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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 : 000000106326;
%put NOTE: Client Protocol ID : ZRHM-PK-05-JP;
%put NOTE: Program Name : d_2ADEL.sas;
%put NOTE: Purpose : create ADEL dataset;
%put NOTE: ;
%put NOTE: Input Data : STDLIB.ADEL SDTM.IE ADAM.ADSL;
%put NOTE: Output : ADAM.ADEL;
%put NOTE: Macros Called : _MPRINTTO _MTOTPER _MPERALL;
%put NOTE: ;
%put NOTE: Programmed by : cvn_jriley;
%put NOTE: Creation Date : 2014-01-07;
%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: 14Jan2014 JR 1) IESEQ, IEDTC and IEDAY dropped
from output as no longer appropriate from CRF data;
%put NOTE: 14Jan2014 JR 2) Updated code to read in
criteria text to use most recent version of specs 'ZRHM-PK-
05_ADaM_Specifications_v0.2.xlsx';
%put NOTE: 14JAN2014 JR 4) Added in code to set AVALC to NA
when IE_ORRES='NA' in data excs_sc and excs_adm;
%put NOTE: 14Jan2014 JR 5) Changed paramn values
according to metadata;
%put NOTE: 14Jan2014 KB 6) Added in in=a in merge ;
%put NOTE: 13Apr2014 KB 7) Amended specifications to use macro
variable;
%put NOTE: 13Apr2014 KB 8) Given formats to PARAMCD PARAMN
AVALC AVISIT;
%put NOTE: 13Apr2014 KB 9) Amended PARAM for special
characters;
%put NOTE: 13Apr2014 KB 10) Amended AVALC;
%put NOTE: 13Apr2014 KB 11) Amended subject reference to use up
to date site ID;
%put NOTE: 13Apr2014 KB 12) Dropped EPOCH;
%put NOTE: 13Apr2014 KB 13) Amended sorting by key variables;
%put NOTE: 22Apr2014 KB 14) Amended ADT to use SVSTDTC;
%put NOTE: 24Apr2014 KB 15) Dropped SVSTDTC;
%put NOTE: 05Aug2014 KB 16) Amended length of USUBJID for
merge;

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%put NOTE: 05Aug2014    KB                17) Added EXNOTRFL;
%put NOTE:
=====;
options notes source source2 nofullstimer validvarname=upcase missing='
';
ods _all_ close;
ods listing;
*=====;
* START OF PROGRAM CODE                                ;
*=====;

*****;
* bring in ADSL ;
*****;

data adsl;
    set adam.adsl;
    keep studyid usubjid subjid: siteid age sex: race height weightb1
bmi ucpdgr: nicogr: targr:
        scrffl saffl randfl tr01: trt01: tr02: trt02: fupfl  dthfl
enfl exfl trtsdt trtseq: EXNOTRFL; /* 17) KB 05Aug2014 */
run;

proc sort data = adsl;
    by usubjid;
run;

*****;
* import inclusion / exclusion text ;
*****;

PROC IMPORT
/*      DATAFILE="/cvn/projects/prj/data/000000106326/source/ZRHM-PK-
05_ADaM_Specifications_v0.2.xlsx"    /* 2) JR 14Jan2014 */
    DATAFILE="/cvn/projects/prj/data/000000106326/source/ZRHM-PK-
05_ADaM_Specifications_v&specs..xlsx"    /* 7) KB 13Apr2014 */
    OUT=WORK.ietexta
    REPLACE
    DBMS=XLSX;
    RANGE="ValueLevelMetadata$A2:D509";
    GETNAMES=NO;
RUN;

data ietext(drop = a b c d);
    set ietexta(where=(index(a,'ADEL')));
    attrib param /*length*/FORMAT=$200. /* 8) KB 13Apr2014 */
        paramcd /*length*/FORMAT=$8.; /* 8) KB 13Apr2014 */
/*    param = left(trim((d)));*/
    PARAM=COMPRESS(D,'>',' ', 'kw'); /* 9) KB 13Apr2014 */
    * unable to combine on single variable due to format of data
input from xlsx file;
    if index(c,'INC') or index(c,'EXC') then do;
        ie = substr(c,1,3);
        num = input(substr(c,4,2),best.);

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        end;
        else do;
            ie=c;
        end;

        if num<10 then do;
            paramcd=compress(ie||'0'||num);
        end;
        else do;
            paramcd=compress(ie||num);
        end;
run;

/* CRF data - obtaining all inclusion data */
data incs_sc;
    set crf.ie_i;
    attrib avalc /*length*/FORMAT=$2. /* 8) KB 13Apr2014 */
           paramcd /*length*/FORMAT=$8. /* 8) KB 13Apr2014 */
           avisit /*length*/FORMAT=$40.; /* 8) KB 13Apr2014 */

    if ie_i_orres='Yes' then avalc='Y';
    else if ie_i_orres='No' then avalc='N';
/* 10) START KB 13Apr2014 */
    ELSE IF IE_I_ORRES='NA' THEN AVALC='NA';
    ELSE IF IE_I_ORRES='Not Done' THEN AVALC='ND';
    ELSE PUT "WARN" "ING: Check IE data for AVALC " IE_I_ORRES=;
/* 10) END KB 13Apr2014 */

    ietest1=input(ietest_i_std,best.);

    avisit=propcase(foldername);

    if ietest1<10 then do;
        paramcd=compress('INC0'||ietest1);
    end;
    else do;
        paramcd=compress('INC'||ietest1);
    end;

    keep subject paramcd avalc avisit ietest1;
run;

data incs_adm;
    set crf.ie_i_adm;
    attrib avalc /*length*/FORMAT=$2. /* 8) KB 13Apr2014 */
           paramcd /*length*/FORMAT=$8. /* 8) KB 13Apr2014 */
           avisit /*length*/FORMAT=$40.; /* 8) KB 13Apr2014 */

    avisit=propcase(foldername);

    if ie_i_orres='Yes' then avalc='Y';
    else if ie_i_orres='No' then avalc='N';
/* 10) START KB 13Apr2014 */
    ELSE IF IE_I_ORRES='NA' THEN AVALC='NA';

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        ELSE IF IE_I_ORRES='Not Done' THEN AVALC='ND';
        ELSE PUT "WARN" "ING: Check IE data for AVALC " IE_I_ORRES=;
/* 10) END KB 13Apr2014 */

        ietest1=input(ietest_i_std,best.);

        if ietest1<10 then do;
            paramcd=compress('INC0' || ietest1);
        end;
        else do;
            paramcd=compress('INC' || ietest1);
        end;

        keep subject paramcd avalc avisit ietest1;
run;

data incs_sf;
    set crf.ie_i_sf;
    attrib avalc /*length*/FORMAT=$2. /* 8) KB 13Apr2014 */
            paramcd /*length*/FORMAT=$8. /* 8) KB 13Apr2014 */
            avisit /*length*/FORMAT=$40.; /* 8) KB 13Apr2014 */

    if ie_i_orres1='Yes' then avalc='Y';
    else if ie_i_orres1='No' then avalc='N';
/* 10) START KB 13Apr2014 */
    ELSE IF IE_I_ORRES1='NA' THEN AVALC='NA';
    ELSE IF IE_I_ORRES1='Not Done' THEN AVALC='ND';
    ELSE PUT "WARN" "ING: Check IE data for AVALC " IE_I_ORRES1=;
/* 10) END KB 13Apr2014 */

    ietest1=input(ietest_i_std,best.);

    avisit='Screening';

    if ietest1<10 then do;
        paramcd=compress('INC0' || ietest1);
    end;
    else do;
        paramcd=compress('INC' || ietest1);
    end;

    keep subject paramcd avalc avisit ietest1;
run;

data incs;
    set incs_sc incs_adm incs_sf;
run;

proc sort data=incs;
    by subject;
run;

/* CRF data - obtaining all exclusion data */

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data excs_sc;
  set crf.ie_e;
  attrib avalc /*length*/FORMAT=$2. /* 8) KB 13Apr2014 */
        paramcd /*length*/FORMAT=$8. /* 8) KB 13Apr2014 */
        avisit /*length*/FORMAT=$40.; /* 8) KB 13Apr2014 */

  avisit=propcase(foldername);

  if ie_e_orres='Yes' then avalc='Y';
  else if ie_e_orres='No' then avalc='N';
    ELSE IF IE_E_ORRES='NA' THEN AVALC='NA'; /* 4) JR 14Jan2014 */
/* 10) START KB 13Apr2014 */
  ELSE IF IE_E_ORRES='Not Done' THEN AVALC='ND';
  ELSE PUT "WARN" "ING: Check IE data for AVALC " IE_E_ORRES=;
/* 10) END KB 13Apr2014 */

  ietest1=input(ietest_std,best.);

  if ietest1<10 then do;
    paramcd=compress('EXC0'||ietest1);
  end;
  else do;
    paramcd=compress('EXC'||ietest1);
  end;

  keep subject paramcd avalc avisit ietest1;
run;

data excs_adm;
  set crf.ie_e_adm;
  attrib avalc /*length*/FORMAT=$2. /* 8) KB 13Apr2014 */
        paramcd /*length*/FORMAT=$8. /* 8) KB 13Apr2014 */
        avisit /*length*/FORMAT=$40.; /* 8) KB 13Apr2014 */

  if ie_e_orres='Yes' then avalc='Y';
  else if ie_e_orres='No' then avalc='N';
    ELSE IF IE_E_ORRES='NA' THEN AVALC='NA'; /* 4) JR 14Jan2014 */
/* 10) START KB 13Apr2014 */
  ELSE IF IE_E_ORRES='Not Done' THEN AVALC='ND';
  ELSE PUT "WARN" "ING: Check IE data for AVALC " IE_E_ORRES=;
/* 10) END KB 13Apr2014 */

  ietest1=input(ietest_std,best.);

  avisit=propcase(foldername);

  if ietest1<10 then do;
    paramcd=compress('EXC0'||ietest1);
  end;
  else do;
    paramcd=compress('EXC'||ietest1);
  end;

  keep subject paramcd avalc avisit ietest1;

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run;

data excs_sf;
  set crf.ie_e_sf;
  attrib avalc /*length*/FORMAT=$2. /* 8) KB 13Apr2014 */
         paramcd /*length*/FORMAT=$8. /* 8) KB 13Apr2014 */
         avisit /*length*/FORMAT=$40.; /* 8) KB 13Apr2014 */

  if ie_e_orresl='Yes' then avalc='Y';
  else if ie_e_orresl='No' then avalc='N';
  else if ie_e_orresl='NA' then avalc='NA';
  else if ie_e_orresl='Not Done' then avalc='ND';
/* 10) START KB 13Apr2014 */
  ELSE PUT "WARN" "ING: Check IE data for AVALC " IE_E_ORRES1=;
/* 10) END KB 13Apr2014 */

  ietest1=input(ietest_std,best.);

  avisit='Screening';

  if ietest1<10 then do;
    paramcd=compress('EXC0'||ietest1);
  end;
  else do;
    paramcd=compress('EXC'||ietest1);
  end;

  keep subject paramcd avalc avisit ietest1;
run;

data excs;
  set excs_sc excs_adm excs_sf;
run;

proc sort data=excs;
  by subject;
run;

data all;
  set incs excs;
  by subject;
  length usubjid /*$200.*/$22; /* 16) KB 05Aug2014 */
/*  usubjid=compress('ZRHM-PK-05-JP-001-'||subject);*/
  usubjid=compress('ZRHM-PK-05-JP-AGE-'||subject); /* 11) KB 13Apr2014 */
run;

proc sort data=all;
  by subject AVISIT; /* 14) KB 22Apr2014 */
run;

/* 14) START KB 22Apr2014 */
/*data dates;*/

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/*      set sdtm.sv (WHERE=(VISIT='SCREENING') keep=VISIT usubjid svendtc);
*/
/*      attrib adt format=date9.*/
/*      subject length=$150.*/
/*      subject=scan(usubjid,6,'-');*/
/*      adt=input(svendtc,ymmdd10.);*/
/* run;*/

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DATA DATES;
    SET SDTM.SV (WHERE=(VISIT IN ('SCREENING' 'DAY -1')) KEEP=VISIT
USUBJID VISIT SVSTDTC);
    ATTRIB ADT FORMAT=DATE9.
            SUBJECT LENGTH=$150.
            AVISIT FORMAT=$40.;
    SUBJECT=SCAN(USUBJID,6,'-');
    ADT=INPUT(SVSTDTC,YYMMDD10.);
    AVISIT=PROPCASE(VISIT);
    IF AVISIT='Day -1' THEN AVISIT='Admission';
    DROP USUBJID;

RUN;
/* 14) END KB 22Apr2014 */

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proc sort data=dates;
    by subject AVISIT; /* 14) KB 22Apr2014 */
run;

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data all2;
    merge all(IN=A) dates; /* 6) KB 14Jan2014 */
    by subject AVISIT; /* 14) KB 22Apr2014 */
    IF A; /* 6) KB 14Jan2014 */
    FORMAT PARAMN 8.; /* 8) KB 13Apr2014 */
/*START PARAMN CHANGES HERE*/
    IF PARAMCD ='INC01' THEN PARAMN=1;
    ELSE IF PARAMCD ='INC02' THEN PARAMN=2;
        ELSE IF PARAMCD ='INC03' THEN PARAMN=3;
        ELSE IF PARAMCD ='INC04' THEN PARAMN=4;
        ELSE IF PARAMCD ='INC05' THEN PARAMN=5;
        ELSE IF PARAMCD ='INC06' THEN PARAMN=6;
        ELSE IF PARAMCD ='INC07' THEN PARAMN=7;
        ELSE IF PARAMCD ='INC08' THEN PARAMN=8;
        ELSE IF PARAMCD ='EXC01' THEN PARAMN=9;
        ELSE IF PARAMCD ='EXC02' THEN PARAMN=10;
        ELSE IF PARAMCD ='EXC03' THEN PARAMN=11;
        ELSE IF PARAMCD ='EXC04' THEN PARAMN=12;
        ELSE IF PARAMCD ='EXC05' THEN PARAMN=13;
        ELSE IF PARAMCD ='EXC06' THEN PARAMN=14;
        ELSE IF PARAMCD ='EXC07' THEN PARAMN=15;
        ELSE IF PARAMCD ='EXC08' THEN PARAMN=16;
        ELSE IF PARAMCD ='EXC09' THEN PARAMN=17;
        ELSE IF PARAMCD ='EXC10' THEN PARAMN=18;
        ELSE IF PARAMCD ='EXC11' THEN PARAMN=19;
        ELSE IF PARAMCD ='EXC12' THEN PARAMN=20;
        ELSE IF PARAMCD ='EXC13' THEN PARAMN=21;
        ELSE IF PARAMCD ='EXC14' THEN PARAMN=22;

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        ELSE IF PARAMCD ='EXC15' THEN PARAMN=23;
        ELSE IF PARAMCD ='EXC16' THEN PARAMN=24; /* 5) JR 14Jan2014 */
        ELSE IF PARAMCD ='EXC17' THEN PARAMN=25;
        ELSE IF PARAMCD ='EXC18' THEN PARAMN=26;

        drop /*svendtc*/ VISIT; /* 14) KB 22Apr2014 */
run;

proc sort data=all2;
    by subject descending avisit paramcd;
run;

data all3;
    set all2;
    attrib avisitn format=8.;

    if avisit='Screening' then do;
        avisitn=1;
        epoch='SCREENING';
    end;
    else if avisit='Admission' then do;
        avisitn=99;
        epoch='ADMI';
        avisit='Day -1';
    end;

run;

proc sort data=all3;
    by subject avisitn paramn ietest1;
run;

*****;
* merge in full inclusion/exclusion text ;
*****;

proc sql;
    create table ie2 as
    select a.*, b.param
    from all3 as a left join ietext as b
    on a.paramcd = b.paramcd
    where a.paramcd = b.paramcd
    order by usubjid;
quit;

*****;
* Combine ADSL and IE data *;
*****;

data slie(drop = trt01: tr01: trt02: tr02: trtsdt);
    merge adsl ie2(in = a);
    by usubjid;
    if a; * only include subject level data is eligibilty issues ;
    format aday 8. PARCAT1 $40. PARCAT1N 8.;

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        if not missing(adtt) and not missing(trtsdt) then aday = adtt -
trtsdt + 1;

        if (paramcd='EXC17' or paramcd='EXC18') and sexc='Male' then
avalc='NA';

        IF INDEX(PARAMCD,'INC') THEN DO;
            PARCAT1='INCLUSION';
            PARCAT1N=1;
        END;
        ELSE DO;
            PARCAT1='EXCLUSION';
            PARCAT1N=2;
        END;

run;

proc sort data=slie;
    by subject avisitn paramn ietest1;
run;

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

options replace;

data adie;
    set stdlib.adel slie;
    drop subject /*ietest iedtc*/IETEST1 EPOCH SVSTDTC; /* 12) KB
13Apr2014 */ /* 15) KB 24Apr2014 */
run;

/*data adam.adel(label = 'Eligibility Analysis Dataset');*/
/*    set adie;*/
/*run;*/

proc sort data = adie out = adam.adel(label = 'Eligibility Analysis
Dataset');
    /*by usubjid descending avisit paramn *//*ietest1*//*;*/
    BY USUBJID AVISITN PARAMCD; /* 13) KB 13Apr2014 */
run;

options noreplace;

%_scramble(set=adel, id=usubjid subjid subjidn age sex sexc sexn race
dthfl height weightb1 bmi ucpdgr1 ucpdgrln nicogr1
        nicogrln targr1 targrln, nullc=trtseqp trtseqa,
        nulln=trtseqpn trtseqan, nullcc=2, nullnc=2);

proc printto; run;
*=====;

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* END OF PROGRAM CODE ;  
*=====;
```