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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_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;
%put NOTE: ;
%put NOTE: Programmed by : cvn_smulholl;
%put NOTE: Creation Date : 2013-11-21;
%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: 30Nov2013 SM 1) Amend code to correct categorical
response coding;
%put NOTE: 2) Correct selection fo code
to apply windows;
%put NOTE: 02Dec2013 SM 3) Drop variable MEAN as not
required in final data;
%put NOTE: 4) Amend ANL01FL to include
only derived scores in analysis;
%put NOTE: 5) Amend coding of DESC;
%put NOTE: 01May2014 KB 6) Amended formats of PARCAT1 and
PARCAT2;
%put NOTE: 01May2014 KB 7) Added EPOCH to keep statement;
%put NOTE: 01May2014 KB 8) Amended sorting by key variables;
%put NOTE: 01May2014 KB 9) Amended ABLFL;
%put NOTE: 01May2014 KB 10) Removed BASE BASEC and CHG;
%put NOTE: 01May2014 KB 11) Amended ANL01FL;
%put NOTE: 01May2014 KB 12) Corrected MCEQ pull out;
%put NOTE: 07May2014 KB 13) Added windows to HST data;
%put NOTE: 07May2014 KB 14) Amended ANL01FL;
%put NOTE: 07May2014 KB 15) Amended ABLFL and added BASE BASEC
and CHG;
%put NOTE: 07May2014 KB 16) Amended formats of AWRANGE and
AVISITN;
%put NOTE: 07May2014 KB 17) Added DEVN and DEVWC;
%put NOTE: 13May2014 KB 18) Amended PARAMCD for TASTE for HST;

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%put NOTE: 14May2014    KB          19) Amended ABLFL for subjects without
day 1 data;
%put NOTE: 14May2014    KB          20) Amended windows;
%put NOTE: 14May2014    KB          21) Amended repeats message in log;
%put NOTE: 14May2014    KB          22) Added PCHG to code;
%put NOTE: 15May2014    KB          23) Amended ANL01FL for HST data;
%put NOTE: 15May2014    KB          24) Removed ABLFL for HST;
%put NOTE: 15May2014    KB          25) Amended PARAM for TASTE HST;
%put NOTE: 27Jul2014    KB          26) Added EXNOTRFL;
%put NOTE: 13Sep2014    KB          27) Amended ABLFL;
%put NOTE: 13Sep2014    KB          28) Added QSALL to PARAMNs;
%put NOTE: 13Sep2014    KB          29) Amended ANL01FL to not flag NOT
DONE tests;
%put NOTE: 13Sep2014    KB          30) Amended PARAMs for subscales;
%put NOTE: 15Sep2014    KB          31) Amended data selection for
baselines;
%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 ucpdgrln nicogr1 nicogrln targr1 targrln cobl
    enrfl scrfl complfl saffl fasfl pprotfl randfl trt: trt01:
tr01: dthfl enfl EXNOTRFL exfl fupfl; /* 26) KB 27Jul2014 */
run;

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

data qs;
    set sdtm.qs(where = (qscat in (/*'MODIFIER CIGARETTE EVALUATION
QUESTIONNAIRE'*/'MODIFIED CIGARETTE EVALUATION QUESTIONNAIRE' 'HUMAN
SMOKING TOPOGRAPHY QUESTIONNAIRE'))); /* 12) KB 01May2014 */
    format paramcd $8. parcat1 parcat2 /*$100.*/$200. avisit $40.
paramn parcat1n parcat2n 8. aval best. param $100. avalc $50. adt date9.
/* 6) KB 01May2014 */
    adtm datetime13. atm time5. /*ablfl $2.*/ desc $200. AVISITN 8.; /*
9) KB 01May2014 */
    * parameter variables ;
    parcat1 = propcase(qscat);

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        if qscat = 'HUMAN SMOKING TOPOGRAPHY QUESTIONNAIRE' then parcat1n =
1;
        else if qscat = /*'MODIFIER CIGARETTE EVALUATION
QUESTIONNAIRE'*/'MODIFIED CIGARETTE EVALUATION QUESTIONNAIRE' then
parcat1n = 2; /* 12) KB 01May2014 */

        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') and qscat =
/*'MODIFIER CIGARETTE EVALUATION QUESTIONNAIRE'*/'MODIFIED CIGARETTE
EVALUATION QUESTIONNAIRE' then do; /* 12) KB 01May2014 */
            parcat2 = 'Satisfaction';
            parcat2n = 5;
        end;
        paramcd = qstestcd;
        param = propcase(qstest, '.');

        if qstestcd = 'HSSMOK' then paramn = 1;
        else if qstestcd = 'HSENJ' then paramn = 2;
        else if qstestcd = 'TASTE' and qscat = 'HUMAN SMOKING TOPOGRAPHY
QUESTIONNAIRE' then paramn = 3;
        else if qstestcd = 'HSEASY' then paramn = 4;
        else if qstestcd = 'HSDISTU' then paramn = 5;
        else 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;
        else if qstestcd = 'NAUSEO' then paramn = 15;
        else if qstestcd = 'CRAVING' then paramn = 16;
        else if qstestcd = 'ENJOY' then paramn = 17;
        ELSE IF QSTESTCD='QSALL' THEN PARAMN=99; /* 28) KB 13Sep2014 */
        else put 'USER WARN' 'ING: check parameter names as paramn not
allocated:' qstestcd = ;

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* analysis variables ;
if qscat = /*'MODIFIER CIGARETTE EVALUATION
QUESTIONNAIRE'*/'MODIFIED CIGARETTE EVALUATION QUESTIONNAIRE' then do; /*
12) KB 01May2014 */
    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;
else if qscat = 'HUMAN SMOKING TOPOGRAPHY QUESTIONNAIRE' then do;
    if/* index(*qsstresc/*,*/=:'STRONGLY AGREE'/*)*/ then aval =
5; /* 1) SM 30Nov2013 */
    else if /*index(*qsstresc/*,*/=:'AGREE'/*)*/ then aval = 4;
/* 1) SM 30Nov2013 */
    else if /*index(*qsstresc/*,*/=:'NEITHER AGREE NOR
DISAGREE'/* */then aval = 3; /* 1) SM 30Nov2013 */
    else if /*index(*qsstresc/*,*/=:'DISAGREE'/*)*/ then aval =
2; /* 1) SM 30Nov2013 */
    else if /*index(*qsstresc/*S*/=:'STRONGLY DISAGREE'/*)*/
then aval = 1; /* 1) SM 30Nov2013 */
end;
avalc = propcase(scan(qsstresc,1,'-'),' ');
DESCLEN = INDEX(QSSTRESC,'-'); /* 4) SM 03Dec2013 */
IF INDEX(QSSTRESC,'-') THEN desc =
propcase(/*scan*/SUBSTR(qsstresc,DESCLEN+1/*2,'-*/*),' '); /* 4) SM
03Dec2013 */

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* baseline flag;
/* ablf1 = qsbfl1; */ /* 9) KB 01May2014 */
/*IF PARCAT1='HUMAN SMOKING TOPOGRAPHY QUESTIONNAIRE' AND AVISIT='Day
0' THEN ABLFL='Y'; */ /* 9) KB 01May2014 */

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

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* dates;
length qsdtc1 $19.;
qsdtc1=qsdtc;
if length(qsdtc) gt 10 then do;
    adtm = input(qsdtc1,e8601dt.);
    adt = datepart(adtm);
    atm = timepart(adtm);
end;
else if length(qsdtc) = 10 then adt = input(qsdtc,yyymmdd10.);

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IF QSTESTCD = 'TASTE' AND QSCAT = 'HUMAN SMOKING TOPOGRAPHY
QUESTIONNAIRE' THEN PARAMCD = 'HSTASTE'; /* 18) KB 13May2014 */

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/* 25) START KB 15May2014 */
IF PARAMCD='HSTASTE' THEN DO;

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        PARAM=STRIP("Smoking Taste");
    END;
/* 25) END KB 15May2014 */

        keep usubjid qsseq param: parcat: aval: desc /*ablfl*/ avisit: adt:
        atm qsstat qsreasnd qsdte qsdyc EPOCH; /* 7) KB 01May2014 */ /* 9) KB
        01May2014 */
    run;

* derive subscale scores ;

proc sort data = qs;
    by usubjid parcat1n parcat2n avisitn adtm adt atm /*ablfl*/; /* 9)
    KB 01May2014 */
run;

proc summary data = qs(where = (upcase(parcat1) = /*'MODIFIER CIGARETTE
EVALUATION QUESTIONNAIRE'*/'MODIFIED CIGARETTE EVALUATION
QUESTIONNAIRE')) noprint; /* 12) KB 01May2014 */
    var aval;
    by usubjid parcat1n parcat1 parcat2n parcat2 avisitn avisit adtm
    adt atm /*ablfl*/; /* 9) KB 01May2014 */
    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.;
    paramtyp = 'DERIVED';
    dtype = 'AVERAGE';
    if nmiss = 0 or (nmiss > 0 and (n/nmiss)*100 > 50) then do;
        aval = round(mean,0.1);
        avalc = strip(put(aval,best.));
        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';*/
            PARAM = 'Enjoyment of Respiratory Tract Sensation
            Subscale'; /* 30) KB 13Sep2014 */
        end;
        else if parcat2n = 4 then do;
            paramcd = 'MCEQPR';
            paramn = 21;

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/*          param = 'Psychological Reward';*/
          PARAM = 'Psychological Reward Subscale'; /* 30) KB
13Sep2014 */
          end;
          else if parcat2n = 5 then do;
            paramcd = 'MCEQSS';
            paramn = 22;
/*          param = 'Smoking Satisfaction';*/
          PARAM = 'Smoking Satisfaction Subscale'; /* 30) KB
13Sep2014 */
          end;
          end;
          else do;
            aval = .;          * > 50% missing;
            avalc = ' ';
          end;
run;

/* 9) START KB 01May2014 */
PROC SORT DATA=MEAN2(WHERE=(AVISIT/*=*/ IN ('Screening' 'Day -2' 'Day -1'
'Day 0' 'Day 1'))) OUT=MEAN3; /* 15) KB 07May2014 */ /* 31) KB 15Sep2014
*/
      BY USUBJID PARCAT1N PARCAT2N AVISITN ATM;
RUN;

/* 15) START KB 07May2014 */
DATA BASELINE;
  SET MEAN3(WHERE=(AVISIT=('Day 1')));

  RENAME ADT=DAY1DT;
  KEEP USUBJID ADT PARCAT2;
RUN;

PROC SORT DATA=BASELINE;
  BY USUBJID PARCAT2;
RUN;

PROC SORT DATA=MEAN3;
  BY USUBJID PARCAT2;
RUN;

DATA BASELINE2;
  MERGE BASELINE MEAN3;
  BY USUBJID PARCAT2;
RUN;
/* 15) END KB 07May2014 */

/* 27) START KB 13Sep2014 */
DATA ADSLTM;
  SET ADAM.ADSL;
  WHERE TRT01A IN ('CC' 'THS 2.2' 'SA');

  KEEP USUBJID TRTSDTM TRT01A;
RUN;

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DATA BASELINE2A;
  MERGE BASELINE2 (IN=A) ADSLTM;
  BY USUBJID;
  IF A;
RUN;
/* 27) END KB 13Sep2014 */

DATA MEAN4;
  SET /*MEAN3*/ /*BASELINE2*/ BASELINE2A; /* 15) KB 07May2014 */ /* 27)
KB 13Sep2014 */
/*  BY USUBJID PARCAT1N PARCAT2N AVISITN ATM; */ /* 15) KB 07May2014 */
  ATTRIB ABLFL2 LENGTH=$2.;

/* 27) START KB 13Sep2014 */
  IF TRT01A='SA' THEN DO;
    IF DAY1DT NE . THEN DO;
      IF ADTM<DHMS(DAY1DT,6,30,0) AND
INDEX(UPCASE(AVISIT),'UNSCHED')=0 THEN ABLFL2='Y';
      END;
    ELSE IF DAY1DT EQ . THEN DO;
      IF INDEX(UPCASE(AVISIT),'UNSCHED')=0 THEN ABLFL2='Y';
      END;
    END;
  ELSE IF TRT01A IN ('CC' 'THS 2.2') THEN DO;
    IF ADTM<TRTSDTM AND INDEX(UPCASE(AVISIT),'UNSCHED')=0 THEN
ABLFL2='Y';
    END;
  ELSE IF MISSING(TRT01A) THEN DO;
    IF INDEX(UPCASE(AVISIT),'UNSCHED')=0 THEN ABLFL2='Y';
    END;
/* 27) END KB 13Sep2014 */

  /*IF*/ /*ATM*/ /*ADTM<=DHMS( /*0*/ /*DAY1DT,6,30,0) AND NOT
MISSING(ATM) AND NOT MISSING(AVAL) THEN ABLFL2='Y'; */ /* 15) KB 07May2014
*/ /* 15) KB 07May2014 */ /* 27) KB 13Sep2014 */
  /*IF DAY1DT=. AND AVISIT='Day 0' THEN ABLFL2='Y'; */ /* 19) KB
14May2014 */ /* 27) KB 13Sep2014 */
  /*DROP DAY1DT; */ /* 15) KB 07May2014 */ /* 27) KB 13Sep2014 */
  DROP TRTSDTM TRT01A; /*27) KB 13Sep2014 */
RUN;

/* 27) START KB 13Sep2014 */
DATA MEAN4A;
  SET MEAN4;
  WHERE MISSING(DAY1DT);
RUN;

PROC SORT DATA=MEAN4A;
  BY USUBJID PARCAT1 PARCAT2 AVISITN AVISIT;
RUN;

DATA MEAN4B;
  SET MEAN4A;

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        BY USUBJID PARCAT1 PARCAT2 AVISITN AVISIT;

        IF LAST.PARCAT2 THEN ABLFL3='Y';

        KEEP USUBJID PARCAT1 PARCAT2 AVISITN AVISIT ABLFL3;
RUN;

PROC SORT DATA=MEAN4;
    BY USUBJID PARCAT1 PARCAT2 AVISITN AVISIT;
RUN;

DATA MEAN4C;
    MERGE MEAN4 MEAN4B;
    BY USUBJID PARCAT1 PARCAT2 AVISITN AVISIT;

    IF NOT MISSING(ABLFL3) THEN ABLFL2=ABLFL3;
RUN;
/* 27) END KB 13Sep2014 */

PROC SORT DATA=/*MEAN4*/MEAN4C (WHERE=(ABLFL2='Y')) OUT=MEAN5; /* 27) KB
13Sep2014 */
    BY USUBJID PARCAT2N AVISITN ATM; /* 27) KB 13Sep2014 */
RUN;

DATA MEAN6;
    SET MEAN5;
    BY USUBJID PARCAT2N AVISITN ATM; /* 27) KB 13Sep2014 */
/*    ATTRIB ABLFL LENGTH=$2.;*/ /* 15) KB 07May2014 */
    FORMAT ABLFL $2.; /* 15) KB 07May2014 */

    IF LAST.PARCAT2N AND LAST.ATM THEN ABLFL='Y';
    DROP ABLFL2 ABLFL3 DAY1DT; /* 27) KB 13Sep2014 */
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;
/* 9) END KB 01May2014 */

* set together ;

data qs2;
    set qs /*mean2*/MEAN7; /* 9) KB 01May2014 */
run;

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/* 10) START KB 01May2014 */
PROC SORT DATA=QS2;
    BY USUBJID;
RUN;
/* 10) END KB 01May2014 */

*****;
* change from baseline ;
*****;
/* 10) START KB 01May2014 */
/*proc sort data = qs2;*/
/*    by usubjid paramn;*/
/*run;*/
**/
/*data base(keep = usubjid paramn base: bvis);*/
/*    set qs2(where = (ablfl = 'Y'));*/
/*    format base best. basec $50.;*/
/*    base = aval;*/
/*    basec = avalc; */
/*    bvis = avisitn; */
/*run;*/
**/
/*data change(drop = bvis);*/
/*    merge qs2 base;*/
/*    by usubjid paramn;*/
/*    format chg best.;*/
/*    if avisitn gt bvis then chg = aval - base;*/
/*run;*/
**/
/*proc sort data = change;*/
/*    by usubjid paramn avisitn;*/
/*run;*/

/*data change2;*/
/*    set change;*/
/*    by usubjid paramn avisitn;*/
/*    format anl01fl $2.;*/

    * determine if any unscheduled;
/*    if index(upcase(avisit),'UNSCHEDULED') or paramcd = 'QSALL' then
anl01fl = ' ';*/
/*    else if last.avisitn and first.avisitn = 0 then anl01fl = ' ';*/
/*    else anl01fl = 'Y';*/
/*    if anl01fl = ' ' then put 'Check reason for exclusion from
analysis: ' usubjid = param = avisit = ;*/
/*run;*/

* end of exposure flag;
/*proc sort data = change2 out = eos(where = (not missing(avalc)));*/
/*    by usubjid paramn avisitn adtm;*/
/*run;*/
**/
/*data eos2(keep = usubjid paramn avisitn aeofl);*/
/*    set eos;*/

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```

/*      format aeofl $2.; */
/*      by usubjid paramn;*/
/*      if last.paramn then do;*/
/*          aeofl = 'Y';*/
/*          output;*/
/*      end;*/
/*run;*/

*merge back onto data;
/*data qs3;*/
/*      merge change2 eos2;*/
/*      by usubjid paramn avisitn;*/
/*run;*/
/* 10) END KB 01May2014 */

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

data slqspa(drop = trt01: tr01: MEAN);
    merge adsl /*qs3*/QS2(in = a); /* 10) KB 01May2014 */
    by usubjid;
    if a;          * only include subjects with data ;
    format aperiod trtan trtpn aday 8. trta trtp $40. aperiodc $10.;
    aday = adt - trtsdt + 1;
    * allocate tretament and period;
    *_mperall(dvar1 = adtm, dvar2 = adt);
    aperiodc = 'Period ' || put(aperiod,1.);

    * only summarise THS and CC for mCEQ;
/*      if trtan not in (1 2) and parcat1n = 2 then anl01fl = ' ';*/ /* 11)
KB 01May2014 */
    * only summarise FAS population for both mCEQ and HST;
/*      if fasfl = 'N' then anl01fl = ' ';*/ /* 11) KB 01May2014 */
/*IF MISSING(PARAMTYP) THEN ANL01FL = ' ' ; */ /* 4) SM 02Dec2013
*/ /* 11) KB 01May2014 */

    IF UPCASE(PARCAT1)='HUMAN SMOKING TOPOGRAPHY QUESTIONNAIRE' AND
AVISIT='Day 0' THEN ABLFL='Y'; /* 15) KB 07May2014 */

run;

/* 11) START KB 01May2014 */
PROC SORT DATA=SLQSPA;
    BY USUBJID PARAMCD AVISITN;
RUN;

DATA SLQSPA2;
    SET SLQSPA;
    BY USUBJID PARAMCD AVISITN;
    FORMAT ANL01FL $2.;

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        IF INDEX(UPCASE(AVISIT), 'UNSCHEDULED') OR QSSTAT EQ 'NOT DONE' THEN
ANL01FL = ' '; /* 29) KB 13Sep2014 */
        ELSE IF LAST.AVISITN AND FIRST.AVISITN = 0 THEN ANL01FL = ' ';
        ELSE ANL01FL = 'Y';

/*      IF MISSING(PARAMTYP) THEN ANL01FL = ' ' ; */
        IF (MISSING(PARAMTYP) AND PARCAT1N=2) THEN ANL01FL=' '; /* 23) KB
15May2014 */

        IF TRTAN NOT IN (1 2) AND PARCAT1N = 2 THEN ANL01FL = ' ';
        IF FASFL = 'N' THEN ANL01FL = ' ';
RUN;
/* 11) END KB 01May2014 */
*****;
*Determine assessment window;
*****;

proc sort data = /*slqspa*/SLQSPA2 out = qswind(where = (not(fasfl = 'N'
/*or (trtan NOT in (1 2)*/ /*and parcat1n=2*//*)*/))); * as assessed
above; /* 2) SM 30Nov2013 */ /* 11) KB 01May2014 */ /* 13) KB 07May2014
*/ /* 20) KB 14May2014 */
        by subjdn aday;
run;

data window;
        set qswind;
        by subjdn aday;
        format awlo awhi time5. awrange /*$20.*/$50.; /* 16) KB 07May2014
*/
        awlo = '20:00't;
        awhi = '23:00't;
        awrange = strip(put(awlo,time5.))||'-'||strip(put(awhi,time5.));
/*      oldanl = anl01fl;*/ /* 14) KB 07May2014 */
        /*if not (awlo <= atm <= awhi) then anl01fl = ' ' ;*/ /* 14) KB
07May2014 */

/*      if oldanl ne anl01fl then put 'USER WARN' 'ING: excluded from
summaries as outside assessment window: ' subjdn = aday = atm = awrange
=;*/ /* 14) KB 07May2014 */

        keep subjdn /*aday atm*/AVISITN awrange awlo awhi /*anl01fl*/
paramn; /* 14) KB 07May2014 */ /* 21) KB 14May2014 */
run;

* add back to data;
proc sort data = window;
        by subjdn /*aday*/AVISITN paramn; /* 21) KB 14May2014 */
run;

proc sort data = /*slqspa*/SLQSPA2; /* 11) KB 01May2014 */
        by subjdn /*aday*/AVISITN paramn; /* 21) KB 14May2014 */
run;

data /*slqspa2*/SLQSPA3; /* 11) KB 01May2014 */

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merge /*slqspa*/SLQSPA2 window; /* 11) KB 01May2014 */
by subjidn /*aday*/AVISITN paramn; /* 21) KB 14May2014 */
run;

/* 15) START KB 07May2014 */
/* Change from baseline */
DATA SLQSPA4;
    SET SLQSPA3(WHERE=(ABLFL='Y' AND PARCAT1N=2));
    FORMAT BASE BEST. BASEC $50.;

    BASE=AVAL;
    BASEC=AVALC;

    KEEP USUBJID PARAMCD BASE BASEC;
RUN;

PROC SORT DATA=SLQSPA3;
    BY USUBJID PARAMCD;
RUN;

PROC SORT DATA=SLQSPA4;
    BY USUBJID PARAMCD;
RUN;

DATA SLQSPA5;
    MERGE SLQSPA3 SLQSPA4;
    BY USUBJID PARAMCD;
    FORMAT CHG PCHG BEST.; /* 22) KB 14May2014 */

    IF AVISIT NOT IN ('Day -1' 'Day 0') THEN DO;
        CHG=AVAL-BASE;
    /* 22) START KB 14May2014 */
        IF BASE NE 0 THEN DO;
            PCHG=(CHG/BASE)*100;
        END;
        ELSE DO;
            PCHG=(CHG/1)*100;
        END;
    /* 22) END KB 14May2014 */
    END;
RUN;
/* 15) END KB 07May2014 */

/* 17) START KB 07May2014 */
DATA SLQSPA6;
    SET SLQSPA5;
    FORMAT DEVWC $10. DEVN BEST.;

    IF QSSTAT NE 'NOT DONE' AND TRTA NE 'SA' THEN DO;
        IF ATM<AWLO THEN DO;
            DEVN=FLOOR((ATM-AWLO)/60);
            DEVWC=COMPRESS(PUT(FLOOR((ATM-AWLO)/60),BEST.));
        END;
        ELSE IF ATM>AWHI THEN DO;

```

```

        DEVN=CEIL((ATM-AWHI)/60);
        DEVWC=COMPRESS(PUT(CEIL((ATM-AWHI)/60),BEST.));
    END;
END;

IF NOT MISSING(DEVWC) THEN DO;
    IF INDEX(DEVWC,'-')=0 THEN DEVWC=CATS(CATS('+',DEVWC),' min');
    ELSE IF INDEX(DEVWC,'-') THEN DEVWC=CATS(DEVWC,' min');
END;

IF PARCAT1N=1 THEN ABLFL=''; /* 24) KB 15May2014 */
RUN;
/* 17) END KB 07May2014 */

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

options replace;

data adqspa;
    set stdlib.adqspa /*slqspa2*//*SLQSPA3*/SLQSPA6; /* 11) KB
01May2014 */ /* 17) KB 07May2014 */
    label aperiodc = 'Period (C)';
    if parcat1='Modified Cigarette Evaluation Questionnaire' then
parcat1n=1;
    else if parcat1='Human Smoking Topography Questionnaire' then
parcat1n=2;
run;

proc sort data = adqspa out = adam.adqspa(label= 'Product Assessment
Analysis Dataset');
/*    by usubjid avisitn parcat1n parcat2n;*/
    BY USUBJID AVISITN PARCAT1 PARAMCD; /* 8) KB 01May2014 */
run;

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

```