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%_mprintto;
options notes nosource;
proc datasets lib=work nolist memtype=data kill; quit;
%put NOTE:
=====;
%put NOTE: Covance Study Number : 0000001063264;
%put NOTE: Client Protocol ID   : ZRHR-REXC-03-EU;
%put NOTE: Program Name        : t_hst.sas;
%put NOTE: Purpose              : table decriptive stats of HST
Parameters per Cigarette -FAS ;
%put NOTE: ;
%put NOTE: Input Data           : ADAM.ADXT ADAM.ADSL;
%put NOTE: Output               : t_15_2_4_58(hst);
%put NOTE: Macros Called        : _MPRINTTO;
%put NOTE: ;
%put NOTE: Programmed by        : cvn_jhardman;
%put NOTE: Creation Date        : 2014-07-30;
%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: 05Aug2014   JMH       1) Added footnote;
%put NOTE: 05Aug2014   JMH       2) Amended stats;
%put NOTE: 29Aug2014   JMH       3) Added Missing category;
%put NOTE: 29Aug2014   JMH       4) Applied formatting updates and
amnded paging;
%put NOTE: 18Sep2014   JR        5) Updated baseline footnote;
%put NOTE: 22Sep2014   KB        6) Removed missing row;
%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_58(hst);

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

data _null_;
  tmp="%TFL_Part";
  if tmp not in ("dev" "qc") then call symput("TFL_Part", "prod");

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        call symput('TFLpath', compress("&_SASPROGRAMFILE",""));
run;

*****;
* read in data ;
*****;

/*Use ADSL to get N values for column headers*/
data adsl;
    set adam.adsl(where=(fasfl='Y'));
run;

proc sort data=adsl nodupkey out=adsl1;
    by trt01an trt01a subjid;
run;

proc freq data=adsl1(where=(not missing(trt01an))) noprint;
    table trt01an*trt01a/ out =tot(drop=percent rename=(count=total));
run;

data tot2;
    set tot;
    call symput('trt' || compress(put(trt01an,best.)),
compress(total));
run;

/*Bring in appropriate data from ADXT*/
data adxt1 check;
    set adam.adxt(where=(anl02fl='Y' and fasfl='Y' and
parcat1='Topography'));
    parm=tranwrd(param,' (',&(');
    parm2=(scan(parm,1,'&'));
    parm2a=substr(parm2,1,1)||lowercase(substr(parm2,2));
    parm3=trim(parm2a)||' '||scan(parm,2,'&')||' '||scan(parm,3,'&');
    if length(parm3) ne length(param) then output check;
    output adxt1;
run;

data adxt;
    set adxt1(drop=param);
    if ablfl='Y' then do; avisit='Baseline'; avisitn=100; end;
    if avisit ne 'Baseline' and avisitn lt 101 then delete;
    rename parm3=param;
run;

data adxt_orig;
    set adxt;
    statval=aval;
    type='abs';
    output;
    statval=pchg;
    type='pchg';
    output;

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run;

proc sort data=adxt_orig;
  by type paramn param trtan trta avisitn avisit;
run;

proc means data=adxt_orig noprint;
  var statval;
  by type paramn param trtan trta avisitn avisit;
  output out=results02 NMISS=MISS1 n=n1 mean=mean1 std=std1
  median=median1 min=min1 max=max1 q1=q1 q3=q3 lclm=lci1 uclm=uci1; /* 3)
JMH 29Aug2014 */
run;

data results03;
  set results02;
  attrib meansd length=$30.
          minmax length=$30.
          n      length=$30.
          median length=$30.
          quart  aci length=$30.;

  n = left(compress(put(n1,8.)));
  MISS=LEFT(COMPRESS(PUT(MISS1,8.))); /* 3) JMH 29Aug2014 */
  if not missing(median1) then median =
left(compress(put(round(median1,0.01),8.2)));
  if not missing(mean1) and not missing(std1) then meansd =
left(compress(put(round(mean1,0.01),8.2))) || ' (' ||
left(compress(put(0.001*ceil(std1/0.001),8.3))) || ')';
  if not missing(min1) and not missing(max1) then minmax =
left(compress(put(round(min1,0.1),8.1))) || ', ' ||
left(compress(put(round(max1,0.1),8.1)));
  if not missing(lci1) and not missing(uci1) then aci =
strip(put(0.01*floor(lci1/0.01),8.2)) || ', ' ||
strip(put(0.01*ceil(uci1/0.01),8.2));
/*      if not missing(q1) and not missing(q3) then quart =
strip(strip(put(round(q1,0.01),8.2)) || ', ' ||
strip(put(round(q3,0.01),8.2))); */
  IF NOT MISSING(Q1) AND NOT MISSING(Q3) THEN QUART =
STRIP(PUT(0.01*FLOOR(Q1/0.01),8.2)) || ', ' ||
STRIP(PUT(0.01*CEIL(Q3/0.01),8.2)); /* 2) JMH 05Aug2014 */

  drop n1 mean1 std1 median1 min1 max1 q1 q3 uci1 lci1 MISS1; /* 3) JMH
29Aug2014 */
run;

proc sort data=results03;
  by paramn param trtan trta type avisitn avisit;
run;

data results04;
  merge results03;
  by paramn param trtan trta type avisitn avisit;

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run;

proc sort data=results04;
    by paramn trtan trta type avisitn avisit;
run;

data results05;
    set results04 ;
    by paramn trtan trta type avisitn avisit;
run;

proc sort data=results05;
    by type paramn avisitn avisit;
run;

%macro outrtf(blankn=, halfblnk=);

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

proc transpose data=results05(where=(type='abs')) out=results06 prefix=r
name=varname;
    by paramn param avisitn avisit ;
    var n meansd median minmax aci quart MISS; /* 3) JMH 29Aug2014 */
    id trtan;
    idlabel trta;
run;

proc transpose data=results05(where=(type='pch' and avisitn>100))
out=results06c prefix=c name=varname;
    by paramn param avisitn avisit;
    var n meansd median minmax aci quart MISS; /* 3) JMH 29Aug2014 */
    id trtan;
    idlabel trta;
run;

proc sort data=results06;
    by paramn avisitn avisit varname;
run;

proc sort data=results06c;
    by paramn avisitn avisit varname;
run;

data results07;
    merge results06 results06c;
    by paramn avisitn avisit varname;
    attrib stat variable var2 length = $100.
                                STATORD FORMAT=8.1; /* 3) JMH 29Aug2014 */

    varname=upcase(varname);

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variable=compbl(avisit);

var2=param;

if missing(c3) then c3='';

if varname='N' then do;
    statord=1;
    stat='n';
end;
/* 3) START JMH 29Aug2014 */
    ELSE IF VARNAME='MISS' THEN DO;
        STATORD=1.5;
        STAT='Missing';
    END;
/* 3) END JMH 29Aug2014 */
else if varname='MEANSD' then do;
    statord=2;
    stat='Mean (SD)';
end;
else if varname='ACI' then do;
    statord=3;
    stat='95% CI';
end;
else if varname='MEDIAN' then do;
    statord=4;
    stat='Median';
end;
else if varname='QUART' then do;
    statord=5;
    stat='Q25, Q75';
end;
else if varname='MINMAX' then do;
    statord=6;
    stat='Min, Max';
end;
drop varname;
run;

data results08;
    set results07;

    if stat='N' then do;
        * havent set changes to missing as not expected ;
        if missing(r1) then r1='0';
        if missing(r2) then r2='0';
        if missing(r3) then r3='0';
    end;

    IF STATORD=1.5 THEN DELETE; /* 6) KB 22Sep2014 */
run;

data labels;
set results08;

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        attrib r1 label = "Raw$Value"
               r2 label = "Raw$Value"
               r3 label = "Raw$Value"
               c1 label = '%Change$(*)'
               c2 label = '%Change$(*)'
               c3 label = '%Change$(*)';

        if index(variable,'T0') then
variable=tranwrd(variable,'T0','T${sub 0}');

                                flag=1;

run;

proc sql noprint;
    create table table.T_15_02_04_58 as
    select paramn, var2, avisit, variable, statord, stat, r1, c1, r2,
c2, r3, c3
    from labels
    order by paramn, var2, avisitn, statord;
quit;

proc sort data=labels;
    by paramn avisitn statord;
run;

data paging;
    set labels;
    by paramn avisitn statord;
    if FIRST.AVISITN /*ln gt 11*/ then ln=1; /*Amend to look presentable,
and avoid page overflows*/ /* 4) JMH 29Aug2014 */
    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;

ods path stdlib.tl06324 (read) ;
ods results off;
ods rtf toc_data
file="/cvn/projects/prj/data/000000106324/TFL/&TFL_Part./&tflno..rtf"
style=tl06324 startpage=yes headery=1440 footery=1440 ;
ods noproctitle;

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```

%do i=1 %to &page;

title ;
footnote;

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

    /* Amend title as needed */
    _firtitl="Table 15.2.4.58 Descriptive Statistics of HST Parameters
per Cigarette - FAS";
    _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 proclabel = ' ';
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 =
'$' %if &i=1 %then %do; contents=' ' %end; %else %do; contents=' ' %end;;;
    column flag page paramn var2 avisitn variable statord stat
    ("THS 2.2$(N=&trt1)&linebot" r1 c1) ("CC$(N=&trt2)&linebot" r2 c2)
    ("SA$(N=&trt3)&linebot" r3);

    define flag          / order order = internal noprint;
    define page          / order order = internal noprint;
    define paramn        / order order = internal noprint;
    define var2          / group style={just=left cellwidth=2.5cm}
style(header)={just=center} "Variable";
    define avisitn       / order order=internal noprint;
    define variable      / group style={just=left cellwidth=1.5cm}
style(header)={just=center} "Timepoint";
    define statord       / order order = internal noprint;
    define stat          / display style={just=left cellwidth=1.2cm}
style(header)={just=center} "Statistic";
    define r1           / display style={just=c cellwidth=1.75cm}
style(header)={just=center};

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        define r2                / display style={just=c cellwidth=1.75cm}
style(header)={just=center};
        define c1                / display style={just=c cellwidth=1.75cm}
style(header)={just=center};
        define c2                / display style={just=c cellwidth=1.75cm}
style(header)={just=center};
        define r3                / display style={just=c cellwidth=1.75cm}
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 variable;
    line " ";
endcomp;

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

/*      compute after page/style={just=left cellwidth=5cm
protectspecialchars=off};*/ /* 4) JMH 29Aug2014 */
/*      line "&linebot" ;*/
/*      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 "&linebot";
endcomp;

        compute after _page_ / style={just=left protectspecialchars=off
PRETEXT="&LINETOP."}; /* 4) JMH 29Aug2014 */
        line 'Note: CC = Conventional cigarettes; SA = Smoking
abstinence; THS = Tobacco Heating System.';
        line "Note: * % change from baseline, where baseline is the
last assessment prior to first product use in CC/THS 2.2 arms on Day 1 or
last assessment prior to 06:29 AM in SA arm on Day 1."; /* 5) JR
18Sep2014 */
/*      line "Note: * % change from baseline, where baseline is
defined as the last assessment prior to 06:29 AM on Day 1.";*/
        line ' ';
        line 'Appendix 15.3.7.1';
        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_58.lst" new;
run;

proc contents data = table.T_15_02_04_58 varnum;
run;
ods listing close;
proc printto ; run;
*=====;
* END OF PROGRAM CODE ;
*=====;
```