

```

%_mprintto;
options notes nosource;
proc datasets lib=work nolist memtype=data kill; quit;
%put NOTE:
=====;
%put NOTE: Covance Study Number : 000000106324;
%put NOTE: Client Protocol ID   : ZRHR-REXC-03-EU;
%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_jhardman;
%put NOTE: Creation Date        : 2014-07-29;
%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: 01Aug2014  JMH        1) Amended rounding;
%put NOTE: 01Aug2014  JMH        2) Amended footnote;
%put NOTE: 29Aug2014  JMH        3) Amended format as per cleint
comments;
%put NOTE: 17Sep2014  JMH        4) Split data up by product day;
%put NOTE: 01Oct2014  JMH        5) Amended column header as per client
comments;
%put NOTE: 01Oct2014  JMH        6) Added stats for Day -2 as per
client comments;
%put NOTE: 02Oct2014  JMH        7) Amended update 6);
%put NOTE: 03Oct2014  JR         8) median rounded to correct dp;
%put NOTE: 03Oct2014  JR         9) stripped variables;
%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);

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%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 ;
*****;
/*pulling product test data*/
proc sort data=adam.addx(where = (saffl = 'Y' and enrlfl = 'Y' and not
missing(trtan))) out=addx(drop=avalu);
    by subjid param trtan;
run;

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

data exdx;
    set addx adex;
    if index(trta,'Enroll') then do;
        trtan=4;
        trta='Exposed not randomized';
    end;
run;

data ptest01;
    set exdx(where=(avisit='Day -2' and paramcd='THS2_2'));
    attrib occasion length=$40.;
    occasion='THS 2.2 Test';
    occnum=1;
run;

proc freq data=ptest01 (where=(not missing(trtan)));
    table usubjid*occnum*occasion*trtan*trta/ noprint out=ptest02
(drop=percent rename=(count=prod_uses));
run;

proc freq data=ptest02;
    table occnum*occasion*trtan*trta*prod_uses/ noprint
out=ptest03(drop=percent);
run;

proc sort data=ptest03;
    by occnum occasion prod_uses;
run;

proc transpose data=ptest03 out=ptest04 prefix=_;
    by occnum occasion prod_uses;
    id trtan;

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        idlabel trta;
        var count;
run;

data ptest05;
    set ptest04;
/*    usenum=put(prod_uses,best.)||' n (%)'; */
    USENUM=PUT(PROD_USES,BEST.); /* 3) JMH 29Aug2014 */
    if missing(_1) then _1=0;
    if missing(_2) then _2=0;
    if missing(_3) then _3=0;
    if missing(_4) then _4=0;
    _99=_1+_2+_3+_4;
    flag=1;
run;

/* Obtaining treatments */
data adsl;
    set adam.adsl;
    where saffl = 'Y' and enrfl = 'Y';
    attrib trta length=$200.;
    if missing(trt01a) then delete;
    if index(trt01a,'Enroll') then do;
        trt01a=4;
        trt01a='Exposed not randomized';
    end;
    trta=trt01a;
    trtan=trt01a;
    output;
    trtan=99;
    trta='Overall safety';
    output;
run;

data dumtrts;
    attrib trta length=$200.
           trtan length=8.;

    trta="THS 2.2";
    trtan=1;
    output;
    trta="CC";
    trtan=2;
    output;
    trta="SA";
    trtan=3;
    output;
    trta="Exposed not randomized";
    trtan=4;
    output;
    trta="Overall Safety";
    trtan=99;
    output;

```

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run;

proc freq data=adsl;
    table trta*trtan/ noprint out=trt(drop=percent);
run;

proc sort data=trt;
    by trtan;
run;

data trt2;
    merge dumtrts(in=b) trt(in=a);
    by trtan;
        if b and not a then do;
            count=0;
        end;
    call symput('trt' || compress(put(trtan,best.)), compress(count));
run;

proc transpose data=trt2 out=trt3(drop=_name_ _label_) prefix=total_;
    var count;
    id trtan;
    idlabel trta;
run;

data trt4;
    set trt3;
    flag=1;
run;

%macro percentalign(seq=, total=);
data seq&seq;
    merge trt4 ptest05;
    by flag;

    attrib p&seq n&seq length=$26.;

    if missing(&seq) then &seq=0;
    n&seq=left(compress((put(&seq,8.))));
    if missing(n&seq) then n&seq='0';
    percent&seq=&seq/&total*100;

    if percent&seq=100 then p&seq='(100 %)';
    else if percent&seq=0 or missing(percent&seq) then p&seq='';
    else if percent&seq ge 10 then p&seq='( ' ||
left(compress(put(percent&seq,8.1))) || '%)';
    else if percent&seq lt 10 then p&seq='( ' ||
left(compress(put(percent&seq,8.1))) || '%)';
    n&seq=compress(n&seq)||' '||left(p&seq);
    drop _: total: percent;;
run;

%mend;

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%percentalign(seq=_1, total=total_1);
%percentalign(seq=_2, total=total_2);
%percentalign(seq=_3, total=total_3);
%percentalign(seq=_4, total=total_4);
%percentalign(seq=_99, total=total_99);

data allseq;
    merge seq_1 seq_2 seq_3 seq_4 seq_99;
    by flag occasion usenum;
    drop p_;;
run;

/*pulling results for product use other than test*/

DATA ARM;
    SET ADAM.ADSL;
    KEEP USUBJID ARM ARMCD;
RUN;

PROC SORT DATA=EXDX; BY USUBJID; RUN;

data /*oth01*/OTH01_A; /* 4) JMH 17Sep2014 */
    /*set*/MERGE ARM exdx(where=(/*avisit ne 'Day -2' and*/ paramcd
in('DCC' 'DTHS2_2')) IN=A);
    BY USUBJID;
    IF A;
run;

/* 4) START JMH 17Sep2014 */
DATA OTH01_B(RENAME=(AVISIT1=AVISIT));
    SET OTH01_A;
    ATTRIB AVISIT1 LENGTH=$100.;
    /*Prior to Day 1, No subjects should have had THS 2.2 apart from at
Product Test*/
    IF AVISIT='Day -1' THEN AVISIT1='Day -1 - CC';
    ELSE IF AVISIT='Day 0' THEN AVISIT1='Day 0 - CC';
    ELSE IF AVISIT='Day -2' AND PARAMCD='DTHS2_2' THEN AVISIT1='Day -2
- THS 2.2'; /* 6) JMH 01Oct2014 */ /* 7) JMH 02Oct2014 */
    ELSE IF AVISIT='Day -2' AND PARAMCD='DCC' THEN DELETE; /* 7) JMH
02Oct2014 */

    /*For days post baseline, the planned product can be found from the
ARM*/
    IF AVISITN GT 100 THEN DO;
        AVISIT1=STRIP(AVISIT) || ' - ' || STRIP(ARMCD);
    END;
    DROP AVISIT;
RUN;

PROC SORT DATA=OTH01_B NODUPKEY OUT=DUMDDAYS(KEEP=TRTAN TRTA);
    BY TRTAN TRTA;
RUN;

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DATA DUMDAYS2;
    SET DUMDAYS;
    ATTRIB AVISIT LENGTH=$100.;
    DUMFLAG=1;
    AVISIT='Day -1 - THS 2.2';
    AVISITN=99;
    OUTPUT;
    AVISIT='Day 0 - THS 2.2';
    AVISITN=100;
    OUTPUT;
RUN;

DATA OTH01;
    SET OTH01_B DUMDAYS2;
RUN;

/* 4) END JMH 17Sep2014 */

proc sort data=oth01;
    by trtan trta avisitn avisit;
run;

proc univariate data=oth01 noprint;
    var aval;
    by trtan trta avisitn avisit;
    output out=oth02 n=n1 mean=mean1 std=std1 median=median1 min=min1
max=max1;
run;

proc sort data=oth01;
    by avisitn avisit;
run;

proc univariate data=oth01 noprint;
    var aval;
    by avisitn avisit;
    output out=totals01 n=n1 mean=mean1 std=std1 median=median1 min=min1
max=max1;
run;

data totals02;
    set totals01;
    trtan=99;
    trta='Overall Safety';
run;

data both01;
    set oth02 totals02;
    attrib occasion length=$40.;
/*    meanstd=left(trim(put(mean1,8.1)))||
('||compress(put(std1,8.2))||')');*/
    IF NOT MISSING(MEAN1) AND NOT MISSING(STD1) THEN MEANSTD =
LEFT(COMPRESS(PUT(ROUND(MEAN1,0.1),8.1))) || ' (' ||

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LEFT(COMPRESS(PUT(0.01*CEIL(STD1/0.01),8.2))) || ' '); /* 1) JMH 01Aug2014
*/ /* 4) JMH 17Sep2014 */
    if min1>10 then minmax=compress(min1)||', '||compress(max1);
    else IF NOT MISSING(MIN1) AND NOT MISSING(MAX1) THEN
minmax=compbl(min1)||', '||compress(max1); /* 4) JMH 17Sep2014 */
    if n1>10 then n=compress(put(n1,8.));
    else n=compbl(put(n1,8.));
    if median1>10 then median=compress(put(ROUND(median1,0.1),8.1)); /*
1) JMH 01Aug2014 */ /* 8) JR 03Oct2014 */
    else median=compbl(put(ROUND(median1,0.1),8.1)); /* 1) JMH
01Aug2014 */ /* 8) JR 03Oct2014 */
    if avisitn in(99 100) then do;
        occasion='Prior to randomization ';
        occnum=2;
    end;
    else if avisitn>100 then do;
        occasion='After randomization ';
        occnum=3;
    end;
/* 6) START JMH 01Oct2014 */
    ELSE IF AVISITN=98 THEN DO;
        OCCASION='THS 2.2 test';
        OCCNUM=1;
    END;
/* 6) END JMH 01Oct2014 */
    flag=1;
run;

proc sort data=both01;
    by occnum avisitn avisit;
run;

proc transpose data=both01 out=both02 prefix=n_;
    by occnum avisitn avisit occasion flag;
    var n meanstd median minmax;
    id trtan;
    idlabel trta;
run;

data all01;
    set allseq both02;
    by occnum flag;
    attrib statistic length=$40.;
    if _name_='N' then DO; statistic='n'; STATORD=1; END; /* 7) JMH
02Oct2014 */
    else if _name_='MEANSTD' then DO; statistic='Mean (SD)'; STATORD=2;
END; /* 7) JMH 02Oct2014 */
    else if _name_='MINMAX' then DO; statistic='Min, Max'; STATORD=4;
END; /* 2) JMH 02Oct2014 */
    else DO; statistic=propcase(_name_); STATORD=3; END; /* 7) JMH
02Oct2014 */
    occasion=tranwrd(upcase(substr(occasion,1,1))||lowercase(substr(occas
ion,2)), 'Ths', 'THS');

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        IF NOT MISSING(/*PROD_USES*/USENUM) THEN STATISTIC=' n (%)'; /* 3)
JMH 29Aug2014 */ /* 7) JMH 02Oct2014 */

/* If avisit='Day 0' then avisit='Day 0 baseline'; */ /* 4) JMH
17Sep2014 */

/* 4) start JMH 17Sep2014 */
    ARRAY A [5] N_1 N_2 N_3 N_4 N_99;
    DO I=1 TO 5;
        IF STATISTIC='n' THEN DO;
            IF MISSING(A[I]) THEN A[I] ='0';
        END;
    END;
/* 4) end JMH 17Sep2014 */
/* Start 9) JR 03Oct2014 */
    ARRAY B [5] N_1 N_2 N_3 N_4 N_99;
    DO I=1 TO 5;
        B[I]=STRIP(B[I]);
    END;
/* End 9) JR 03Oct2014 */
    IF AVISIT='Day -2 - THS 2.2' THEN PROD_USES=5; /* 7) JMH
02Oct2014 */
run;

proc sql noprint;

create table table.t_15_02_02_01 as
select occasion, avisit, usenum, statistic, n_1, n_2, n_3, n_4, n_99
from all01
order by occnum, PROD_USES, avisitn, AVISIT, STATORD; /* 4) JMH 17Sep2014
*/ /* 7) JMH 02Oct2014 */

quit;

data paging;
    set all01;
        by occnum PROD_USES avisitn AVISIT STATORD; /* 4) JMH 17Sep2014 */
/* 7) JMH 02Oct2014 */

    flag=1;

    if first.avisit/*n*/ and ln>8 then ln=1; /* 4) JMH 17Sep2014 */
    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;

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%macro outrtf(blankn=, halfblnk=);

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

ods path stdlib.t106324 (read) ;
ods results off;
ods rtf toc_data/* contents*/
file="/cvn/projects/prj/data/000000106324/TFL/&TFL_Part./&tflno..rtf"
style=t106324 startpage=yes headery=1440 footery=1440 ;
ods noproctitle;
%do i=1 %to &page;

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

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

    _firtitl="Table 15.2.2.1 Descriptive Statistics of Use of THS 2.2
Product and CC - 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;
    if not missing(usenum) then call symput('usenum',1);
    drop _firtitl _upcas len;
run;

* 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;
ods listing close;
proc report data = comp style(header)={just=center} missing headline
headskip nowd split = '#' %if &i=1 %then %do; contents=' ' %end; %else
%do; contents='' %end;;;
    column flag page occnum ("Occasion" occasion) AVISITN
    (/ "Visit#(Study Day)" */ "Study Day -#Product Use" avisit) /* ("Number
Uses" usenum) */ /* 5) JMH 01Oct2014 */ /* 6) JMH 01Oct2014 */

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("Number of Uses" usenum)
("Statistic" statistic) ("THS 2.2#(N=&trt1)" n_1) ("CC#(N=&trt2)" n_2) /*
3) JMH 29Aug2014 */
("SA#(N=&trt3)" n_3) ("Enrolled
Not #Randomized#(N=&trt4)" n_4)
("Overall#Safety#(N=&trt99)"
n_99);
define flag / order order=internal noprint;
define page / order order = internal noprint;
define occnum / order order = internal noprint;
DEFINE AVISITN / ORDER ORDER = INTERNAL NOPRINT; /* 6) JMH
01Oct2014 */
define avisit / group style={just=left
cellwidth=/*1.2*/2.2cm} ""; /* 4) JMH 17Sep2014 */
define occasion / group style={just=left cellwidth=/*3*/2cm}
""; /* 4) JMH 17Sep2014 */
%if &usenum=1 %then %do;
define usenum / style={just=C/*left*/
cellwidth=2cm}""; /* 3) JMH 29Aug2014 */
%end;
%else %do;
define usenum / noprint;
%end;
define statistic / style={just=left cellwidth=1.5cm} "";
define n_1 / display style={just=c cellwidth=2cm}
"";
define n_2 / display style={just=c cellwidth=2cm}
"";
define n_3 / display style={just=c cellwidth=2cm}
"";
define n_4 / display style={just=c cellwidth=2cm}
"";
define n_99 / display style={just=c cellwidth=2cm}
"";

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 avisit/style={just=left cellwidth=5cm
protectspecialchars=off};
line "";
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;

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        line "&linebot";
    endcomp;

    compute after _page_ / style={just=left protectspecialchars=off
pretext="&linetop."};
    line "Note: CC = Conventional cigarettes; SA = Smoking abstinence;
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.';
/*    line "Note: Percentages are based on the number of subjects
indicated in the column header (N).";*/
    line "Note: Percentages are based on the number of subjects indicated
in the column header (N)."; /* 2) JMH 01Aug2014 */
        line "";
        LINE "Appendix 15.3.2.1.1, 15.3.2.1.2";
        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 ;
*=====;

```