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options notes nosource;
proc datasets lib=work nolist memtype=data kill; quit;
* macro to save output and log to appropriate areas ;
%_mprintto;
%put NOTE:
=====;
%put NOTE: Covance Study Number : 000000106324;
%put NOTE: Client Protocol ID : ZRHR-REXC-03-EU;
%put NOTE: Program Name : d_2ADMH.sas;
%put NOTE: Purpose : create ADMH dataset;
%put NOTE: ;
%put NOTE: Input Data : STDLIB.ADMH SDTM.MH ADAM.ADSL ADSL.SV;
%put NOTE: Output : ADAM.ADMH;
%put NOTE: Macros Called : _MPRINTTO;
%put NOTE: ;
%put NOTE: Programmed by : cvn_smulholl;
%put NOTE: Creation Date : 2013-09-25;
%put NOTE: SAS Version : 9.3;
%put NOTE: ;
%put NOTE: == Latest Run
=====;
%put NOTE: Run by : &sysuserid;
%put NOTE: Date/Time :
%sysfunc(putn(%sysfunc(date()),e8601da.))T%sysfunc(putn(%sysfunc(time()),
e86011z.));
%put NOTE: ;
%put NOTE: == Modification History
=====;
%put NOTE: Date Initials No. Reason;
%put NOTE: 30Apr2014 KB 1) Removed format from MHSEQ;
%put NOTE: 30Apr2014 KB 2) Amended ANYMHFL and ANYCDFL;
%put NOTE: 30Apr2014 KB 3) Amended SCRNDT;
%put NOTE: 02May2014 KB 4) Amended to remove SUPPMH as no
longer an SDTM;
%put NOTE: 27May2014 KB 5) Added EPOCH to keep statement;
%put NOTE: 26Jun2014 JM 6) Use MHENRTPT to replace MHENRF for
ONGONING information due to MHENRF was removed from MH dataset;
%put NOTE: 27Jul2014 KB 7) Added EXNOTRFL;
%put NOTE: 13Sep2014 KB 8) Added FASFL & PPROTFL to ADSL keep;
%put NOTE: ;
%put NOTE:
=====;
options notes source source2 nofullstimer validvarname=upcase missing='
';
ods _all_ close;
ods listing;

*=====;
* START OF PROGRAM CODE ;
*=====;
*****;
* bring in ADSL ;
*****;

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data adsl;
    set adam.adsl;
    keep studyid usubjid subjid: siteid age sex: race height weightb1
bmi ucpdgr: nicogr: targr: cobl
        enrfl scrffl complfl saffl randfl trt: tr01: trt01: dthfl
enfl EXNOTRFL exfl fupfl FASFL PPROTFL; /* 7) KB 27Jul2014 */ /* 8) KB
13Sep2014 */
run;

*****;
* bring in SV ;
*****;
data sv;
    set sdtm.sv(where = (visit='SCREENING'));
    by usubjid;
    if first.usubjid;
    format scrndt date9.;
    scrndt = input(svstdtc, yymmdd10.);
    keep usubjid scrndt;
run;

*****;
* bring in SUPPMH ;
*****;
/* 4) START KB 02May2014 */
/*proc transpose data = sdtm.suppmh out=suppmh(drop = _:);*/
/*    var qval;*/
/*    by usubjid idvarval;*/
/*    id qnam;*/
/*    idlabel qlabel;*/
/*run;*/

/*data suppmh2;*/
/*    set suppmh;*/
/*    format mhseq 8.;*/ /* 1) KB 30Apr2014 */
/*    mhseq = input(idvarval,best.);*/
/*run;*/
/**/
/*proc sort data = suppmh2;*/
/*    by usubjid mhseq;*/
/*run;*/
/* 4) END KB 02May2014 */
*****;
* bring in MH ;
*****;
proc sort data = sdtm.mh out = mh;
    by usubjid mhseq;
run;

data mh2;
    /*merge*/SET mh /*suppmh2*/; /* 4) KB 02May2014 */
/*    by usubjid mhseq;*/ /* 4) KB 02May2014 */
run;

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data mh3;
    /*merge*/SET mh2/*(in = a) sv*/; /* 3) KB 30Apr2014 */
    by usubjid;
/*    if a;*/ * only if mh data available; /* 2) KB 30Apr2014 */
    format astdt aendt date9. mhongfl /*anycdf1 anymhfl*/ $2.; /* 2)
KB 30Apr2014 */

    if not missing(mhstdtc) and length(mhstdtc) gt 10 then astdt =
input(scan(mhstdtc,1,'T'),yymmdd10.);
    else if not missing(mhstdtc) and length(mhstdtc) = 10 then astdt =
input(mhstdtc,yymmdd10.);
    if not missing(mhendtc) and length(mhendtc) gt 10 then aendt =
input(scan(mhendtc,1,'T'),yymmdd10.);
    else if not missing(mhendtc) and length(mhendtc) = 10 then aendt =
input(mhendtc,yymmdd10.);

    astdtm=.; * *set up for period allocation macro;

/*    if mhenrf = 'ONGOING' then mhongfl = 'Y';*/
    if mhenrtpt = 'ONGOING' and missing(MHENDTC) then mhongfl = 'Y'; /*
6) JM 26JUN2014*/
    else mhongfl = 'N';

/* 2) START KB 30Apr2014 */
/*    if mhcat = 'CONCOMITANT DISEASE' then anycdf1 = 'Y';*/
/*    else anycdf1 = 'N';*/
/*    if mhcat = 'MEDICAL HISTORY' then anymhfl = 'Y';*/
/*    else anymhfl = 'N';*/
/* 2) END KB 30Apr2014 */

    keep usubjid mhseq mhspid mhcat mhterm mhdecod mhbodsys mhdtc mhdymhstdtc mhendtc
        /*mhenrf*/ mhentpt mhongfl /*anycdf1 anymhfl*/ astdt: aendt:
/*scrndt*/ mhl1: mhl1: mhpt: mhsoc: EPOCH ; /* 2) KB 30Apr2014 */ /* 3)
KB 30Apr2014 */ /* 5) KB 27May2014 */
run;

/* 2) START KB 30Apr2014 */
DATA MH4;
    SET MH3(KEEP=USUBJID MHCAT);

    IF MHCAT='CONCOMITANT DISEASE' THEN CAT='ANYCDFL';
    ELSE IF MHCAT='MEDICAL HISTORY' THEN CAT='ANYMHFL';

    FLAG='Y';
RUN;

PROC SORT DATA=MH4 OUT=MH5 NODUPKEY;
    BY USUBJID MHCAT;
RUN;

PROC TRANSPOSE DATA=MH5 OUT=MH6(DROP=_:);

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        BY USUBJID;
        VAR FLAG;
        ID CAT;
RUN;

DATA MH7;
    SET MH6;
    FORMAT ANYCDFL ANYMHFL $2.;

    IF ANYCDFL='' THEN ANYCDFL='N';
    IF ANYMHFL='' THEN ANYMHFL='N';
RUN;

DATA MH8;
    MERGE MH3 MH7;
    BY USUBJID;
RUN;
/* 2) END KB 30Apr2014 */

*****;
* Combine ADSL and MH data *;
*****;
*study periods;
*_mtotper;

data slmh(drop = trt01: tr01: aperiod astdtm);
    merge adsl /*mh3*/MH8(in = a); /* 2) KB 30Apr2014 */
    by usubjid;
    if a;          * only include subjects with DX data ;
    format astday aenday trtan trtpn 8. trta trtp $40.;
    astday = astdt - trtsdt + 1;
    aenday = aendt - trtsdt + 1;
    * allocate period and treatment;
    %_mperall(dvar1 = astdtm, dvar2 = astdt);
run;

/* 3) START KB 30Apr2014 */
DATA SLMH2;
    MERGE SLMH(IN=A) SV(KEEP=USUBJID SCRNDT);
    BY USUBJID;
    IF A;
RUN;
/* 3) END KB 30Apr2014 */

*****;
* create output dataset ;
*****;

options replace;

data admh;
    set stdlib.admh /*slmh*/SLMH2;    /* 3) KB 30Apr2014 */
run;

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```
proc sort data = admh out = adam.admh(label= 'Medical History Analysis
Dataset');
    by usubjid mhcat mhbodsys mhdecod mhterm mhstdtc;
run;

options noreplace;
proc printto; run;
*=====;
* END OF PROGRAM CODE ;
*=====;
```