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%_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        : f_cohb2.sas;
%put NOTE: Purpose              : Figure of blood COHb Group-2;
%put NOTE: ;
%put NOTE: Input Data           : ADAM.ADBX;
%put NOTE: Output               : f_15_1_2_6_2(cohb);
%put NOTE: Macros Called        : _MPRINTTO;
%put NOTE: ;
%put NOTE: Programmed by        : cvn_jhardman;
%put NOTE: Creation Date        : 2014-04-17;
%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: 06Jun2014  JR         1) Amended as per MW comment;
%put NOTE: 12Aug2014  JMH        2) Applied formatting updates to be
consistent with PK-02;
%put NOTE: 14Aug2014  JMH        3) Added proc printto;
%put NOTE: 22Sept14   CK         4) Output excel file ;
%put NOTE: 22Sept14   CK         5) move title and footnotes outside
graph;
%put NOTE:
=====;
options notes source source2 nofullstimer validvarname=upcase missing='
';
ods _all_ close;
ods listing;

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

/* Standard - just change the number to match the listing you're working
on. Also change the letters in the*/
/* bracket, eg ccb = current cigarette brands. Make sure to do this at
the top of the code too. */
%let tflno=F_15_01_02_06_02(cohb);

/* Standard - leave this */

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%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;

/* Example of basic GTL syntax */
ods _all_ close;
%let temp=/cvn/projects/prj/development/000000106326/dev/macro/;

/* Ensure ODS listing, html etc is turned off to prevent */
/* temporary or junk image files being produced */
options notes source source2 nofullstimer validvarname=upcase
nonumber nodate orientation=portrait papersize=&p_pgsz 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 "&temp.figtmpplt.sas";

ods rtf toc_data
file="/cvn/projects/prj/data/000000106326/TFL/&TFL_Part/&tflno..rtf"
style=t106326_g startpage=yes headery=1440 footery=1440 ;

ods exclude all;

proc sort data = adam.adbx(where=(analgr1 = "Group-2" and paramcd =
"CARBXHGB" and anl02fl='Y' and pprotfl='Y')) out = coh01;
    by param avalu trtan trta atptn atpt;
run;

data gmean;
    set coh01;
    statval=aval;
    ln_statval=log(statval);
run;

proc means data=gmean alpha=0.05 noprint;
    output out=gmean1 mean=mean std=std1 lclm=lci1 uclm=uci1;
    var ln_statval;
    by param avalu trtan trta atptn atpt;
run;

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data gmean2;
  set gmean1;
  gmean=exp(mean);
  lclm=exp(lci1);
  uclm=exp(uci1);
  keep param avalu trtan trta atptn atpt gmean lclm uclm;
run;

data coh03;
  set gmean2;

  attrib tpt label = "Time post-product (h)" format = best.;

  if atpt = "15 min < T0" then tpt = -0.25/*0*/; /* 2) JMH 12Aug2014 */
  else if atpt = "T0 + 15 min" then tpt = 0.25 /*2*/; /* 2) JMH
12Aug2014 */
  else if atpt = "T0 + 60 min" then tpt = 1 /*4*/; /* 2) JMH 12Aug2014
*/
  else if atpt = "T0 + 4 h" then tpt = 4 /*6*/; /* 2) JMH 12Aug2014 */
  else if atpt = "T0 + 12 h" then tpt = 12 /*8*/; /* 2) JMH 12Aug2014
*/
  else put "WAR" "NING: Unexpected value " atpt=;

run;

proc format;
  value xaxis /* 2) start JMH 12Aug2014 */
    /*0*/-0.25="15 min < T0"
    /*2*/0.25="T0 + 15 min"
    /*4*/1="T0 + 60 min"
    /*6*/4="T0 + 4 h"
    /*8*/12="T0 + 12 h";
  /* 2) end JMH 12Aug2014 */
run;

/* 4) START CK 122ep2014 */
PROC SQL;
CREATE TABLE COHB04 AS
SELECT PARAM, TRTA, ATPT, GMEAN, LCLM, UCLM
FROM COHB03;
QUIT;

PROC EXPORT
DATA=COHB04
DBMS=XLSX
OUTFILE="/cvn/projects/prj/data/000000106326/TFL/&TFL_Part./&tflno..xlsx"
REPLACE;
SHEET=Sheet1;
/* 4) END CK 22Sep2014 */

title;
footnote;

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

    set coh03 end=last;
    page = 1;
    if last then call symput("maxpage", compress(page));

run;

%macro graph();

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

    data plot;
        set paging;
        where page = &i;
        call symput("unit",strip(avalu));
    run;

    proc template;
        define statgraph splot /store = work.templat;
            begingraph /;
                /* 5) CK 22Sept14 */
/*          entrytitle halign=left "Figure 15.1.2.6.2 Blood COHB
(&unit) Profiles Geometric Mean and 95% CI - Group-2 PK Population" /*;*/
/*          entrytitle halign=left "Figure 15.1.2.6.2 Blood COHb (&unit)
Profiles Geometric Mean and 95% CI - Group-2 PK Population" /*; */ /*1) JR
06Jun2014 */
/*          entrytitle halign=left " " /*; */
            layout overlay / border=false
xaxisopts=(linearopts=(/*tickvaluesequence=(start=0 end=8 increment=2)*/
TICKVALUEFITPOLICY=ROTATE TICKVALUELIST=(-0.25 0.25 1 4 12)) label="Time
post-product (h)") /* 2) JMH 12Aug2014 */

        yaxisopts=(linearopts=(tickvaluesequence=(start=0 end=4
increment=1) viewmin=0 viewmax=4) label="Blood COHb (&unit)")
cycleattrs=false;
            seriesplot x=tpt y=gmean / index=trtan primary=true
group=trta display=(markers) legendlabel="mean" name="series";
                /*referenceline y=0.5 / ;*/ /*This would be the BLOQ
value*/
            scatterplot x=tpt y=gmean / index=trtan group=trta
yerrorlower=lclm yerrorupper=uclm
                legendlabel="mean" name="scatter" ;
                discretelegend "series";
            endlayout;
            /* footnotes work using the same option as the entrytitle
statement */
/*          entryfootnote halign=left " "; */
/*          entryfootnote halign=left "Note: NRT = Nicotine
replacement therapy gum; THS = Tobacco Heating System.";*/

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/*          ENTRYFOOTNOTE HALIGN=LEFT "Note: NRT gum = Nicotine
Replacement Therapy gum; THS = Tobacco Heating System."; */ /* 2) JMH
12Aug2014 */
/*          entryfootnote halign=left " "; */
/*          entryfootnote halign=left "Appendix 15.2.4.8.1,
15.3.3.4";*/
/*          ENTRYFOOTNOTE HALIGN=LEFT "Appendix 15.2.4.8.1"; */ /*
2) JMH 12Aug2014 */
/*          entryfootnote halign=left "Path: &TFLpath."
halign=right "(Page &i of &maxpage)"; */
/*          entryfootnote halign=left "Program Run: &sysdate
&sysuserid   Program Status: &status"; */
          endgraph;
      end;
  run;

  ods select all;
  /* 5) START CK 22Sep2014 */
  ODS ESCAPECHAR='^';
  ODS RTF PREPAGE="^S={outputwidth=100% just=l font_size=12pt
font_weight=bold background=white foreground=black
font_face=arial}^R/RTF'\QL' Figure 15.1.2.6.2 Blood COHb (&unit) Profiles
Geometric Mean and 95% CI - Group-2 PK Population";
  /* 5) END CK 22Sep2014 */

  proc sgrender data=plot template=plot; /* applies the above
template to the specified data */
      format tpt xaxis.;
  run;

  /* 5) START CK 22Sep2014 */
  ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL'";
  ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Note: NRT gum= Nicotine
Replacement Therapy gum; THS = Tobacco Heating System.";
  ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL'";
  ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Appendix 15.2.4.8.1";
  ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Path: &TFLpath.
(Page &i of &maxpage)";
  ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white
foreground=black font_face=arial}^R/RTF'\QL' Program Run: &sysdate
&sysuserid   Program Status: &status";
  /* 5) END CK 22Sep2014 */

%end;
%mend graph;
%graph;
PROC PRINTTO; RUN; /* 3) JMH 14Aug2014 */

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ods exclude all;  
ods _all_ close;  
ods graphics / reset;
```