**Coding map – BAM in CMS claims**

**Outline of preparing the sample of BAM users**

1. 3 wide files
   1. All BAM users from 06-14.
      1. Require Part D in the year of observation.
   2. Sample restrictions
      1. Enrollment info for each year (wide file of everyone who was in samp in any year 0716)
         1. (They had 3 years FFS (including ref year), age 67+, no drop flag, in some year 07-16).
   3. OAB dx info 02-16, but no requirements about dx.
      1. No FFS requirements – we want to know all the observed OAB diagnoses.
2. Merge them. Must be in drug file and samp file (to get enrollment info). No requirements about dx.
   1. Fill in zeros on BAM use.
   2. Must have PTD 07-09
   3. Must be insamp in 2009 and 2011
      1. Effectively requiring FFS 07-11, age 67+, and no drop flag.
   4. Must have 2 BAM claims in a year in one of the three years 07-09. Year t is first of those years.
   5. Note: the individuals also have variables characterizing their drug use 06-14 (as long as they were in Part D), and their OAB dx 05-16 (regardless of FFS).
3. Merge with outcomes (ADRD incidence)
   1. Drop everyone with ADRD diagnosis prior to 2010 (2011 in analyses)
   2. Timing variables
      1. Require that everyone have FFS up to earliest of ADRD date, death date, or censorship date.
      2. Drop is year(lastday)<2010 (2011 in analyses)
4. Exclusions
   1. Drop those who used ADRx before ADRD dx
5. Merge controls, make variables,
   1. HCC – measure in earliest year with 2 BAM claims
   2. Phyvis – measure in earliest year with 2 BAM claims
   3. CCW (comorbidities), diagnosed before earliest year with 2 BAM claims
   4. Geo (inc, edu, county), measured at earliest in 07-14.
   5. Statins, measured in earliest year with 2 BAM claims
   6. AHT, measured in earliest year with 2 BAM claims
6. Make BAM use variables

**ANALYSIS DO FILES**

**Yellow highlighting in main paper**

**Green highlighting in supplementary material**

**logit\_bam\_adrd\_8[a].do**

* Input: bam\_rxadrd16.dta
* Output: logit\_bam\_adrd\_8a.xlsx
* Across race, with year categories
* Add insamp requirement for 2011
* Regress verified incidence (2011-2016) on BAM exposure (2007-2009), (2010 washout period).
  + Compare NSL to M3S, according to tdd (unweighted total daily doses 789)
    - 4 regs, for each category comparison (2v2, 3v3, 4v4).

**a** – base (Figure 2)

b – not counting trospium (eTable 1)

c – dose response – compare each drug to itself (Figure 3)

d – drop outliers (eTable 1)

e – controlling for tsdd within that category (eTable 1)

f – drop if used both nsl and m3s in that category (eTable 1)

i – drop people who attrite before 2016 (eTable 1)

**table1\_4[a].do**

* Input: bam\_rxadrd16.dta
* Output: table1\_3.xlsx
* Add insamp 2011 requirement.
* Summarize covariates for each type of drug, across yearly spaced exposure categories

a – sum for analytic sample (Table 1)

c – summarize across TDD categories (eTable 2)

**MAKE DATA**

**prep\_bam\_rxadrd16.do**

* Input: bam\_0614.dta, bamsamp\_0716.dta, oab\_0216.dta, adrdv4\_0816.dta
  + ccw\_0714.dta, geoses\_0714.dta,
  + bene\_hccscoresYYYY.dta (07-09), bsfcuYYYY.dta (07-09)
  + adrx\_YYYY.dta (07-12), statcce\_YYYYp.dta (07-09), aht0709.dta
* Output: bam\_rxadrd16.dta
* Indivs with 2 claims of BAM in one year, 07-09
  + Must have PTD 07-09, insamp 09
  + No ADRD(AD) prior to 2010
  + If they have an ADRD dx
    - Must have FFS at time of any ADRD dx.
    - No ADRx use prior to ADRD dx.
* Bring in/make controls:
  + HCC, phyvis, comorbidities, geo-inc-edu, statins, aht,
* Make drug exposure variables

**rxmerge\_bam.do**

* Input: XXXXX\_YYYY.dta, 06-14, for oxybu tolte flavo darif trosp solif fesot
* Output: bam\_YYYY.dta, 06-14
* In each year, merge all the ten molecules into a single file. Make year variable, fill in zeros, make date variables.
* Merge the years 06-14. In each year, require that ptd==1, and then merge into 0614 file. Make composite min date variables.

**rxfix\_bam.do**

* Input: XXXXX\_YYYY.dta, 06-14, for oxybu tolte flavo darif trosp solif fesot
* Output: XXXXX\_YYYY.dta, 06-14, for oxybu tolte flavo darif trosp solif fesot
* Back out the total mgs consumed in that year, and calculate the total daily doses (unweighted: tdd), then resave the file with its original name.

**dxpull\_oab0216.do**

* Input: ipcYYYY.dta, snfcYYYY.dta, opcYYYY.dta, hhacYYYY.dta, carlYYYY.dta, carcYYYY.dta, hoscYYYY.dta, dmecYYYY.dta
* Output: oabYYYY.dta, 02-16, oab\_0216.dta
* In each year, goes through claims from **IP, SNF, OP, HHA, CARL, CARC, HOS, DMEC**
* Makes bene-level file showing the earliest dx date in that year for:
  + oab (596.51), neurogenic bladder (596.54), other disorder (596.59)
  + dysuria (788.1), UI (788.3), urinary frequency (788.41), urgency of urination (788.63)
  + excludes 78832, 78835, 78837, 78838,

**rxpull­\_[XXXXX].do**, for oxybu tolte flavo darif trosp solif fesot

* Input: pdeYYYY.dta (06-14)
* Output: XXXXX\_YYYY.dta (06-14)
* Pulls drugs of interest from 06-14, by gname.
  + Gets NDCs associated with gnames from ndcbygname\_bam.do
* Makes arrays of use to characterize use during the year. Pushes forward extra pills from early fills, the last fill of the year, IP days, and SNF days.
* Makes variables for total daily doses of each drug in the year

**insamp­\_bam16.do**,

* Input: bene\_status\_yearYYYY.dta (03-16)
* Output: bamsamp\_YYYY.dta (06-16), 0716
* Gets enrollment status variables for each year, keeps indivs in each year who are insamp:
  + FFS in t, t-1, t-2; PTD t, age>=67, no drop flag
* Makes vars for sex, race, death date, and years of observation.

**MAKE DATA – base**

ccw

geoses

**MAKE DATA – minor files**

**ahtcontrols.do**

* Input: ahtco\_YYYY.dta (07-09)
* Output: aht0709.dta
* Just merge the aht files from the AHT project from 07-09.