=1 then
do;
  declare hash h0(ordered:'y',multidata:'n',hashexp:8);
  _rc=h0.defineKey('MSIS_ID','SRVC_BGN_DT');
  _rc=h0.defineData('MSIS_ID','SRVC_BGN_DT');
  _rc=h0.defineDone();
end;

_rc=h0.ref();

/* write hash to target data set */
if last then
  h0.output(dataset:'MI.inter');

run;

proc sql;
  create table MI.ipot2005_MI_Meas13Had3 as
  select MSIS_ID,
         count(distinct SRVC_BGN_DT) as numsepvisits
  from MI.inter
  group by MSIS_ID
  having count(distinct SRVC_BGN_DT) >= 3;
quit;

/*title1 'ipot2005_MI_Meas13Had3';
proc freq; tables numsepvisits MSIS_ID; run;This frequency is for syntax testing only*/

quit;

/*Use Person Summary file to create a list of eligible IDs based on continuous enrollment*/
DATA MI.ps2005_MI_CUT (compress = yes); set MI.ps2005_MI;

/*It's not necessary to restrict birth dates for PS files, but it's faster*/
IF EL_DOB > '20021231' /*deletes cases who will be less than 2yrs old on Jan 1, 2005*/
  OR EL_DOB < '19900101' /*deletes cases who turn 16yrs or older before Dec 31, 2005*/
  THEN delete;

IF EL_ELGBLTY_MO_CNT < '12' THEN delete;

RUN;
```

```
/*title1 'PS2005_CUT';  
proc freq; tables EL_ELGLBTY_MO_CNT; run; This frequency is for syntax testing only*/
```

```
/*Merge ipot2005_MI_Meas13 and ps2005_MI*/  
/*JOIN command only returns cases found in both files*/
```

```
Proc SQL;  
  Create Table MI.ipotps2005_MI_Meas13  
  as Select a.*, b.MSIS_ID  
  from MI.ipot2005_MI_Meas13Had3 a JOIN MI.ps2005_MI_CUT b  
  on a.MSIS_ID=b.MSIS_ID;  
Quit;
```

```
/*Count the number of separate MSIS_ID's to find the denominator for Measure 13*/  
/*Assign a row ID to facilitate merge*/
```

```
Proc SQL;  
  Create table MI.Meas13Denom  
  as Select Count(MSIS_ID) as DENOM,  
  Case When Count(MSIS_ID)> -1 Then 1  
  Else 0  
  End as ROWID  
  From MI.ipotps2005_MI_Meas13;  
Quit;
```

```
/*title1 'Measure 13 DENOMINATOR';  
proc freq; tables DENOM ROWID; run; This frequency is for syntax testing only*/  
quit;
```

```
/*Merge all IDs that have had a TCD with IDs found in the denominator to find numerator*/  
/*JOIN command only returns cases found in both files*/
```

```
Proc SQL;  
  Create Table MI.Meas13DenomTCD  
  as Select a.MSIS_ID, b.*  
  from MI.ipotps2005_MI_Meas13 a JOIN  
  MI.ipot2005_MI_Meas13_bdayTCDdedup b  
  on a.MSIS_ID=b.MSIS_ID;  
Quit;
```

```
/*title1 'Meas13Numerator';  
proc freq; tables MSIS_ID; run; This frequency is for syntax testing only*/
```

```
/*Count the number of separate MSIS_ID's to find the numerator for Measure 13*/  
/*Assign a row ID to facilitate merge*/
```

```
Proc SQL;
  Create table MI.Meas13Numer
    as Select Count(MSIS_ID) as NUMER,
    Case When Count(MSIS_ID)> -1 Then 1
    Else 0
    End as ROWID
  From MI.Meas13DenomTCD;
Quit;
```

```
/*title1 'Measure 13 NUMERATOR';
proc freq; tables NUMER ROWID; run; This frequency is for syntax testing only*/
quit;
```

```
DATA MI.Measure13percent;
  MERGE MI.Meas13Denom MI.Meas13Numer;
  BY ROWID;
```

```
Meas13Percent = NUMER/DENOM;
```

```
format Meas13Percent percent8.2; run;
```

```
title1 'Measure 13 MI results 2005';
proc freq; tables NUMER DENOM Meas13Percent; run; /*This frequency provides the number for the numerator.*/
quit;
```