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%_mprintto;
options notes nosource;
proc datasets lib=work nolist memtype=data kill; quit;
%put NOTE:
=====;
%put NOTE: Covance Study Number : 000000106326;
%put NOTE: Client Protocol ID   : ZRHM-PK-05-JP;
%put NOTE: Program Name        : t_coday.sas;
%put NOTE: Purpose              : table of exhaled CO during days -1 0 2
4;
%put NOTE: ;
%put NOTE: Input Data           : ADAM.ADBX;
%put NOTE: Output               : t_15_2_4_11_1(co);
%put NOTE: Macros Called        : _MPRINTTO;
%put NOTE: ;
%put NOTE: Programmed by        : cvn_jriley;
%put NOTE: Creation Date        : 2014-08-08;
%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: 11Aug2014   JMH       1) Amended column headers;
%put NOTE: ;
%put NOTE:
=====;
options notes source source2 nofullstimer validvarname=upcase missing='
';
ods _all_ close;
ods listing;

*=====;
* START OF PROGRAM CODE                                     ;
*=====;

%let tflno=T_15_02_04_11_01(co);

%let TFL_Part=%scan(&_SASPROGRAMFILE,-3,%str(/));

data _null_;
  tmp="&TFL_Part";
  if tmp not in ("dev" "qc") then call symput("TFL_Part", "prod");
  call symput('TFLpath', compress("&_SASPROGRAMFILE",""));
run;

*****;
* read in data ;

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*****;
/*Bring in appropriate data from adbx*/
data adbx;
    set adam.adbx(where=(paramcd='CO' and avisit not in ('Day 1' 'Day
3') and pprotfl='Y' and anl02fl='Y'));/* Used both analysis flags, might
need to be reviewed*/
run;

/* Calculate totals for products */
data adslcopy;
    set adam.adsl(where=(pprotfl='Y'));
run;

data adsl;
    set adam.adsl(where=(pprotfl='Y'));
    if analgrln=1 then do;
        if trtseqan=1 then trtord=4;
        else if trtseqan=2 then trtord=5;
    end;
    else if analgrln=2 then do;
        if trtseqan=3 then trtord=7;
        else if trtseqan=4 then trtord=10;
    end;
    else if missing(analgrln) then delete;
run;

proc sort data=adsl nodupkey out=adsl1;
    by analgrln analgr1 trtord subjid;
run;

proc freq data=adsl1(where=(not missing(trtord))) noprint;
    table analgrln*analgr1*trtord*trtseqa/ out =totals2(drop=percent
rename=(count=total));
run;

data totals3;
    set totals2;
    IF TRTORD IN(5 10) THEN DO; /* 1) JMH 11Aug2014 */
        trtseqa=tranwrd(trtseqa,'- ','-$');
    END; /* 1) JMH 11Aug2014 */
    ELSE DO; /* 1) JMH 11Aug2014 */
        TRTSEQA=TRANWRD(TRTSEQA,'- ','$- '); /* 1) JMH 11Aug2014
*/
        END; /* 1) JMH 11Aug2014 */

    call symput('trt'||strip(put(trtord,best.)),strip(put(total,best.)));
    call symput('atrtrt'||strip(put(trtord,best.)),trim(trtseqa));
run;

proc sort data=totals3;
    by analgrln analgr1 trtord;
run;

data adbx1;

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merge adbx adslcopy(keep=usubjid trtsega trtsega);
by usubjid;
run;

data adbx_orig;
  set adbx1;
  format timepoint $50. timepointn best.;

  statval=aval;

  if avisit in ('Day 0' 'Day 2') then do;
    timepoint=strip('Washout ' || left(strip(aperiodc)) || ' (' ||
strip(avisit) || ' ' || strip(atpt)||')');
    timepointn=avisitn+(atptn/100);
  end;
  else do;
    timepoint=left(strip(avisit));
    timepointn=avisitn;
  end;
  if trtsega = 1 then trtan=4;
  else if trtsega=2 then trtan=5;
  else if trtsega=3 then trtan=7;
  else if trtsega=4 then trtan=10;
  trta=trtsega;
run;

proc sort data=adbx_orig;
  by analgr1n analgr1 trtan trta timepointn timepoint;
run;

proc means data=adbx_orig alpha=0.05 noprint;
  var statval;
  by analgr1n analgr1 trtan trta timepointn timepoint;
  output out=results02 n=n1 mean=mean1 std=std1 median=median1 min=min1
max=max1 q1=q1 q3=q3 lclm=lci1 uclm=uci1;
run;

data results03;
  set results02;
  attrib meansd length=$20.
    minmax length=$20.
    n length=$20.
    median length=$20.
    ci length=$20.
    quart length=$20.;

  /*AVALC has 0 DP*/
  n = left(compress(put(n1,8.)));
  if not missing(median1) then median =
left(compress(put(round(median1,0.1),8.1)));
  if not missing(mean1) and not missing(std1) then meansd =
left(compress(put(round(mean1,0.1),8.1))) || ' (' ||
left(compress(put(0.01*ceil(std1/0.01),8.2))) || ')';

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        if not missing(min1) and not missing(max1) then minmax =
left(compress(put(round(min1,1),8.))) || ', ' ||
left(compress(put(round(max1,1),8.)));
        if not missing(lcil) and not missing(ucil) then ci =
strip(strip(put(0.1*floor(lcil/0.1),8.1)) || ', ' ||
strip(put(0.1*ceil(ucil/0.1),8.1)));
        if not missing(q1) and not missing(q3) then quart =
strip(strip(put(0.1*floor(q1/0.1),8.1)) || ', ' ||
strip(put(0.1*ceil(q3/0.1),8.1)));

        drop n1 mean1 std1 median1 min1 max1 lcil ucil q1 q3;
run;

data results04;
    set results03;

    trtord=trtan;
run;

proc sort data=results04;
    by timepointn timepoint;
run;

proc transpose data=results04 out=results05 prefix=_ name=varname;
    by timepointn timepoint;
    var n meansd median minmax ci quart;
    id trtord;
    idlabel trta;
run;

/* Create BLOQ data */
data bloq;
    set adbx_orig(where=(bloqfl='Y') keep=analgr1n analgr1 trtan trta
atptn atpt aval avisit aperiodc avisitn bloqfl);
    format timepoint $50. timepointn best.;

    statval=aval;

    if avisit in ('Day 0' 'Day 2') then do;
        timepoint=strip('Washout ' || left(strip(aperiodc)) || ' (' ||
strip(avisit) || ' ' || strip(atpt)||')');
        timepointn=avisitn+(atptn/100);
    end;
    else do;
        timepoint=left(strip(avisit));
        timepointn=avisitn;
    end;
run;

proc means data=bloq noprint;
    var statval;
    by analgr1n analgr1 trtan trta timepointn timepoint;
    output out=bloq2 n=n2;
run;

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data bloq3;
  set bloq2;
  attrib bloq length=$20.;

  bloq = left(compress(put(n2,8.)));

  drop n2;
run;

data bloq4;
  set bloq3;

  trtord=trtan;
run;

proc sort data=bloq4;
  by timepointn timepoint;
run;

proc transpose data=bloq4 out=bloq5 prefix=_ name=varname;
  by timepointn timepoint;
  var bloq;
  id trtord;
  idlabel trta;
run;

/* Dummy variables as currently there are no BLOQ values */
data bloq6;
  set bloq5;
  format timepoint $50. timepointn best.;

  if timepoint='' and timepointn=. then do;
    timepoint='Day -1';
    timepointn=99;
    output;
    timepoint='Washout Period 1 (Day 0 08:00-09:30 AM)';
    timepointn=101.01;
    output;
    timepoint='Washout Period 1 (Day 0 12:00-01:30 PM)';
    timepointn=101.02;
    output;
    timepoint='Washout Period 1 (Day 0 04:00-05:30 PM)';
    timepointn=101.03;
    output;
    timepoint='Washout Period 1 (Day 0 08:00-09:30 PM)';
    timepointn=101.04;
    output;
    timepoint='Washout Period 2 (Day 2 08:00-09:30 AM)';
    timepointn=103.01;
    output;
    timepoint='Washout Period 2 (Day 2 12:00-01:30 PM)';
    timepointn=103.02;
    output;
  end;

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        timepoint='Washout Period 2 (Day 2 04:00-05:30 PM)';
        timepointn=103.03;
        output;
        timepoint='Washout Period 2 (Day 2 08:00-09:30 PM)';
        timepointn=103.04;
        output;
        timepoint='Day 4/Discharge';
        timepointn=104;
        output;
    end;
run;

/* Set BLOQ data on */
data results05a;
    set results05 bloq6;
run;

data results06;
    set results05a;
    attrib stat length = $100.;
    varname=upcase(varname);
    if varname='N' then do;
        statord=1;
        stat='n';
    end;
    if varname='BLOQ' then delete;
    else if varname='MEANSD' then do;
        statord=3;
        stat='Mean (SD)';
    end;
    else if varname='CI' then do;
        statord=4;
        stat='95% CI';
    end;
    else if varname='MEDIAN' then do;
        statord=5;
        stat='Median';
    end;
    else if varname='QUART' then do;
        statord=6;
        stat='Q25, Q75';
    end;
    else if varname='MINMAX' then do;
        statord=7;
        stat='Min, Max';
    end;

    drop varname;
run;

data results07;
    set results06;

    if stat='n' or stat='BLOQ - n (%)' then do;

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        if missing(_4) then _4='0';
        if missing(_5) then _5='0';
        if missing(_10) then _10='0';
        if missing(_7) then _7='0';
    end;
run;

data labels;
set results07;
    attrib _4 label = "&ATRT4$ (N=&TRT4) "
           _5 label = "&ATRT5$ (N=&TRT5) "
           _7 label = "&ATRT7$ (N=&TRT7) "
           _10 label = "&ATRT10$ (N=&TRT10) ";
run;

proc sql noprint;
    create table table.T_15_02_04_11_01 as
    select timepointn, stat, _4, _5, _10, _7
    from labels
    order by timepointn, statord;
quit;

proc sort data=labels;
    by timepointn statord;
run;

data paging;
    set labels;
    by timepointn statord;

    flag=1;

    if first.timepointn and ln gt 9 then ln=1; /*amend to look
presentable, and avoid page overflows*/
    else ln+1;
    if ln=1 then page+1;
    call symput("page",compress(put(page,best.)));
run;

options number nodate orientation=landscape papersize=&p_pgsz missing='
';
ods escapechar='$';
%let linetop = \brdrt\brdrs\brdrw30; * needs to be 1.5pt so calculated
in twips (1/20 pt) ;
%let linebot = \brdrb\brdrs\brdrw30;
%macro outrtf(blankn=, halfblnk=);

%if &halfblnk=N %then %let halfblnk=;
%else %if &halfblnk=Y %then %let halfblnk=\~;

ods path stdlib.tl06326 (read) ;
ods results off;

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ods rtf toc_data
file="/cvn/projects/prj/data/000000106326/TFL/&TFL_Part./&tflno..rtf"
style=t106326 startpage=yes headery=1440 footery=1440 ;
ods noproctitle;
%do i=1 %to &page;
ods proclabel = ' ';

title ;
footnote;
%let wd=0;
%let bloq=0;

data comp;
    set paging end=eof;
    where page=&i;

    if index(stat,'bloq') and (index(_4,'0')=0 or index(_5,'0')=0 or
index(_10,'0')=0 or index(_7,'0')=0)
        then call symput('bloq',1);

    /* Amend title as needed */
    _firtitl="Table 15.2.4.11.1 Descriptive Statistics of Exhaled CO
(ppm) During Days -1, 0, 2 and 4 Continuous";
    _upcas=(length("Path: &TFLpath.")-
length(compress("Path:&TFLpath.",'ABCDEFGHIJKLMNOPQRSTUVWXYZ')))/2;
    len=&blankn.-length("(page &i of &page)");
    if eof then do;
        call symput('_FSRTITL', trim(left(_firtitl)));
        call symput('_blankn', compress(put(len,best.)));
    end;
    drop _firtitl _upcas len;
run;

ods listing close;

* most set up in template others below;
* title arial 12pt bold with 12pt paragraph space below;
* all headers to be arial 11pt bold;
* data arial 10pt;
* headers to be central, text values left aligned and numeric centered
around decimal point;
proc report data = comp missing headline headskip missing nowd split =
'$' %if &i=1 %then %do; contents=' ' %end; %else %do; contents=' ' %end;;
;
    column flag page timepointn timepoint statord stat ("Group-1 PK
&linebot" _4 _5) ("Group-2 PK &linebot" _7 _10);

    define flag          / order order=internal noprint;
    define page          / order order = internal noprint;
    define timepointn    / order order=internal noprint;

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        define timepoint      / group style={just=left cellwidth=4cm}
style(header)={just=center} "Timepoint";
        define statord        / order order = internal noprint;
        define stat           / display style={just=left cellwidth=1.0cm}
style(header)={just=center} "Statistic";
        define _4             / display style={just=center cellwidth=1.5cm}
style(header)={just=center};
        define _5             / display style={just=center cellwidth=1.5cm}
style(header)={just=center};
        define _10            / display style={just=center cellwidth=1.5cm}
style(header)={just=center};
        define _7             / display style={just=center cellwidth=1.5cm}
style(header)={just=center};

break before flag / page %if &i=1 %then %do;
contents="&_fsrtitl" %end; %else %do; contents='' %end;;

break after page / page;

compute after timepointn;
    line " ";
endcomp;

compute before page / style={protectspecialchars=off};;
    line "&linetop";
endcomp;

compute before _page_ / style={just=left protectspecialchars=off};
    line "\b\fs24\sa24&_FSRTITL." ; * \b = bold, \fs24 is font
size 12pt, \sa24 is space after 12pt;
    line "\b\fs24\sas24Measurements - PK Population";
    line "&linebot";
endcomp;

compute after _page_ / style={just=left protectspecialchars=off
PRETEXT="&LINETOP."};
    line 'Note: mCC = menthol conventional cigarettes; NRT gum =
Nicotine Replacement Therapy gum; THS = Tobacco Heating System.';
    %if &blog=1 %then %do;
        line "Note: LOQ = ppm";
    %end;
    line ' ';
    line 'Appendix 15.3.3.5';
    line "Path: &TFLpath." &_blankn.*"\~\~" "(Page &i of &page)";
    line "Program Run: &sysdate &sysuserid Program Status:
&status";
endcomp;

run;
%end;
ods rtf close;
ods results on;
ods path sashelp.tmplmst (read);

%mend ;

```

```
%outrtf(blankn=70, halfblnk=N);
ods listing;
proc printto print = "&table./T_15_02_04_11_01.lst" new;
run;

proc contents data = table.T_15_02_04_11_01 varnum;
run;
ods listing close;
proc printto ; run;
*=====;
* END OF PROGRAM CODE ;
*=====;
```