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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_2ADQSPA.sas;
%put NOTE: Purpose : create ADQSPA dataset;
%put NOTE: ;
%put NOTE: Input Data : STDLIB.ADQSPA SDTM.QS ADAM.ADSL;
%put NOTE: Output : ADAM.ADQSPA;
%put NOTE: Macros Called : _MPRINTTO _SCRAMBLE;
%put NOTE: ;
%put NOTE: Programmed by : cvn_kbooth;
%put NOTE: Creation Date : 2014-04-13;
%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: 22Apr2014 KB 1) Added format to AVISITN;
%put NOTE: 05Aug2014 KB 2) Amended decimal places of AVAL;
%put NOTE: 05Aug2014 KB 3) Amended AVISITN & PARCAT2 format;
%put NOTE: 05Aug2014 KB 4) Added EXNOTRFL & NICOGR2 variables
to keep;
%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 ucpdgr1 ucpdgr1n nicogr1 nicogr1n NICOGR2 NICOGR2N targr1 targr1n /*
4) KB 05Aug2014 */

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enrlfl scrfl complfl saffl pprotfl randfl trt: tr01: tr02:
dthfl enfl exfl fupfl analgr1 analgr1n EXNOTRFL; /* 4) KB 05Aug2014 */
run;

*****;
* bring in QS ;
*****;

data qs;
  set sdtm.qs(where = (qscat in ('MODIFIED CIGARETTE EVALUATION
QUESTIONNAIRE')));
  format paramcd $8. parcat1 $200. parcat2 /*$200.*/$100. avisit $40.
paramn parcat1n parcat2n 8. aval best. param $100. avalc $50. adt date9.
/* 3) KB 05Aug2014 */
  adtm datetime13. atm time5. desc $200. AVISITN /*BEST.*/8.; /* 1)
KB 22Apr2014 */ /* 3) KB 05Aug2014 */
  * parameter variables ;
  parcat1 = propcase(qscat);
  if qscat = 'MODIFIED CIGARETTE EVALUATION QUESTIONNAIRE' then
parcat1n = 1;

  if qstestcd in ('DIZZY' 'NAUSEO') then do;
    parcat2 = 'Aversion';
    parcat2n = 1;
  end;
  else if qstestcd = 'CRAVING' then do;
    parcat2 = 'Craving';
    parcat2n = 2;
  end;
  else if qstestcd = 'SENSAT' then do;
    parcat2 = 'Sensations';
    parcat2n = 3;
  end;
  else if qstestcd in ('CALM' 'AWAKE' 'IRRITAB' 'CONCEN' 'HUNGER')
then do;
    parcat2 = 'Psychological';
    parcat2n = 4;
  end;
  else if qstestcd in ('SATISFY' 'TASTE' 'ENJOY') then do;
    parcat2 = 'Satisfaction';
    parcat2n = 5;
  end;
  paramcd = qstestcd;
  param = propcase(qstest, '.');

  if qstestcd = 'SATISFY' then paramn = 6;
  else if qstestcd = 'TASTE' then paramn = 7;
  else if qstestcd = 'SENSAT' then paramn = 8;
  else if qstestcd = 'CALM' then paramn = 9;
  else if qstestcd = 'AWAKE' then paramn = 10;
  else if qstestcd = 'IRRITAB' then paramn = 11;
  else if qstestcd = 'CONCEN' then paramn = 12;
  else if qstestcd = 'HUNGER' then paramn = 13;
  else if qstestcd = 'DIZZY' then paramn = 14;

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        else if qstestcd = 'NAUSEO' then paramn = 15;
        else if qstestcd = 'CRAVING' then paramn = 16;
        else if qstestcd = 'ENJOY' then paramn = 17;
        else put 'USER WARN' 'ING: check parameter names as paramn not
allocated:' qstestcd = ;

        * analysis variables ;
        if qscat = 'MODIFIED CIGARETTE EVALUATION QUESTIONNAIRE' then do;
            if qsstresc='NOT AT ALL' then aval=1;
            if qsstresc='VERY LITTLE' then aval=2;
            if qsstresc='LITTLE' then aval=3;
            if qsstresc='MODERATELY' then aval=4;
            if qsstresc='A LOT' then aval=5;
            if qsstresc='QUITE A LOT' then aval=6;
            if qsstresc='EXTREMELY' then aval=7;
        end;
        avalc = propcase(scan(qsstresc,1,'-'),' / ');
        desclen = index(qsstresc,'-');
        if index(qsstresc,'-') then desc =
propcase(substr(qsstresc,desclen+1),' . ');

        * visit details ;
        avisit = propcase(visit);
        avisitn = visitnum;

        * dates;
        if length(qsdtc) gt 10 then do;
            adtm = input(qsdtc,e8601dt.);
            adt = datepart(adtm);
            atm = timepart(adtm);
        end;
        else if length(qsdtc) = 10 then adt = input(qsdtc,yyymmdd10.);

        keep usubjid qsseq param: parcat: aval: desc avisit: adt: atm
qsstat qsreasnd qsdtc qsdyc epoch;
run;

* derive subscale scores ;
proc sort data = qs;
    by usubjid parcat1n parcat2n avisitn adtm adt atm;
run;

proc summary data = qs(where = (upcase(parcat1) = 'MODIFIED CIGARETTE
EVALUATION QUESTIONNAIRE')) noprint;
    var aval;
    by usubjid parcat1n parcat1 parcat2n parcat2 avisitn avisit adtm
adt atm;
    output      out = mean(drop = _)  mean = mean n = n nmiss = nmiss;
run;

data mean2(drop = n nmiss);
    set mean;
    format paramcd $8. paramn 8. param $100. paramtyp dtype $10. aval
best. avalc $50.;

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paramtyp = 'DERIVED';
dtype = 'AVERAGE';
if nmiss = 0 or (nmiss > 0 and (n/nmiss)*100 > 50) then do;
aval = round(mean,/*1.*0.1); /* 2) KB 05Aug2014 */
avalc = strip(put(aval,/*best.*8.1)); /* 2) KB 05Aug2014 */
    if parcat2n = 1 then do;
        paramcd = 'MCEQA';
        paramn = 18;
        param = 'Aversion Subscale';
    end;
    else if parcat2n = 2 then do;
        paramcd = 'MCEQCR';
        paramn = 19;
        param = 'Craving Reduction Subscale';
    end;
    else if parcat2n = 3 then do;
        paramcd = 'MCEQERTS';
        paramn = 20;
        param = 'Enjoyment of Respiratory Tract Sensation
Subscale';
    end;
    else if parcat2n = 4 then do;
        paramcd = 'MCEQPR';
        paramn = 21;
        param = 'Psychological Reward Subscale';
    end;
    else if parcat2n = 5 then do;
        paramcd = 'MCEQSS';
        paramn = 22;
        param = 'Smoking Satisfaction Subscale';
    end;
end;
else do;
    aval = .;          * > 50% missing;
    avals = ' ';
end;
run;

proc sort data=mean2(where=(avisit='Day 1')) out=mean3;
    by usubjid parcat1n parcat2n avisitn atm;
run;

data mean4;
    set mean3;
    by usubjid parcat1n parcat2n avisitn atm;
    attrib ablf12 length=$2.;

    if atm<=dhms(0,6,30,0) and not missing(atm) and not missing(aval)
then ablf12='Y';
run;

proc sort data=mean4(where=(ablf12='Y')) out=mean5;
    by usubjid parcat2n atm;
run;

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data mean6;
    set mean5;
    by usubjid parcat2n atm;
    attrib ablfl length=$2.;

    if last.parcat2n and last.atm then ablfl='Y';
run;

proc sort data=mean6;
    by usubjid parcat1n parcat2n avisitn atm;
run;

proc sort data=mean2;
    by usubjid parcat1n parcat2n avisitn atm;
run;

data mean7;
    merge mean2 mean6;
    by usubjid parcat1n parcat2n avisitn atm;
run;

* set together ;
data qs2;
    set qs mean7;
run;

proc sort data=qs2;
    by usubjid parcat1n parcat2n paramcd avisitn atm;
run;

data qs2a;
    set qs2;
    by usubjid parcat1n parcat2n paramcd avisitn atm;
    attrib aeofl length=$2.;

    if last.avisitn and last.atm and not missing(aval) and
(atm>dhms(0,6,30,0)) then aeofl='Y';
run;

proc sort data=qs2a;
    by usubjid;
run;

*****;
* Combine ADSL and QS data *;
*****;
* treatment period;
*_mtotper;

data slqspa(drop = mean);
    merge adsl qs2a(in = a);
    by usubjid;
    if a;          * only include subjects with data ;

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        format aperiod trtan trtpn aday 8. trta trtp $40. aperiodc $8. ;
        aday = adt - trtsdt + 1;
        * allocate tretament and period;
        if aday in (0 1) then aperiod=1;
        else if aday in (2 3) then aperiod=2;
        %_mperall(dvar1 = adtm, dvar2 = adt);
        if not missing(aperiod) then do;
            aperiodc = 'Period ' || put(aperiod,1.);
        end;

run;

proc sort data=slqspa;
    by usubjid paramcd avisitn;
run;

data slqspa2;
    set slqspa;
    by usubjid paramcd avisitn;
    format anl01fl $2.;

    if index(upcase(avisit), 'UNSCHEDULED') then anl01fl = ' ';
    else if last.avisitn and first.avisitn = 0 then anl01fl = ' ';
    else anl01fl = 'Y';

    if missing(paramtyp) then anl01fl = ' ' ;

run;

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

options replace;

data adqspa;
    set stdlib.adqspa slqspa2;
    label aperiodc = 'Period (C)';
    drop trt01p: trt01a: trt02p: trt02a: ablfl: aeofl;
run;

proc sort data = adqspa out = adam.adqspa(label= 'Product Assessment
Analysis Dataset');
    by usubjid avisitn parcat1 paramcd;
run;

options noreplace;

%_scramble(set=adqspa, id=usubjid subjid subjidn age sex sexc sexn race
dthfl height weightbl bmi ucpdgr1 ucpdgrln nicogr1
            nicogrln targr1 targrln analgr1 analgrln, dates=avisit
avisitn qsdtc qsdty adt
            adtm atm aday aperiod aperiodc epoch,

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        nullc=trtp trta trtseqp trtsega trtstmf tr01stmf tr02stmf,  
nulln=trtpn trtan trtsdtm trtsdt trtsday trtedtm trtedt trteday tr01sdt  
tr01stm tr01sdtm tr0ledt tr0letm tr0ledtm  
        tr02sdt tr02stm tr02sdtm tr02edt tr02etm tr02edtm trtseqp  
trtsega, nullcc=7, nullnc=22);
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proc printto; run;
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*=====;  
* END OF PROGRAM CODE  
*=====;
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