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/*=====
| Covance Study Number      : 000000106343      |
| Program Name              : f_pnic_pp.sas      |
| Purpose                   : Figure 15.1.2.1.1   |
| Input Data                : tfllds.t_15_02_04_19_01_f |
| Output Data              : F_15_01_02_01_01    |
| Macros Called             :                   |
| Originally Performed by   :Jyothsna Reddy      |
| Date                     : 13JUN2015          |
|=====
| Modification History
|-----
| Modified by              :                   |
| Modification Date       :                   |
| Modification Description :                   |
+=====*/

options replace;
proc datasets lib=work kill memtype=data nolist;
run;
%m_printto;
%let tflno=F_15_01_02_01_01;

/* Standard - leave this */
%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",""));
run;

%put &tflpath;
options notes source source2 nofullstimer validvarname=upcase
nonumber nodate orientation=portrait missing=' ';
ods graphics on; /* As we are effectively using ODS graphics we need to ensure that it is turned on */
ods graphics / height=12cm width=16cm noborder; /* Removes border around the image */
ods path reset;
/* please include styles template */
%include "/cvn/projects/prj/development/000000106343/dev/figures/figtplt.sas";
ods rtf toc_data file="/cvn/projects/prj/data/000000106343/TFL/dev/Tables/&tflno..rtf" style=t106343_g startpage=yes headery=1440 fo
otery=1440 ;

ods exclude all;

/*****/
data forest;
    set tfllds.t_15_02_04_19_01_f;
    if trtpN=5 then trtp="mCC";
    if trtpN=4 then trtp="THSm2.2";
    if trtpN=3 then trtp="SA";
    if not missing(trtp);
run;

proc sort data=forest out=forest1;
    by param;
run;

data dforest1(keep= param paramn APUPER APUPERC avisit1 trtpn trtp avisitn avisit mean lclm uclm gmean tpt);
format gmean 6.2;
length tpt 3 avisit1 8;
set forest1;
IF avisitn=100 THEN avisit1=0;
IF avisitn=98 THEN avisit1=0;
IF avisitn=10 THEN avisit1=0;
IF avisitn=101 THEN avisit1=1;
IF avisitn=102 THEN avisit1=2;
IF avisitn=103 THEN avisit1=3;
IF avisitn=104 THEN avisit1=4;
IF avisitn=105.7 THEN avisit1=5;else IF avisitn=105.11 THEN avisit1=5;else if int(avisitn)=105 then delete;
IF avisitn=130 THEN avisit1=6;
IF avisitn=160 THEN avisit1=7;
IF avisitn=190 THEN avisit1=8;
if int(avisitn)=106 then delete;
if not missing(lclm) then lclm = 0.1*floor(lclm/0.1);

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        if not missing(uclm) then uclm = 0.1*ceil(uclm/0.1);
    tpt=avisit1;
mean=round(mean,0.1);
    gmean=mean;IF AVISITN=99 THEN DELETE;
    if avisit1 ne . ;
        if apuper ne 1 and avisitn=10 then delete;

run;

/*Use a proc summary to find the maximum value of the Y axis which needs to be presented for the first plot*/
proc summary data=dforest1;
    by param;
    var uclm;
output out =axis1 max=max1 ;
run;
proc summary data=dforest1;
    by param ;
    var lclm;
output out =axis2 min=min1;
run;

data maxaxis1;
    merge axis1 axis2(drop=_type_ _freq_);
    by param ;
    max2=(ceil(max1));
    min2=floor(min1);
    /*Use mod 2 to ensure axis limit is an even number so the increment can be 2*/
    if mod(max2,2)=0 then max2=max2;
    else if mod(max2,2)=1 then max2=max2+1;

    if mod(min2,2)=0 then min2=min2;
    else if mod(min2,2)=1 then min2=min2-1;

    min=put(min2,best.);
    max=put(max2,best.);
    inc=put(ceil(max2/6),8.);
    keep param max min inc;
run;

data adbx3;
    merge dforest1 maxaxis1;
    by param ;
    if paramn=1 then par=1;
    else if paramn=2 then par=2;

    if paramn=2 then do;
        min="0";max="350";inc="50";
    end;
run;

PROC SQL;
CREATE TABLE ADBX3_X AS
SELECT PARAM, trtp, AVISIT, MEAN, lclm, uclm
FROM ADBX3;
QUIT;

PROC EXPORT DATA=ADBX3_X DBMS=XLSX OUTFILE="/cvn/projects/prj/data/000000106343/TFL/dev/Tables/&tfino...xlsx" REPLACE;
SHEET=Sheet1;

PROC FORMAT;
VALUE XAXIS
    4.5='1'
    9='2'
    13.5='3'
    18='4'
    22.5='5'
    45='30'
    67.5='60'
    90='90'
    0='Baseline'
;
RUN;

title;
footnote;
proc sort data=adbx3;

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by par;
data paging; /* paging is derived normally as with RTF type TFL */

    set adbx3 end=last;
    page = 1;

    if trtpn=3 then trtord=3;
else if trtpn=4 then trtord=1;
else if trtpn=5 then trtord=2;

    if tpt=1 then newvis=4.5;
else if tpt=2 then newvis=9;
else if tpt=3 then newvis=13.5;
else if tpt=4 then newvis=18;
else if tpt=5 then newvis=22.5;
else if tpt=6 then newvis=45;
else if tpt=7 then newvis=67.5;
else if tpt=8 then newvis=90;
else newvis=tpt;

run;

proc sort data=paging out=uniqpar nodupkey;by paramn;run;

data uniqpar;
    set uniqpar end=last;
    if last then pg=put(_n_,best.);
    call symput("maxpage", strip(pg));
run;
%put &maxpage;

%macro graph();
%do i=1 %to 1; /* paging can either be done through a do loop or multiple macro calls */
    %do j=1 %to &maxpage %by 1;

        data plot1;
            set paging;
        where par=&j;
        run;
proc sql noprint;
    select param into:param trimmed
        from plot1;
quit;
    data plot;
        set plot1;
        call symput("max1",max);
        call symput("min1",min);

        call symput("inc1",inc);

    run;
proc template;
    define statgraph splot ;
        begingraph ;
            layout overlay / border=false
                xaxisopts=(linearopts=(tickvalueulist=(0 4.5 9 13.5 18 22.5 45 67.5 90) TICKVALUEFITPOLICY=ROTATE)
                    label="Study Day")
                yaxisopts=(linearopts=(tickvaluesequence=(start=0 end=&max1 increment=&inc1)
                    viewmin=0 viewmax=&max1)
                    label="&param") cycleattrs=false;
                seriesplot x=newvis y=gmean / index=trtpn primary=true group=trtp display=(markers)
                    legendlabel="mean" name="series";
                scatterplot x=newvis y=gmean / index=trtpn group=trtp yerrorlower=lclm yerrorupper=uclm
                    legendlabel="mean" name="scatter" ;
                discretelegend "series";
            endlayout;

        endgraph;
    end;
run;
ods select all;

    ODS ESCAPECHAR='^';
    ODS RTF PREPAGE="^S={outputwidth=100% just=1 font_size=12pt font_weight=bold background=white foreground=black font_face=arial}^R/RT
    F'\QL' Figure 15.1.2.1.1 Plasma Nicotine and Cotinine Profile (ng/mL) Geometric Mean and 95% CI â€ PP Set";
    ods rtf style=t106343_g;

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proc sort data=plot; by trtord;run;

proc sgrender data=plot template=splot; /* applies the above template to the specified data */
FORMAT newvis XAXIS.;
run;

ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF'\QL' Note: Baseline
is summarized using the baseline data from the PP Set for Period 1.";
ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF'\QL' Note: Evening
result is presented for Day 5.";
ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF'\QL' Note: mCC = Me
nthol conventional cigarettes; SA = Smoking abstinence; THSm2.2 = Tobacco Heating System 2.2 Menthol.";

ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF'\QL' Note: Baseline
is the last assessment prior to first product use in mCC/THS 2.2 arms on Day 1 or last assessment prior to 10:00 AM in SA a

ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF'\QL'";
ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF'\QL' Appendix 15.2.
4.19.1";
ODS RTF TEXT="^S={outputwidth=100% just=1 font_size=9pt background=white foreground=black font_face=arial}^R/RTF'\QL' Study ID: ZRHM
-REXA-08-US Program: f_pnic_pp.sas &sysdate Status: &status. (Page &j of &maxpage)";

%end;
%end;
%mend graph;
%graph;

ods _all_ close;
ods graphics / reset;
%m_logchk;

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