

```

%_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_ustatss.sas;
%put NOTE: Purpose              : table of descriptive statistics of
product use;
%put NOTE: ;
%put NOTE: Input Data           : ADAM.ADDX ADAM.ADEX ADAM.ADSL;
%put NOTE: Output               : t_15_2_2_1(uss);
%put NOTE: Macros Called        : _MPRINTTO;
%put NOTE: ;
%put NOTE: Programmed by        : cvn_jriley;
%put NOTE: Creation Date        : 2014-08-06;
%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: 24Sep2014   JMH       1) Amended label;
%put NOTE: 24Sep2014   JMH       2) Amended sorting of dual programming
dataset;
%put NOTE:
=====;
options notes source source2 nofullstimer validvarname=upcase missing='
';
ods _all_ close;
ods listing;

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

%let tflno=T_15_02_02_01(uss);

%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;

*****;

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* read in data ;
*****;
proc sort data=adam.addx(where = (saffl = 'Y' and enrlfl = 'Y' and not
missing(trtseqan))) out=addx;
    by subjid param trtseqan;
run;

proc sort data=adam.adex(where = (saffl = 'Y' and enrlfl = 'Y' and not
missing(trtseqan))) out=adex(drop=epoch disdtc);
    by subjid param trtseqan;
run;

data n1b;
    set adex addx;
    by subjid param trtseqan;
    if paramcd='MCC' then paramn=2;
    if paramcd='THS2_2M' then paramn=1;
    if paramcd='PRODDUR' then paramn=3;

    if paramcd='NRTGUM' then delete;

    keep subjid paramcd siteid avisi: trtseq: siteid paramn avalcat1
siteid;
run;

proc freq data=n1b      (where=(not missing(trtseqan) and paramcd not eq
'PRODDUR'));
    table subjid*paramcd*paramn*trtseqan*avisit*avisitn*siteid/ noprint
out=n2b (drop=percent);
run;

proc freq data=n1b      (where=(not missing(trtseqan) and paramcd eq
'PRODDUR'));
    table paramcd*paramn*trtseqan*avisit*avisitn*avalcat1*siteid/
noprint out=n2a (drop=percent);
run;

data n3b;
    set n2b;
    if paramcd='MCC' and avisit='Day -1' then delete;

    p_use=count;
run;

data n3a;
    set n2a;

    p_use=count;
run;

proc sort data=n3b(keep=siteid subjid avisit avisitn paramcd trtseqan
p_use paramn) out=n4b;
    by siteid;
run;

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proc freq data=n4b;
    table siteid*paramcd*paramn*trtseqan*avisit*avisitn*p_use/ noprint
    out=n5a (drop=percent);
run;

data extra;
    format siteid $3. paramcd $8. paramn 8. avisit $40. avisitn 8.;

    do j = 1 to 4;
        trtseqan=j;
        do i=0 to 1;
            siteid='AGE';
            p_use=i;
            paramcd='MCC';
            paramn=2;
            avisit='Day 1';
            avisitn=101;
            output;
            avisit='Day 3';
            avisitn=103;
            output;
        end;
        do i=0 to 3;
            siteid='AGE';
            p_use=i;
            paramcd='THS2_2M';
            paramn=1;
            avisit='Day -1';
            avisitn=99;
            output;
            avisit='Day 1';
            avisitn=101;
            output;
            avisit='Day 3';
            avisitn=103;
            output;
        end;
    end;
run;

proc sort data=extra;
    by siteid paramcd paramn p_use avisit avisitn trtseqan;
run;

proc sort data=n5a;
    by siteid paramcd paramn p_use avisit avisitn trtseqan;
run;

data n5a1;
    merge n5a extra;
    by siteid paramcd paramn p_use avisit avisitn trtseqan;
run;

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data n5a2;
    set n5a1;

    if paramcd='THS2_2M' and avisit='Day -1' and p_use=0 then delete;
    if paramcd='THS2_2M' and avisit in ('Day 1' 'Day 3') and p_use>1 then
delete;
run;

data n5b;
    set n3a n5a2;
    format p_use1 $50.;

    p_use1=compress(put(p_use,best.));
    if paramcd='PRODDUR' then p_use1=avalcat1;
run;

proc sort data=n5b;
    by siteid paramcd avisitn avisit p_use1;
run;

proc transpose data=n5b out=n5c(drop=_name_ _label_) prefix=_;
    by siteid paramcd avisitn avisit p_use1;
    var count;
    id trtseqan;
run;

proc sort data=n5b;
    by siteid trtseqan avisitn avisit p_use1;
run;

proc transpose data=n5b out=alltest;
    by siteid trtseqan avisitn avisit p_use1;
    var count;
    id paramcd;
run;

data alltest2;
    set alltest(where=(avisit in ('Day 1' 'Day 3')));

    if trtseqan=1 then do;
        if ths2_2m ne . then mcc_2=ths2_2m;
        else if mcc ne . then ths2_2m_2=mcc;
    end;
    else if trtseqan=2 then do;
        if mcc ne . then ths2_2m_2=mcc;
        else if ths2_2m ne . then mcc_2=ths2_2m;
    end;
    else if trtseqan=3 then do;
        if ths2_2m ne . then proddur_2=ths2_2m;
        else if proddur ne . then ths2_2m_2=proddur;
    end;
    else if trtseqan=4 then do;
        if proddur ne . then ths2_2m_2=proddur;
        else if ths2_2m ne . then proddur_2=ths2_2m;
    end;

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end;

drop ths2_2m mcc proddur;
run;

data alltest3;
  set alltest2(where=(trtseqan in (1 2 3 4)));
  format p_use2 $10.;
  if trtseqan in (1 2) then do;
    if compress(p_use1)=compress('0') then p_use2=compress('1');
    else if compress(p_use1)=compress('1') then p_use2=compress('0');
  end;
  else if trtseqan = 3 then do;
    if avisit='Day 1' THEN DO;
      if compress(p_use1)=compress('0') then p_use2=compress('1');
      else if compress(p_use1)=compress('1') then
p_use2=compress('0');
    end;
    if avisit='Day 3' THEN DO;
      if compress(p_use1)=compress('35 +/- 5 min') then
p_use2=compress('0');
    end;
  end;
  else if trtseqan = 4 then do;
    if avisit='Day 1' then do;
      if compress(p_use1)=compress('35 +/- 5 min') then
p_use2=compress('0');
    end;
    if avisit='Day 3' then do;
      if compress(p_use1)=compress('0') then p_use2=compress('1');
      else if compress(p_use1)=compress('1') then
p_use2=compress('0');
    end;
  end;

  drop p_use1;
  rename p_use2 = p_use1;
run;

proc sort data=alltest;
  by trtseqan avisitn avisit p_use1;
run;

proc sort data=alltest3;
  by trtseqan avisitn avisit p_use1;
run;

data alltest3a;
  merge alltest alltest3;
  by trtseqan avisitn avisit p_use1;

  if ths2_2m=. and ths2_2m_2 ne . then ths2_2m=ths2_2m_2;
  else if mcc=. and mcc_2 ne . then mcc=mcc_2;
  else if proddur=. and proddur_2 ne . then proddur=proddur_2;

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        drop ths2_2m_2 mcc_2 proddur_2;
run;

proc transpose data=alltest3a(where=(not missing(p_use1)))
out=alltest4(rename=(_name_=paramcd));
    by siteid trtseqan avisitn avisit p_use1;
    var mcc ths2_2m proddur;
run;

proc sort data=alltest4;
    by siteid paramcd avisitn avisit p_use1;
run;

proc transpose data=alltest4 out=all02(drop=_name_ _label_) prefix=_;
    by siteid paramcd avisitn avisit p_use1;
    var count;
    id trtseqan;
run;

data all;
    set all02;
    if missing(_1) then do;
        _1=0;
    end;
    if missing(_2) then do;
        _2=0;
    end;
    if missing(_3) then do;
        _3=0;
    end;
    if missing(_4) then do;
        _4=0;
    end;
    if missing(_5) then do;
        _5p=0;
    end;
    else _5p=_5;
    if missing(_5)and avisit in ('Day -1') then do;
        _5=0;
    end;

    overall=_1 + _2 + _3 + _4 + _5p;
run;

data totals;
    set adam.adsl(where=(saffl='Y' and trtsega not in (' 'Exposed not
randomized')));

    output;
    trtseqan=99;
    trtsega='Overall Safety';
    output;

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        keep trtseqa trtseqan subjidn siteid;
run;

proc freq data=totals noprint;
    tables trtseqan*trtseqa*siteid / out=totals2(drop=percent);
run;

data dummytrts;
    attrib trtseqa length=$200.
           trtseqan length=8.;

    trtseqa="THS 2.2 Menthol - mCC";
    trtseqan=1;
    output;
    trtseqa="mCC - THS 2.2 Menthol";
    trtseqan=2;
    output;
    trtseqa="THS 2.2 Menthol - NRT gum";
    trtseqan=3;
    output;
    trtseqa="NRT gum - THS 2.2 Menthol";
    trtseqan=4;
    output;
    trtseqa="Enrolled not randomized";
    trtseqan=5;
    output;
    trtseqa="Overall Safety";
    trtseqan=99;
    output;
run;

proc sort data=totals2;
    by trtseqan;
run;

data trt2a trt2b;
    merge dummytrts(in=b) totals2(in=a);
    by trtseqan;
    if a and b then output trt2a;
    if not a and b then output trt2b;
run;

data trt2;
    set trt2a trt2b;

    if count=. then count=0;

    siteid='AGE';
run;

data _null_;
    set trt2;

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        call symput('trt' || compress(put(trtseql, best.)),
compress(count));
run;

proc transpose data=trt2 out=trt3(drop=_name_ _label_) prefix=_tot;
    by siteid;
    var count;
    id trtseql;
run;

data all2;
    merge all trt3;
    by siteid;
run;

data all3;
    set all2;
    length p_use2 $20.;
    attrib p1 p2 p3 p4 p5 p99 length=$8.;

    n1=left(compress((put(_1,8.))));
    n2=left(compress((put(_2,8.))));
    n3=left(compress((put(_3,8.))));
    n4=left(compress((put(_4,8.))));
    n5=left(compress((put(_5,8.))));
    n99=left(compress((put(overall,8.))));

    if missing(n1) then n1='0';
    if missing(n2) then n2='0';
    if missing(n3) then n3='0';
    if missing(n4) then n4='0';
    if missing(n99) then n99='0';

    percent1=_1/_tot1*100;
    percent2=_2/_tot2*100;
    percent3=_3/_tot3*100;
    percent4=_4/_tot4*100;
    if _tot5 ne 0 then do;
        percent5=_5/_tot5*100;
    end;
    percent99=overall/_tot99*100;

    if percent1=100 then p1='(100 %)';
    else if percent1=0 or missing(percent1) then p1='';
    else if percent1 ge 10 then p1='( ' ||
left(compress(put(percent1,8.1))) || '%' );
    else if percent1 lt 10 then p1='( ' ||
left(compress(put(percent1,8.1))) || '%' );

    if percent2=100 then p2='(100 %)';
    else if percent2=0 or missing(percent2) then p2='';
    else if percent2 ge 10 then p2='( ' ||
left(compress(put(percent2,8.1))) || '%' );

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        else if percent2 lt 10 then p2='( ' ||
left(compress(put(percent2,8.1))) || '%' );

        if percent3=100 then p3='(100 %)';
        else if percent3=0 or missing(percent3) then p3='';
        else if percent3 ge 10 then p3='( ' ||
left(compress(put(percent3,8.1))) || '%' );
        else if percent3 lt 10 then p3='( ' ||
left(compress(put(percent3,8.1))) || '%' );

        if percent4=100 then p4='(100 %)';
        else if percent4=0 or missing(percent4) then p4='';
        else if percent4 ge 10 then p4='( ' ||
left(compress(put(percent4,8.1))) || '%' );
        else if percent4 lt 10 then p4='( ' ||
left(compress(put(percent4,8.1))) || '%' );

        if percent5=100 then p5='(100 %)';
        else if percent5=0 or missing(percent5) then p5='';
        else if percent5 ge 10 then p5='( ' ||
left(compress(put(percent5,8.1))) || '%' );
        else if percent5 lt 10 then p5='( ' ||
left(compress(put(percent5,8.1))) || '%' );

        if percent99=100 then p99='(100 %)';
        else if percent99=0 or missing(percent99) then p99='';
        else if percent99 ge 10 then p99='( ' ||
left(compress(put(percent99,8.1))) || '%' );
        else if percent99 lt 10 then p99='( ' ||
left(compress(put(percent99,8.1))) || '%' );

        p_use2=compbl(p_use1||" n (%)");

        if paramcd='MCC' and avisitn in (101 103) then do;
            n3='';
            n4='';
        end;
        else if paramcd='PRODDUR' and avisitn in (101 103) then do;
            n1='';
            n2='';
        end;
run;

proc sort data=all3;
    by avisitn paramcd p_use2;
run;

data all4;
    set all3;
        ATTRIB PRODUCT LENGTH=$50.; /* 1) JMH 24Sep2014 */

    if paramcd='PRODDUR' then do;
        product='NRT gum';
        paramn=2;
    end;

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        end;
    else if paramcd='THS2_2M' then do;
        product='THS 2.2 Menthol';
        paramn=1;
    end;
    else if paramcd='MCC' then do;
        product='mCC';
        paramn=3;
    end;

    if avisit in ('Day 1' 'Day 3') then n6='';
    if paramcd='MCC' and avisit='Day -1' then delete;

    if paramcd='PRODDUR' then do;
        if avisit='Day -1' and p_use2 in ('1 n (%)' '2 n (%)' '3 n (%)')
then delete;
        else if avisit='Day 1' and p_use2 in ('1 n (%)' '2 n (%)' '3 n
(%)') then delete;
        else if avisit='Day 3' AND P_USE2 IN ('1 n (%)' '2 n (%)' '3 n
(%)') then delete;
    end;
    else if paramcd='MCC' then do;
        if avisit='Day 1' and p_use2='35 +/- 5 min n (%)' then delete;
        else if avisit='Day 3' and p_use2='35 +/- 5 min n (%)' then
delete;
    end;
    else if paramcd='THS2_2M' then do;
        if avisit='Day -1' and p_use2='35 +/- 5 min n (%)' then delete;
        else if avisit='Day 1' and p_use2='35 +/- 5 min n (%)' then
delete;
        else if avisit='Day 3' and p_use2='35 +/- 5 min n (%)' then
delete;
    end;

run;

proc sort data=all4;
    by avisitn paramn;
run;

proc sql noprint;

create table table.t_15_02_02_01 as
select avisitn, avisit, paramn, product, p_use1, n1, n2, n3, n4, n5, n99,
p1, p2, p3, p4, p5, p99
from all4
order by avisitn, paramn, P_USE1; /* 2) JMH 24Sep2014 */

quit;

data paging;
    set all4;
    by avisitn paramn P_USE1 ; /* 2) JMH 24Sep2014 */

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flag=1;

    if avisitn=99 then avisit='Day -1';
    if first.avisitn or ln gt 6 then ln=1;
    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;
ods rtf toc_data/* contents*/
file="/cvn/projects/prj/data/000000106326/TFL/&TFL_Part./&tflno..rtf"
style=tl06326 startpage=yes headery=1440 footery=1440 ;
ods noproctitle;
%do i=1 %to &page;

title ;
footnote;
%let wd=0;
ods proclabel = ' ';

data comp;
    set paging end=eof;
    by avisitn paramn p_usel ;
    where page=&i;

    _firtitl="Table 15.2.2.1 Descriptive Statistics of Product Use -
Safety Population";
    _upcas=(length(_firtitl)-
length(compress(_firtitl,'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;

* most set up in template others below;

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* 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;
ods listing close;
proc report data = comp missing headline headskip nowd split = '#' %if
&i=1 %then %do; contents=' ' %end; %else %do; contents='' %end;;;
    column flag page avisitn ("Visit (Study Day)" avisit) ("Product"
paramn product) ("Product use" p_use2)
("Sequence &linebot." ("THS 2.2 Menthol#- mCC#(N=&trt1)" n1 p1) ("mCC -
#THS 2.2 Menthol#(N=&trt2)" n2 p2)
("THS 2.2 Menthol#- NRT gum#(N=&trt3)" n3 p3) ("NRT gum -#THS 2.2
Menthol#(N=&trt4)" n4 p4)
("Enrolled Not #Randomized#(N=&trt5)" n5 p5))
("Overall#Safety#(N=&trt99)" n99 p99);
    define flag          / order order=internal noprint;
    define page          / order order = internal noprint;
    define avisitn       / order order=internal noprint;
    define avisit        / group style={just=left cellwidth=2cm} "";
    define paramn        / order order=internal noprint;
    define PRODUCT       / group style={just=left cellwidth=2cm} "";
    define p_use2        / group style={just=left cellwidth=2cm} "";
    define n1            / display style={just=d cellwidth=1cm} "";
    define p1            / display style={just=center
cellwidth=1.5cm} "";
    define n2            / display style={just=d cellwidth=1cm} "";
    define p2            / display style={just=center
cellwidth=1.5cm} "";
    define n3            / display style={just=d cellwidth=1cm} "";
    define p3            / display style={just=center
cellwidth=1.5cm} "";
    define n4            / display style={just=d cellwidth=1cm} "";
    define p4            / display style={just=center
cellwidth=1.5cm} "";
    define n5            / display style={just=d cellwidth=1cm} "";
    define p5            / display style={just=center
cellwidth=1.5cm} "";
    define n99           / display style={just=d cellwidth=1cm} "";
    define p99           / display style={just=center cellwidth=1.5cm} "";

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

    break after page / page;

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

    compute after PRODUCT/style={just=left protectspecialchars=off};
        line "";
    endcomp;

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        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."};
        line 'Note: mCC = menthol conventional cigarettes; NRT gum =
Nicotine Replacement Therapy gum; THS = Tobacco Heating System.';
        line "Note: Enrolled Not Randomized refers to all subjects
enrolled but not randomized. Overall Safety refers to enrolled subjects
exposed to THS 2.2 Menthol or NRT gum.";
        line "Note: Percentages are based on the number of subjects
indicated in the column header (N).";
        LINE "Note: Product use for NRT gum = chewing duration;
Product use for mCC/THS = number of menthol cigarettes/THS Tobacco
Sticks.";
        line "";
        line "Appendix 15.3.2.1.1, 15.3.2.1.2, 15.3.2.1.3";
        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_02_01.lst" new;
run;

proc contents data = table.t_15_02_02_01 varnum;
run;
ods listing close;

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

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