```
/* Main Program: an_1.ovarian.do*/

/* Sub program: cr.hrt.do */


/*  HORMONS*/

/* HRT */

label define hrt  0 "never user "  1 "exclusive user" 2 "non-
exclusive user", nofix
label define hrt_rel 0 "never user (missing=no)"  1 "exclusive user"
2 "non-exclusive user", nofix
label define hrtanynew  0 "never user "  1 "any user" , nofix


/* EVER NEVER */


/* HRTANYNEW */
gen hrtanynew = eetr
gen hrtanynew_du= eedu
gen hrtanynew_re= eere


label values hrtanynew  hrtanynew
label var hrtanynew "Any HRT Use"




*********************************************************************
**********************
*EOTR
*********************************************************************
**********************



gen eotr_only_pure = .
replace eotr_only_pure = 0 if eetr==0
replace eotr_only_pure  = 1 if eotr==1 & (ep_cytr==0 & ep_cttr==0)
replace eotr_only_pure  = 2 if eotr==1 & (ep_cytr==1 | ep_cttr==1)
label val eotr_only_pure  hrt
label var eotr_only_pure "eotr pure users"




*********************************************************************
**********************
*EP_CYTR
*********************************************************************
**********************
gen ep_cytr_only_pure= .
replace ep_cytr_only_pure = 0 if hrtanynew==0
replace ep_cytr_only_pure = 1 if ep_cytr==1 & (eotr==0 & ep_cttr==0)
replace ep_cytr_only_pure = 2 if ep_cytr==1 & (eotr==1 | ep_cttr==1)
label val ep_cytr_only_pure hrt
label var ep_cytr_only_pure "ep_cytr pure users"




*********************************************************************
***********************
*EP_CTTR
```

```
     ********************************************************************
     ************************

     gen ep_cttr_only_pure = .
     replace ep_cttr_only_pure = 0 if hrtanynew==0
     replace ep_cttr_only_pure = 1 if ep_cttr==1 & (eotr==0 & ep_cytr==0)
     replace ep_cttr_only_pure = 2 if ep_cttr==1 &  (eotr==1| ep_cytr==1)
     label val ep_cttr_only_pure hrt
     label var ep_cttr_only_pure "ep_cttr pure users"


     /* Combined */


     gen eptr=.
     replace eptr= 0 if ( ep_cttr_only_pure==0 & ep_cytr_only_pure ==0)
     replace eptr= 1 if ( ep_cttr_only_pure==1 | ep_cytr_only_pure ==1)
     replace eptr= 2 if ( ep_cttr_only_pure==2 | ep_cytr_only_pure ==2)
     label val eptr hrt
     label var eptr "estrogen & progestins(cy or ct)"




     /* DURATION */


     label define hrtdur 0 "No" 1 "<= 3years" 2 "> 3 years"

     *EODU_CAT

     gen eoduyrs = (eodu/365.25)

     gen eodu_cat = .
     replace eodu_cat=0 if hrtanynew==0
     replace eodu_cat = 1 if eoduyrs  > 0  & eoduyrs <=3
     replace eodu_cat = 2  if eoduyrs  > 3 & eoduyrs < .
     label val eodu_cat hrtdur
     label var eodu_cat "ERT duration categorical"




     *EPCYDU_CAT

     gen epcyduyrs = (ep_cydu/365.25)
     gen epcydu_cat = .
     replace epcydu_cat=0 if hrtanynew==0
     replace epcydu_cat = 1 if epcyduyrs > 0 &  epcyduyrs < =3
     replace epcydu_cat = 2 if epcyduyrs > 3 & epcyduyrs < .
     label val epcydu_cat hrtdur
     label var epcydu_cat "HRT cyclic duration categorical"


     *EPCTDU_CAT

     gen epctduyrs = (ep_ctdu/365.25)
     gen epctdu_cat = .
     replace epctdu_cat = 0 if hrtanynew==0
     replace epctdu_cat = 1 if epctduyrs >0  & epctduyrs < =3
     replace epctdu_cat = 2 if epctduyrs> 3 & epctduyrs <.
     label val epctdu_cat hrtdur
     label var epctdu_cat "HRT continuous duration categorical"
```

```
                                    /*EPCTDU_CAT & EPCYDU_CAT
Combined */


egen  epdu= rsum(epctduyrs epcyduyrs)
gen epdu_cat = .
replace epdu_cat = 0 if hrtanynew==0
replace epdu_cat = 1 if epdu > 0  & epdu <=3
replace epdu_cat = 2 if epdu > 3 & epdu <.
replace epdu_cat=. if (epctduyrs==. & epcyduyrs==.)
label val epdu_cat hrtdur
label var epdu_cat "HRT cont/cyclic duration categorical"




                              /*HRT Overall Duration*/


*EEDU_CAT

gen eeduyrs = (eedu/365.25)
gen eedu_cat = .
replace eedu_cat=0 if hrtanynew==0
replace eedu_cat = 1 if eeduyrs  > 0  & eeduyrs <=3
replace eedu_cat = 2  if eeduyrs  > 3 & eeduyrs < .
label val eedu_cat hrtdur
label var eedu_cat "Any HRT Overall Duration"




/* RECENCY */


label define hrtrec 0 "Never Users " 1 "Current Users" 2 "Former
Users"



*EERE_CAT

gen eereyrs = .
replace eereyrs = (eere/365.25) if eere!=-1 & eere!=0

gen eere_cat = .
replace eere_cat = 0 if hrtanynew==0
replace eere_cat = 1 if eere==0 | eereyrs <= 1
replace eere_cat = 2 if eereyrs > 1 & eereyrs <5
replace eere_cat = 2 if eereyrs>=5 & eereyrs< .
label val eere_cat hrtrec
label var eere_cat "Any HRT Overall Recency"



*EORE_CAT

gen eoreyrs = .
replace eoreyrs = (eore/365.25) if eore!=-1 & eore!=0

gen eore_cat = .
replace eore_cat = 0 if hrtanynew==0
replace eore_cat = 1 if eore==0 | eoreyrs <= 1
```

```
          replace eore_cat = 2 if eoreyrs > 1 & eoreyrs <5
          replace eore_cat = 2 if eoreyrs>=5 & eoreyrs< .
          label val eore_cat hrtrec
          label var eore_cat "ERT recency"




          *EPCYRE_CAT

          gen epcyreyrs = .
          replace epcyreyrs = (ep_cyre/365.25) if ep_cyre!=-1 & ep_cyre!=0
          gen epcyre_cat = .
          replace epcyre_cat = 0 if hrtanynew==0
          replace epcyre_cat = 1 if ep_cyre==0 |epcyreyrs <= 1
          replace epcyre_cat = 2 if epcyreyrs >1 & epcyreyrs <5
          replace epcyre_cat = 2 if epcyreyrs>=5 & epcyreyrs< .
          label val epcyre_cat hrtrec
          label var epcyre_cat "EP cyclic recency"




          *EPCTRE_CAT

          gen epctreyrs = .
          replace epctreyrs = (ep_ctre/365.25) if ep_ctre!=-1 & ep_ctre!=0

          gen epctre_cat = .
          replace epctre_cat = 0 if hrtanynew==0
          replace epctre_cat = 1 if ep_ctre==0 | epctreyrs <=1
          replace epctre_cat = 2 if epctreyrs >1  & epctreyrs <5
          replace epctre_cat = 2 if epctreyrs>=5 & epctreyrs< .
          label val epctre_cat hrtrec
          label var epctre_cat "EP continuous recency"


                                                    /* combined (cy +
          ct)*/
          replace epctreyrs=0 if ep_ctre==0
          replace epcyreyrs=0 if ep_cyre==0


          egen  epre= rmin(epctreyrs epcyreyrs)
          gen epre_cat = .
          replace epre_cat = 0 if  hrtanynew==0
          replace epre_cat = 2 if epre >1 & epre <.
          replace epre_cat = 1 if  (epre >=0  & epre <=1) | ( ep_ctre==0 |
          ep_cyre==0)


          label val epre_cat hrtrec
          label var epre_cat "EP cy + ct (combined) recency"


          gen epre_cat1 = .
          replace epre_cat1 = 0 if hrtanynew==0
          replace epre_cat1 = 1 if  (epre >=0  & epre <=1) | ( epctre_cat==1 |
          epcyre_cat==1)
          replace epre_cat1 = 2 if (epre >1 & epre <.) | ( epctre_cat==2 |
          epcyre_cat==2)


                                                    /* total */
```

```
/* I need to calculate recency as the minimun between four possible
   values. The 9999 is a trick, so that when the type of hrt which
   is not present, so with recency -1, will not affect the function
   MINIMUM, so I set this to a big value
*/

gen v1=eore
*gen v2=pore
gen v3=ep_ctre
gen v4=ep_cyre

replace v1=9999 if v1 ==-1
*replace v2=9999 if v2 ==-1
replace v3=9999 if v3 ==-1
replace v4=9999 if v4 ==-1

egen v5=rmin(v1  v3 v4)

gen hrt_rec=0  if v5==9999
replace hrt_rec =1 if v5 >=0 & v5 <= 365.25
replace hrt_rec =2 if v5 > 365.25 & v5 < 9999
replace hrt_rec=. if lopnr==11402 |  lopnr==11457 | lopnr==11531 |
lopnr==11823 | lopnr== 12033 | lopnr==12041
replace hrt_rec=0 if hrtanynew==0
replace hrt_rec=. if hrtanynew==1 & v5==9999
label val hrt_rec hrtrec


*br lopnr hrt_overall v5 hrt_rec eotr eoreyrs v1  eore_cat potr
poreyrs pore_cat v2   ep_cytr  epcyreyrs epcyre_cat v3  ep_cttr
epctreyrs  epctre_cat  v4  ///
*if ( epctre_cat==.   | epcyre_cat==.   |  eore_cat==. |  pore_cat==.
| eotr==. |  potr ==.   | ep_cttr==. | ep_cytr==.  )


/*

Here I created new variabe hrt_rd  by putting together
                recency with duration; baseline (0) is no USERS, 1
is current users
                low duration, 2 is  current users, high duration, 3
is former users and low
                duration, 4 is finally former users and high
duration.
*/

*gen hrt_rd =0 if hrtanynew==0
*replace hrt_rd =1 if hrt_rec==1 & hrtdu_cat==1
*replace hrt_rd =2 if hrt_rec==1 & hrtdu_cat==2
*replace hrt_rd =3 if hrt_rec==2 & hrtdu_cat==1
*replace hrt_rd =4 if hrt_rec==2 & hrtdu_cat==2


gen hrt_rd =0 if hrtanynew==0
replace hrt_rd =1 if eere_cat==1 & eedu_cat==1
replace hrt_rd =2 if eere_cat==1 & eedu_cat==2
replace hrt_rd =3 if eere_cat==2 & eedu_cat==1
replace hrt_rd =4 if eere_cat==2 & eedu_cat==2
label define hrt_rd 0"never users" 1"current low" 2"current high"
3"former low" 4"former high", nofix
label val hrt_rd hrt_rd
label var hrt_rd "Combined effects of duration & recency"
```

```
/*

gen lisahrt=.
replace lisahrt=1 if eotr_only_pure_rino==1
replace lisahrt=2 if potr_only_pure_rino==1
replace lisahrt=0 if potr_only_pure_rino==0 & eotr_only_pure_rino==0

gen lisahrt1=.
replace lisahrt1=1 if eotr_only_pure_rino==1
replace lisahrt1=2 if potr_only_pure_rino==1
replace lisahrt1=3 if eptr==1
replace lisahrt1=0 if hrtany==0

label define lisahrt1 0"No HRT" 1"Only Estrogen" 2 "Only Progestin"
3"EP combined", modify
label values lisahrt1

label variable lisahrt1 "Type of Therapy"

*/


/* HRT AFTER DIAGNOSIS */

/*
Here there were ceated two variables, one treating missing as such,
the other
treating missing as no
*/

/* User */

gen hrt_afterdx =.
replace hrt_afterdx = 1 if hrtn==1
replace hrt_afterdx = 2 if hrty==1
replace hrt_afterdx = 3 if na1002==1

label define hrt_afterdx 1"never users" 2 "users" 3 "not stated",
nofix
label val hrt_afterdx hrt_afterdx
label var hrt_afterdx "Use of HRT after Diagnosis"

gen hrt_afterdx_missno =.
replace hrt_afterdx_missno = 1 if hrtn==1
replace hrt_afterdx_missno = 1 if na1002==1
replace hrt_afterdx_missno = 2 if hrty==1
label val hrt_afterdx_missno hrt_afterdx
label var hrt_afterdx_missno "Use of HRT after Diagnosis - not
stated==never users"

/* Duration */
gen hrt_afterdur=.
replace hrt_afterdur = hrtendd-hrtstd

label var hrt_afterdur "Duration of use of HRT after Dx in Days"
* codebook hrt_afterdur

gen hrt_afteryrs = (hrt_afterdur/365.25)
gen hrtafterdu_cat = hrt_afteryrs
replace hrtafterdu_cat = 0 if hrt_afterdx==1
replace hrtafterdu_cat = 1 if hrt_afteryrs <1
replace hrtafterdu_cat = 2 if hrt_afteryrs  >=1  & hrt_afteryrs <=2
```

```
replace hrtafterdu_cat = 3  if hrt_afteryrs  > 2 & hrt_afteryrs < .

label define hrtafterdu_cat 0"never users" 1"< 1 year" 2"1 - 2
years" 3"> 2 years", nofix
label val hrtafterdu_cat hrtafterdu_cat
label var hrtafterdu_cat "Duration of use of HRT after Dx
categorical"
codebook hrtafterdu_cat



gen hrtafterdu_cat_missno = hrt_afteryrs
replace hrtafterdu_cat_missno = 0 if hrt_afterdx_missno==1
replace hrtafterdu_cat_missno = 1 if hrt_afteryrs <1
replace hrtafterdu_cat_missno = 2 if hrt_afteryrs  >=1  &
hrt_afteryrs <=2
replace hrtafterdu_cat_missno = 3  if hrt_afteryrs  > 2 &
hrt_afteryrs < .

label val hrtafterdu_cat_missno hrtafterdu_cat
label var hrtafterdu_cat_missno "Duration of use of HRT after Dx
categorical missing = never use"
codebook hrtafterdu_cat_missno


label define hrtnow 0"no HRT now" 1"HRT continuing", nofix
label val hrtnow hrtnow
label var hrtnow "Ongoing HRT"
* codebook hrtnow

/*
        Creates user groups of HRT use depending on use before &/or
after diagnosis
                        Here I created the groups as follows:
                            a) never users of HRT before or after
diagnosis
                            b) users of HRT before diagnosis but
not users after diagnosis
                            c) never users of HRT before diagnosis
but users after diagnosis
                            d) users of HRT before and after
diagnosis
*/


gen hrt_aftergrps =.
replace hrt_aftergrps = 1 if hrtanynew==0 & hrt_afterdx==1
replace hrt_aftergrps = 2 if hrtanynew==1 & hrt_afterdx==1
replace hrt_aftergrps = 3 if hrtanynew==0 & hrt_afterdx==2
replace hrt_aftergrps = 4 if hrtanynew==1 & hrt_afterdx==2

label define hrt_aftergrps 1"never users < or > dx" 2"users < dx but
not >" 3"never users < dx but users > dx" 4"users < & > dx", nofix
label val hrt_aftergrps hrt_aftergrps
label var hrt_aftergrps "User groups of HRT < and > dx"


gen hrt_aftergrps_missno =.
replace hrt_aftergrps_missno = 1 if hrtanynew==0 &
hrt_afterdx_missno==1
replace hrt_aftergrps_missno = 2 if hrtanynew==1 &
hrt_afterdx_missno==1
replace hrt_aftergrps_missno = 3 if hrtanynew==0 &
hrt_afterdx_missno==2
```

```
replace hrt_aftergrps_missno = 4 if hrtanynew==1 &
hrt_afterdx_missno==2

label val hrt_aftergrps_missno hrt_aftergrps
label var hrt_aftergrps_missno "User groups of HRT < and > dx -
missing==never use"



label values le_vgtr hrtanynew
label values le_potr hrtanynew
```