

```
/*=====
=====*
```

```
| Covance Study Number   : 000000106343          |
| Program Name           : t_avg_prduse_pp.sas      |
| Purpose                : 15.2.2.3.2 summary of Average Product use in Ambulatory Period -PP set
|
| Input Data             : ADAM.ADSL, ADAM.adex
|                         |
| Output Data            : T_15_02_02_03_02         |
| Macros Called          :                          |
| Originally Performed by :Sree Bikki              |
| Date                   : 11May2015                |
```

```
|
|                         |
|=====
=====|
```

```
| Modification History    |
|-----|
```

```
| Modified by            :                          |
```

```
| Modification Date      :
|                         |
```

```
| Modification Description :                          |
```

```
+=====
=====*/
```

```
proc datasets lib=work nolist memtype=data kill; quit;
```

```
options notes source source2 nofullstimer validvarname=upcase missing=' ';
```

```
%m_printto;
```

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

```
/* Standard - leave this */
```

```
data _null_;
```

```
    tmp("&TFL_Part";
```

```
        if tmp not in ("dev" "qc") then call symput("TFL_Part", "prod");
```

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

```
        call symput('TFLprg',reverse(scan(strip(reverse(compress("&_SASPROGRAMFILE", ""))),1,"/")));
```

```
run;
```

```
%let paramcd = "PDTHS2_2" ,"PDMCC", "PDCHWMKL" ,"PDCIGARS" ,"PDE_CIG", "PDGUMS", "PDINHAL",  
"PDLOZENG" ,"PDNASPR" ,"PDOTHNRT" ,"PDPATCHE" ,"PDPIPE" ,"PDOTHTOB";
```

```
data adex;
```

```
set adam.adex;
```

```
where paramcd in (&paramcd) and (PPROT2FL='Y' or PPROT3FL='Y' or PPROT4FL='Y') ;
```

```
paramcd1 = paramcd;
```

```
run;
```

```
%macro param (inds =, outds= );
```

```

data &outds;

set &inds;

if paramcd1 = "PDTHS2_2" then param = "THSm 2.2 Sticks";

if paramcd1 = "PDMCC" then param = "mCC/CC";

if paramcd1 = "PDCHWMKL" then param = "Chew/Smokeless Tob." ;

if paramcd1 = "PDCIGARS" then param = "Cigar/Cigarillo";

if paramcd1 = "PDE_CIG" then param = "E-Cigarette";

if paramcd1 = "PDGUMS" then param = "Gums";

if paramcd1 = "PDINHAL" then param = "Inhaler";

if paramcd1 = "PDLOZENG" then param = "Lozenges";

if paramcd1 = "PDNASPR" then param = "Nasal Spray";

if paramcd1 = "PDOTHNRT" then param = "Other NRT";

if paramcd1 = "PDPATCHE" then param = "Patches";

if paramcd1 = "PDPIPE" then param = "Pipes";

if paramcd1 = "PDOTHTOB" then param = "Tob. Not Listed";

run;

%mend param;

%param (inds = adex, outds = adex);

```

```

%macro trt(inds =, outds=);

data &outds;

set &inds;

```

```
if trtpn = 4 then do;
```

```
trt01p = 'THS';
```

```
trt01pn = 1;
```

```
end;
```

```
if trtpn = 5 then do;
```

```
trt01p = 'mcc';
```

```
trt01pn = 2;
```

```
end;
```

```
if trtpn = 3 then do;
```

```
trt01p = 'SA';
```

```
trt01pn = 3;
```

```
end;
```

```
run;
```

```
data &outds.0;
```

```
set &outds;
```

```
run;
```

```
proc sort data= &outds.0;
```

```
by usubjid;
```

```
run;
```

```
%mend trt;
```

```
%trt (inds = adex, outds = dm);
```

```
/*bign calculation for each period*/
```

```
data adsl(rename=(trt01pn=trtpn trt01p=trtp));
```

```
set adam.adsl;
```

```
where PPROT2FL='Y' or PPROT3FL='Y' or PPROT4FL='Y';
```

```
run;
```

```
data adsl1;
```

```
set adsl;
```

```
if trtpn = 4 then do;
```

```
trt01p = 'THS';
```

```
trt01pn = 1;
```

```
end;
```

```
if trtpn = 5 then do;
```

```
trt01p = 'mcc';
```

```
trt01pn = 2;
```

```
end;
```

```
if trtpn = 3 then do;
```

```
trt01p = 'SA';
```

```
trt01pn = 3;
```

```
end;
```

```
run;
```

```
proc sort data= adsl1;
```

```
by usubjid;
```

```
run;
```

```
proc sql;
```

```
select count(distinct usubjid) into: N2THS from adsl1(where=(trt01pn = 1 and pprot2fl = "Y"));
```

```
select count(distinct usubjid) into: N2MCC from adsl1(where=(trt01pn = 2 and pprot2fl = "Y"));
```

```
select count(distinct usubjid) into: N2SAA from adsl1(where=(trt01pn = 3 and pprot2fl = "Y"));
```

```
select count(distinct usubjid) into: N3THS from adsl1(where=(trt01pn = 1 and pprot3fl = "Y"));
```

```
select count(distinct usubjid) into: N3MCC from adsl1(where=(trt01pn = 2 and pprot3fl = "Y"));
```

```
select count(distinct usubjid) into: N3SAA from adsl1(where=(trt01pn = 3 and pprot3fl = "Y"));
```

```
select count(distinct usubjid) into: N4THS from adsl1(where=(trt01pn = 1 and pprot4fl = "Y"));
```

```
select count(distinct usubjid) into: N4MCC from adsl1(where=(trt01pn = 2 and pprot4fl = "Y"));
```

```
select count(distinct usubjid) into: N4SAA from adsl1(where=(trt01pn = 3 and pprot4fl = "Y"));
```

```
quit;
```

```
/* End of bign calculation for each period*/
```

```
data dummy;  
  
do ord = 1 to 3;  
  
do trt01pn = 1, 2, 3;  
  
do srt = 1 to 13;  
  
output;  
  
end;  
  
end;  
  
end;  
  
run;  
  
proc sort data= dummy;  
  
by srt ord trt01pn;  
  
run;
```

```
/*Stats calulation for each param and period*/
```

```
data dm1;  
  
set dm0;  
  
where aval ge 0;  
  
run;
```

```
%macro blocks( cond = , outds= , srt1 =, fin= );
```

```
data stat1 stat2 stat3;
```

```
set dm1;
```

```
if &cond and apuper =2 and pprot2fl = 'Y' then output stat1;
```

```
if &cond and apuper =3 and pprot3fl = 'Y' then output stat2;
```

```
if &cond and apuper =4 and pprot4fl = 'Y' then output stat3;
```

```
run;
```

```
data &outds ;
```

```
set stat1 stat2 stat3;
```

```
run;
```

```
proc sort data= &outds;
```

```
by trt01pn trt01p apuperc apuper param;
```

```
run;
```

```
proc means data=&outds noprint;
```

```
by trt01pn trt01p apuperc apuper param;
```

```
var aval;
```

```
output out=&outds._1 (drop=_type_ _freq_)n=smalln mean=mean std=std min=min  
max=max median=med lclm = lclm uclm = uclm;
```

```
run;
```

```
data &fin;
```



```

set &outds._1;

    if smalln = 0 then smalln = .;

    if not missing(lclm) then lclmx = 0.01*floor(100*lclm);

    if not missing(uclm) then uclmx = 0.01*ceil(100*uclm);

    if not missing(smalln) then do;

n=strip(put(smalln,best.));

end;

    if not missing(mean) and not missing(std) then do;

mean_sd=strip(put(round(mean, 0.01), 15.2))||" ("||strip(put(round(std, 0.001), 16.3))||")";

end;

    if not missing(med) then do;

median=strip(put(round(med, 0.01), 15.2));

end;

    if not missing(min) and not missing(max) then do;

min_max= strip(put(round(min, 0.1), 15.1))||", "||strip(put(round(max, 0.1), 15.1));

end;

    if not missing(lclmx) and not missing(uclmx) then do;

ci = strip(put(lclmx, 15.2))||", "||strip(put(uclmx, 15.2));

end;

    if apuper = 2 then ord =1;

```

```

        if apuper = 3 then ord =2;

        if apuper = 4 then ord =3;

        srt = &srt1;

                if smalln = . and n = " " and mean_sd = " " and median = " " and min_max = " "
and ci = " " then delete;

                drop mean med min max std lclmx uclmx lclm uclm apuper;

run;

proc sort data= &fin(rename=(apuperc = time param = product));
by srt ord trt01pn trt01p;

run;

%mend blocks;

%blocks(cond = ( paramcd1 ="PDTHS2_2"), outds= stat,srt1= 1, fin = statp1);
%blocks(cond = (paramcd1 ="PDMCC"), outds= stat,srt1= 2, fin = statp2);
%blocks(cond = ( paramcd1 ="PDCHWMKL"), outds= stat,srt1= 3, fin = statp3);
%blocks(cond = ( paramcd1 ="PDCIGARS"), outds= stat,srt1= 4, fin = statp4);
%blocks(cond = ( paramcd1 ="PDE_CIG"), outds= stat,srt1= 5, fin = statp5);
%blocks(cond = ( paramcd1 ="PDGUMS"), outds= stat,srt1= 6, fin = statp6);
%blocks(cond = ( paramcd1 ="PDINHAL"), outds= stat,srt1= 7, fin = statp7);
%blocks(cond = (paramcd1 ="PDLOZENG"), outds= stat,srt1= 8, fin = statp8);
%blocks(cond = (paramcd1 ="PDNASPR"), outds= stat,srt1= 9, fin = statp9);
%blocks(cond = (paramcd1 ="PDOTHNRT"), outds= stat,srt1= 10, fin = statp10);
%blocks(cond = ( paramcd1 ="PDPATCHE"), outds= stat,srt1= 11, fin = statp11);
%blocks(cond = (paramcd1 ="PDPIPE"), outds= stat,srt1= 12, fin = statp12);

```

```
%blocks(cond = ( paramcd1 ="PDOTHTOB"), outds= stat,srt1= 13, fin = statp13);
```

```
data stat_fin_1;  
set statp1 -statp13;  
run;
```

```
data stat_fin;  
set stat_fin_1;  
    if n = " " then n = "0";  
    if mean_sd = " " then mean_sd = "NA";  
    if min_max = " " then min_max ="0 , 0";  
    if median = " " then median = "0.0";  
    if ci = " " then ci = "NC, NC";  
run;
```

```
proc sort data=stat_fin;  
by srt ord trt01pn;  
run;
```

```
data stat_fin_all;

merge dummy (in=a) stat_fin;

by srt ord trt01pn;

if a;

if ord =1 then time = "Period 2";

if ord =2 then time = "Period 3";

if ord =3 then time = "Period 4";

if ord =4 then time = "Ambulatory";

if srt = 1 then product = "THSm 2.2 Sticks";

if srt = 2 then product = "mCC/CC";

if srt = 3 then product = "Chew/Smokeless Tob.";

if srt = 4 then product = "Cigar/Cigarillo";

if srt = 5 then product = "E-Cigarette";

if srt = 6 then product = "Gums";

if srt = 7 then product = "Inhaler";

if srt = 8 then product = "Lozenges";

if srt = 9 then product = "Nasal Spray";

if srt = 10 then product = "Other NRT";

if srt = 11 then product = "Patches";

if srt = 12 then product = "Pipes";

if srt = 13 then product = "Tob. Not Listed";

if trt01pn = 2 then trt01p = "mcc";

if trt01pn = 3 then trt01p = "SA";
```

```
if trt01pn = 1 then trt01p = "THS";
```

```
run;
```

```
data final;
```

```
set stat_fin_all;
```

```
if time = "Period 2" then do;
```

```
if trt01pn = 1 then bign = &n2ths;
```

```
else if trt01pn =2 then bign = &n2mcc;
```

```
else if trt01pn = 3 then bign = &n2saa;
```

```
end;
```

```
if time = "Period 3" then do;
```

```
if trt01pn = 1 then bign = &n3ths;
```

```
else if trt01pn =2 then bign = &n3mcc;
```

```
else if trt01pn = 3 then bign = &n3saa;
```

```
end;
```

```
if time = "Period 4" then do;
```

```
if trt01pn = 1 then bign = &n4ths;
```

```
else if trt01pn =2 then bign = &n4mcc;
```

```
else if trt01pn = 3 then bign = &n4saa;
```

```
end;
```

```
run;
```

```

data final_1;

set final;

if not missing(smalln) and not missing(bign) and smalln ne bign then do;

per1 = strip(put(smalln,best.)) || ' (' || strip(put(round((smalln/bign)* 100, 0.1), 5.1)) || ')';

end;

else if smalln = bign and not missing(smalln) and not missing(bign) then do;

per1 = strip(put(smalln,best.)) || ' (' || strip(put(round((smalln/bign)* 100, 0.1),best.)) || ')';

end;

else if smalln = . and bign = . then do;

per1 = " ";

end;

n= strip(put(smalln,best.));

bign1 = strip(put(bign,5.0));

run;

```

```

proc transpose data= final_1 out= final_tra prefix= trt;

by srt ord product time;

var bign1 per1 mean_sd median min_max ci;

id trt01pn;

run;

```

```

data final_2;

length term $200.;

```

```
set final_tra;

if _name_ = "BIGN1" then do;

subord = 0;

term = "N";

end;

else if _name_ = "PER1" then do;

subord = 1;

term = "n(%)";

end;

else if _name_ = "MEAN_SD" then do;

subord = 2;

term = "Mean (SD)";

end;

else if _name_ = "CI" then do;

subord = 3;

term = "95% CI";

end;

else if _name_ = "MEDIAN" then do;

subord = 4;

term = "Median";

end;

else if _name_ = "MIN_MAX" then do;

subord = 5;

term = "Min, Max";

end;
```

```
run;
```

```
proc sort data= final_2;
```

```
by srt ord subord term;
```

```
run;
```

```
proc sql;
```

```
create table test as
```

```
select distinct (product) from stat_fin;
```

```
quit;
```

```
proc sort data= final_2;
```

```
by product;
```

```
run;
```

```
data final_3;
```

```
merge final_2(in=a) test(in=b);
```

```
by product;
```

```
if b;
```

```
run;
```

```
data final_3;
```



```
set final_3;  
  
if subord= 1 then do;  
  
if trt1 = " " then trt1 = "0";  
  
if trt2 = " " then trt2 = "0";  
  
if trt3 = " " then trt3 = "0";  
  
end;  
  
run;
```

```
proc sort data= final_3;  
  
by srt ord subord term;  
  
run;
```

```
data page1;  
  
set final_3;  
  
by srt ord subord term;  
  
obs=_n_;  
  
page = ceil(obs/12);  
  
run;
```

```
proc sql;  
  
create table final_page as  
  
select distinct a.*, b.page  
  
from final_3 as a  
  
left join page1 as b
```

```
on a.srt = b.srt and a.ord = b.ord and a.subord = b.subord
```

```
order by srt, ord, subord;
```

```
quit;
```

```
data final_page;
```

```
set final_page end=last;
```

```
by srt ord subord;
```

```
if last then call symputx("page", page);
```

```
run;
```

```
%let tflno = %str(T_15_02_02_03_02);
```

```
data tflds.&tflno;
```

```
set final_page;
```

```
run;
```

```
%put &page;
```

```
/* Standard - leave this */
```

```
options number nodate orientation=landscape /* papersize=&P_PGSIZE*/ 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;
```

```
/* Standard - macro for paging */
```

```
%macro outrtf(blankn=130, halfblk=N);
```

```
%if &halfblk=N %then %let halfblk=;
```

```
%else %if &halfblk=Y %then %let halfblk=\~;
```

```
ods path stdlib.t106343 (read) ;
```

```
ods results off;
```

```
ods rtf toc_data/* contents*/
```

```
file="/cvn/projects/prj/data/000000106343/TFL/&TFL_Part./Tables/&tflno..rtf" style=t106343
```

```
startpage=yes headery=1440 footery=1440 ;
```

```
ods noproctitle;
```

```
%do i=1 %to &page;
```

```
title ;
```

```
footnote;
```

```
%let wd=0;
```

```
ods proclabel = ' ';
```

```
data comp;
```

```
set final_page end=eof;
```

```
where page=&i;
```

```

/* Amend title as needed */

_firtitl="Table 15.2.2.3.2 Summary of Average Daily Product Use in Ambulatory Period-
PP Set";

_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;

/* Update with your variables as needed */

```

proc report data = comp headline headskip nowd split = '$' %if &i=1 %then %do; contents=' ' %end;
%else %do; contents=" %end;;;

```

```

column page srt ord product time subord term trt1 trt2 trt3;

```

```

define page      / order order = internal noprint;

define srt       / order order = internal noprint;

define ord       / order order = internal noprint;

define product   / group "Product" style={just=left cellwidth=1.9cm} style(header)={just=left};

define time      /group "Product Use Time$Periods" style={just=left cellwidth=1.9cm}
style(header)={just=left} ;

define subord    / order order = internal noprint; ;

define term      /"Statistic" display style={JUST=l cellwidth=1.4cm}
style(header)={just=left} ;

define trt1      /"THSm2.2" display style={just=c cellwidth=1.4cm}
style(header)={just=center} ;

define trt2      /"mCC" display style={just=c cellwidth=1.4cm}
style(header)={just=center};

define trt3      /"SA" display style={JUST=c cellwidth=1.4cm}
style(header)={just=center};

break after page / page;

compute after ord;

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 "&linebot";

endcomp;


compute after _page_ / style={just=left protectspecialchars=off pretext="&linetop."};

line 'Note: mCC = Menthol Conventional cigarettes; SA = Smoking abstinence; THSm2.2
= Tobacco Heating System 2.2 Menthol.';

line 'Note: Ambulatory periods defined as Period 2 ([Day 6 ambulatory - Day 30 Visit]),
Period 3 ([Day 30 Visit - Day 60 Visit]) and Period 4 ([Day 60 Visit - Day 90 Visit]).';

line 'Note: Percentages are based on the number of subjects indicated in each product
use period (N).';

line 'Note: Tob. Not Listed refers to other tobacco products not previously listed.';

line 'Note: NC = Not calculated.';

line ' ';

line 'Appendix 15.3.2.1.3';

line "Study ID: ZRHM-REXA-08-US Program: &TFLprg Status: &status" &_blankn.*"\~\~"
"&sysdate" &_blankn.*"\~\~" "(Page &i of &page)";

endcomp;

run;

%end;

ods rtf close;

ods results on;

ods path sashelp.tmplmst (read);

```

```
%mend ;
```

```
%outrtf(blankn=36, halfblk=N);
```

```
ods listing;
```

```
%m_logchk2;
```