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/*****
** STUDY ID : 000000106343
**
** PROGRAM NAME : t_wt_wc_bmi.sas
**
** DATE : 29May2015
**
** PROGRAMMER : cvn_aramasah
**
** PURPOSE : QC the table Summary of weight, waist circumference and bmi results - safety population (t_15_2_6_24)
**
** INPUT DATA : ADAM.ADSL, ADAM.ADVS
**
** OUTPUT DATA :
**
** SAS MACROS USED :
**
** MODIFICATIONS : DATE : MODIFIED BY : NOTES :
**
**-----**
** PROGRAMMED USING SAS VERSION 9.3 **
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**-----**/
options notes source source2 nofullstimer validvarname=upcase missing=' ';
ods _all_ close;
ods listing;
%m_printto;
options notes nosource;
proc datasets lib=work nolist memtype=data kill; quit;

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

%let tflno=T_15_02_06_24;
%let TFLprg=t_wt_wc_bmi.sas;
%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 ;
*****;

/*Use ADSL to get N numbers for column headers*/
data adsl;
    set adam.adsl;
    if trt01a='THSm2.2' then trt01an=1;
    if trt01a='mCC' then trt01an=2;
    if trt01a='SA' then trt01an=3;
    where safaf1 = 'Y';
    if index(trt01a,'Exposed') then delete;
    output;
    trt01an=99;
    trt01a='Overall Safety';
    output;
run;

proc freq data=adsl noprint;
    table trt01an*trt01a/ out =tot(drop=percent);
run;

data dumtrts; /*Use this to output any columns for which N=0*/
    attrib trt01a length =$40. trt01an length=8.;
    trt01an=1;
    trt01a='THSm2.2';
    output;
    trt01an=2;
    trt01a='mCC';
    output;
    trt01an=3;
    trt01a='SA';

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output;
trt01an=99;
trt01a='Overall Safety';
output;
run;

data tot2;
merge tot(in=a) dumtrts(in=b);
by trt01an trt01a;
if a or b;
if b and not a then count=0;
call symput('trt' || compress(put(trt01an,best.)), compress(put(count,best.)));
run;

/*Bring in appropriate data from ADVS*/
data advs;
set adam.advs;
if paramn in (14, 15, 16, 26);
if ABLFL='Y' then do; avisitn=100; avisit='Baseline'; ANL01FL='Y';end;
if trta='THSm2.2' then trtan=1;
if trta='mCC' then trtan=2;
if trta='SA' then trtan=3;
where safaf1 = 'Y' and anl01fl='Y';
/* where safaf1 = 'Y'; */
if missing(trta) then delete;
if index(trta,'Exposed') then delete;
output;
trtan=99;
trta='Overall Safety';
output;
run;

/* for baseline */
data ABLFL;
set adam.advs;
if paramn in (14, 15, 16, 26);
where ablfl='Y' and safaf1='Y';
basedate=vsdtc;
if ablfl='Y' then do; avisitn=100; avisit='Baseline'; end;
if trta='THSm2.2' then trtan=1;
if trta='mCC' then trtan=2;
if trta='SA' then trtan=3;
output;
trtan=99;
trta='Overall Safety';
output;
keep usubjid basedate paramcd trta trtan ;
run;

proc sort data=advs;
by usubjid paramcd trtan trta;
proc sort data=ablfl;
by usubjid paramcd trtan trta;
run;

data advs_advs;
merge advs ablfl;
by usubjid paramcd trtan trta;
run;

data advs_;
set advs_advs;
if index((avisit), 'Unscheduled') gt 0 then delete;
/* if index((avisit), 'Unscheduled') gt 0 and paramn ne 22 then delete;*/
/* if anl01fl='Y' and vsdtc ge basedate and paramn ne 22 or paramn=22;*/
run;

data advs_orig;
set advs_;
if ablfl='Y' then do; avisitn=100; avisit='Baseline'; end;
if avisit ne 'Baseline' and avisitn lt 101 then delete; /*Only want baseline and days of the study*/
else if avisitn=100 then ord=0; /*Baseline*/
else if avisitn=100.01 then ord=0.1; /*Unscheduled 100.01*/
else if avisitn=101 then ord=1; /*Day 1*/
else if avisitn=101.01 then ord=1.1; /*Unscheduled 101.01*/
else if avisitn=102 then ord=2; /*Day 2*/
else if avisitn=102.01 then ord=2.1; /*Unscheduled 102.01*/
else if avisitn=103 then ord=3; /*Day 3*/
else if avisitn=103.01 then ord=3.1; /*Unscheduled 103.01*/

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else if avisitn=104 then ord=4; /*Day 4*/
else if avisitn=104.01 then ord=4.1; /*Unscheduled 104.01*/
else if avisitn=104.02 then ord=4.2; /*Unscheduled 104.02*/
else if avisitn=105 then ord=5; /*Day 5*/
else if avisitn=105.01 then ord=5.1; /*Unscheduled 105.01*/
else if avisitn=106 then ord=6; /*Discharge confinement*/
else if avisitn=106.01 then ord=6.1; /*Unscheduled 106.01*/
else if avisitn=121 then ord=7; /*Day 21*/
else if avisitn=130 then ord=8; /*Day 30*/
else if avisitn=130.01 then ord=8.1; /*Unscheduled 130.01*/
else if avisitn=131.01 then ord=9; /*Unscheduled 131.01*/
else if avisitn=160 then ord=10; /*Day 60*/
else if avisitn=160.01 then ord=10.1; /*Unscheduled 160.01*/
else if avisitn=190.01 then ord=11; /*Unscheduled 190.01*/
else if avisitn=191 then ord=12; /*Discharge ambulatory*/
else if avisitn=191.01 then ord=12.1; /*Unscheduled 191.01*/
else put "WA" "RNING: Unexpected avisitn " usubjid= avisitn;
statval=aval;
if avisitn gt 100 and asper not in (2 3 4) then delete; /* ASPER is for "safety period: randomized period", this is for only post b
aseline */
run;

data advs_chg;
set advs_(where=(avisitn in(101 101.01 102 102.01 103 103.01 104 104.01 104.02 105 105.01 106 106.01 121 130 130.01 131.01 160 160.
01 190.01 191 191.01))); /*Only keep days after baseline*/
if avisitn=101 then ord=1; /*Change from Baseline to Day 1*/
else if avisitn=101.01 then ord=1.1; /*Change from Baseline to Unscheduled 101.01*/
else if avisitn=102 then ord=2; /*Change from Baseline to Day 2*/
else if avisitn=102.01 then ord=2.1; /*Change from Baseline to Unscheduled 102.01*/
else if avisitn=103 then ord=3; /*Change from Baseline to Day 3*/
else if avisitn=103.01 then ord=3.1; /*Change from Baseline to Unscheduled 103.01*/
else if avisitn=104 then ord=4; /*Change from Baseline to Day 4*/
else if avisitn=104.01 then ord=4.1; /*Change from Baseline to Unscheduled 104.01*/
else if avisitn=104.02 then ord=4.2; /*Change from Baseline to Unscheduled 104.02*/
else if avisitn=105 then ord=5; /*Change from Baseline to Day 5*/
else if avisitn=105.01 then ord=5.1; /*Change from Baseline to Unscheduled 105.01*/
else if avisitn=106 then ord=6; /*Change from Baseline to Discharge confinement*/
else if avisitn=106.01 then ord=6.1; /*Change from Baseline to Unscheduled 106.01*/
else if avisitn=121 then ord=7; /*Change from Baseline to Day 21*/
else if avisitn=130 then ord=8; /*Change from Baseline to Day 30*/
else if avisitn=130.01 then ord=8.1; /*Change from Baseline to Unscheduled 130.01*/
else if avisitn=131.01 then ord=9; /*Change from Baseline to Unscheduled 131.01*/
else if avisitn=160 then ord=10; /*Change from Baseline to Day 60*/
else if avisitn=160.01 then ord=10.1; /*Change from Baseline to Unscheduled 160.01*/
else if avisitn=190.01 then ord=11; /*Change from Baseline to Unscheduled 190.01*/
else if avisitn=191 then ord=12; /*Change from Baseline to Discharge ambulatory*/
else if avisitn=191.01 then ord=12.1; /*Change from Baseline to Unscheduled 191.01*/
else put "WA" "RNING: Unexpected avisitn " usubjid= avisitn;
statval=chg;
if avisitn gt 100 and asper not in (2 3 4) then delete; /* ASPER is for "safety period: randomized period", this is for only post b
aseline */
run;

/*Transpose for raw values*/
proc sort data=advs_orig;
by trtan trta paramn ord param avalu avisit;
run;

proc univariate data=advs_orig /*(where=(paramn ne 22))*/ noprint;
var statval;
by trtan trta paramn ord param avalu avisit;
output out=results01_orig n=n1o mean=mean1o std=std1o median=med1o min=min1o max=max1o;
run;

/* orig BMI categorical, will be combined at the end*/

proc freq data=advs_orig (where=((paramn=16) and avisitn=100)) noprint;
tables trtan*trta*paramn*param*avisitn*avisit*ord*avalcat1/out=bmi_cat_orig;
run;

proc sort data=bmi_cat_orig;
by paramn param avisitn avisit ord avalcat1;
run;

proc transpose data=bmi_cat_orig out=bmi_orig;
by paramn param avisitn avisit ord avalcat1;
id trta;
var count;

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run;

data bmi_orig;
set bmi_orig;
ths=strip(put(thsm2_2,best.))||' ('|| strip(put((thsm2_2&trt1.)*100,5.1))||'%)';
cc=strip(put(mcc,best.))||' ('|| strip(put((mcc&trt2.)*100,5.1))||'%)';
sa=strip(put(sa,best.))||' ('|| strip(put((sa&trt3.)*100,5.1))||'%)';
all=strip(put(OVERALL_SAFETY,best.))||' ('|| strip(put((OVERALL_SAFETY&trt99.)*100,5.1))||'%)';
run;

data bmi_dummy;
length avalcat1 avisit $40.;
avalcat1='Underweight';
avisit='Baseline';
avisitn=100;
ord=0;
output;
run;

proc sort data=bmi_orig;
by avisitn ord avisit avalcat1;
proc sort data=bmi_dummy;
by avisitn ord avisit avalcat1;
run;

data bmi_orig;
merge bmi_orig bmi_dummy;
by avisitn ord avisit avalcat1;
param='Body Mass Index';
paramn=16;
if ths='' then ths='0';
if cc='' then cc='0';
if sa='' then sa='0';
if all='' then all='0';
run;

/*Transpose for change from baseline values*/
proc sort data=advs_chg;
by trtan trta paramn ord param avalu avisit;
run;

proc univariate data=advs_chg /*(where=(paramn ne 22))*/ noprint;
var statval;
by trtan trta paramn ord param avalu avisit;
output out=results01_chg n=n1c mean=mean1c std=std1c median=med1c min=min1c max=max1c;
run;

/* change BMI categorical, will be combined at the end*/
proc freq data=advs_chg (where=(paramn=16)) noprint;
tables trtan*trta*paramn*param*avisitn*avisit*ord*avalcat1/out=bmi_cat_chg;
run;

proc sort data=bmi_cat_chg;
by paramn param avisitn avisit ord avalcat1;
run;

proc transpose data=bmi_cat_chg out=bmi_chg;
by paramn param avisitn avisit ord avalcat1;
id trta;
var count;
run;

data bmi_chg;
set bmi_chg;
ths=strip(put(thsm2_2,best.))||' ('|| strip(put((thsm2_2&trt1.)*100,5.1))||'%)';
cc=strip(put(mcc,best.))||' ('|| strip(put((mcc&trt2.)*100,5.1))||'%)';
sa=strip(put(sa,best.))||' ('|| strip(put((sa&trt3.)*100,5.1))||'%)';
all=strip(put(OVERALL_SAFETY,best.))||' ('|| strip(put((OVERALL_SAFETY&trt99.)*100,5.1))||'%)';

run;

data bmi_dummy_chg;
length avalcat1 avisit $40.;
avalcat1='Underweight';
avisit='Day 6/Discharge Confinement';
avisitn=106;
ord=6;

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output;
avalcat1='Underweight';
avisit='Day 30';
avisitn=130;
ord=8;
output;
avalcat1='Underweight';
avisit='Day 60';
avisitn=160;
ord=10;
output;
avalcat1='Underweight';
avisit='Day 91/Discharge Ambulatory';
avisitn=191;
ord=12;
output;
run;

proc sort data=bmi_chg;
  by avisitn ord avisit avalcat1;
proc sort data=bmi_dummy_chg;
  by avisitn ord avisit avalcat1;
run;

data bmi_chg;
merge bmi_chg bmi_dummy_chg;
  by avisitn ord avisit avalcat1;
  param='Body Mass Index';
  paramn=16;
  if ths='' then ths='0';
  if cc='' then cc='0';
  if sa='' then sa='0';
  if all='' then all='0';
run;

data results01;
merge results01_orig results01_chg;
  by trtan trta paramn ord param avalu avisit;
run;

data results02;
set results01;
attrib meano length=$10.
      mino length=$15.
      no length=$10.
      mediano length=$10.
      stdo length=$10.;
/*      maxo length=$10.;*/

attrib meanc length=$10.
      minc length=$15.
      nc length=$10.
      medianc length=$10.
      stdc length=$10.;
/*      maxc length=$10.;*/

if (param) ne 'Waist Circumference' then do;
  if not missing(n1o) then no = left(compress(put(n1o,8.))); else no='0';
  if not missing(med1o) then mediano = left(compress(put(round(med1o,0.01),6.2)));
  if not missing(mean1o) then meano = left(compress(put(round(mean1o,0.01),6.2)));
  if not missing(std1o) then stdo = '('||left(compress(put(0.001*ceil(std1o/0.001),8.3)))||')';
  if not missing(min1o) and not missing(max1o) then mino = left(compress(put(round(min1o,0.1),5.1)))||', '||left(compress(put(round(max1o,0.1),5.1)));
/*  if not missing(max1o) then maxo = left(compress(put(round(max1o,0.1),5.1))); */

  if not missing(n1c) then nc= left(compress(put(n1c,8.))); else nc='0';
  if not missing(med1c) then medianc = left(compress(put(round(med1c,0.01),6.2)));
  if not missing(mean1c) then meanc = left(compress(put(round(mean1c,0.01),6.2)));
  if not missing(std1c) then stdc = '('||left(compress(put(0.001*ceil(std1c/0.001),8.3)))||')';
  if not missing(min1c) and not missing(max1c) then minc = left(compress(put(round(min1c,0.1),5.1)))||', '||left(compress(put(round(max1c,0.1),5.1)));
/*  if not missing(max1c) then maxc = left(compress(put(round(max1c,0.1),5.1))); */
end;
else do;
  if not missing(n1o) then no = left(compress(put(n1o,8.))); else no='0';
  if not missing(med1o) then mediano = left(compress(put(round(med1o,0.1),5.1)));
  if not missing(mean1o) then meano = left(compress(put(round(mean1o,0.1),5.1)));
  if not missing(std1o) then stdo = '('||left(compress(put(0.01*ceil(std1o/0.01),8.2)))||')';
  if not missing(min1o) and not missing(max1o) then mino = left(compress(put(min1o,8.)))||', '||left(compress(put(max1o,8.)));

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/* if not missing(max1o) then maxo = left(compress(put(max1o,8.))); */

    if not missing(n1c) then nc= left(compress(put(n1c,8.))); else nc='0';
    if not missing(med1c) then medianc = left(compress(put(round(med1c,0.1),5.1)));
    if not missing(mean1c) then meanc = left(compress(put(round(mean1c,0.1),5.1)));
    if not missing(std1c) then stdc = '('||left(compress(put(0.01*ceil(std1c/0.01),8.2)))||')';
    if not missing(min1c) and not missing(max1c) then minc = left(compress(put(min1c,8.)))||', '||left(compress(put(max1c,8.)));
/* if not missing(max1c) then maxc = left(compress(put(max1c,8.))); */
end;
drop n1o mean1o std1o med1o min1o max1o n1c mean1c std1c med1c min1c max1c;

run;

data results03; /*Create text as required in output*/
set results02;
attrib paramc length = $100.
        visit length = $100.;

/* if avalu='BREATHS/MIN' then avalu=tranwrd(avalu,'/','/$n'); */

*if paramn=1 then paramc=strip(param)||' ('||strip(avalu)|| ')';
*else if paramn=2 then paramc=strip(param)||' ('||strip(avalu)||')';
*else if paramn=3 then paramc=strip(param)||' ('||strip((avalu))||')'; /* 2) JMH 15Jul2014 */
*else if paramn=4 then paramc=strip(param)||' ('||strip((avalu))|| ')'; /* 2) JMH 15Jul2014 */
paramc=strip(param)||' ('||strip(avalu)|| ')';
visit=avisit;
if no in ('1' '1.0') then do; no='1'; stdo='(NA)'; end;
if nc in ('1' '1.0') then do; nc='1'; stdc='(NA)'; end;

run;

proc sort data=results03;
    by paramn paramc ord visit;
run;

proc transpose data=results03 out=results04_orig1 prefix=o name=varname;
    by paramn paramc ord visit;
    var no meano stdo mediano mino;* maxo;
    id trtan;
    idlabel trta;
run;

data results04_orig;
set results04_orig1;
varname=tranwrd(varname,'O','C');
run;

proc transpose data=results03 out=results04_chg prefix=c name=varname;
    by paramn paramc ord visit;
    var nc meanc stdc medianc minc;* maxc;
    id trtan;
    idlabel trta;
run;

proc sort data=results04_orig;
    by paramn paramc ord visit varname;
run;

proc sort data=results04_chg;
    by paramn paramc ord visit varname;
run;

data results04_;
length varname_ $50.;
merge results04_orig results04_chg;
    by paramn paramc ord visit varname;
varname_=varname;
drop varname;
run;

/* adding bmi categorical */
data results04;
set results04_ bmi_orig bmi_chg;
if param eq 'Body Mass Index' then do;
paramc=param;
visit=avisit;
varname_=avalcat1;
o1=strip(THS);

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o2=strip(cc);
o3=strip(sa_);
o99=strip(all);
if varname_='Underweight' then statord=1;
if varname_='Normal weight' then statord=2;
if varname_='Overweight' then statord=3;
if varname_='Obese' then statord=4;
end;
if paramn=26 then paramn=14.5;
/*if paramn=22 then paramn=15.5;*/
drop avalcat1 param _name_ _label_ OVERALL_SAFETY sa mcc thsm2_2 ths cc sa_ all avisit avisitn;
run;

data results05;
set results04;
attrib stat length = $100.;
if paramc='Weight (kg)' then do;paramn=1;chg='yes';end;
if paramc='Body Mass Index (kg/m2)' then do;paramn=2;chg='yes';end;
if paramc='Body Mass Index' then do; paramc='Body Mass Index Categorical';paramn=3;chg='no';end;
if paramc='Height (cm)' then do;paramn=4;chg='yes';end;
if paramc='Waist Circumference (cm)' then do;paramn=5;chg='yes';end;

if upcase(varname_)='NC' then do; statord=1; stat='n'; end;
else if upcase(varname_)='MEANC' then do; statord=2; stat='Mean'; end;
else if upcase(varname_)='STDC' then do; statord=3; stat='(SD)'; end;
else if upcase(varname_)='MEDIANC' then do; statord=4; stat='Median'; end;
else if upcase(varname_)='MINC' then do; statord=5; stat='Min, Max'; end;
/* else if upcase(varname_)='MAXC' then do; statord=6; stat='Max'; end;*/
else stat=varname_;

drop varname_;
run;

data results06;
set results05;
if stat='n' /*and ord=1*/ then do; /* 3) JMH 15Jul2014 */
if missing(o1) then o1='0';
if missing(o2) then o2='0';
if missing(o3) then o3='0';
if missing(o99) then o99='0';
/* 3) start JMH 15Jul2014 */
IF ORD NE 0 THEN DO; /* 4) JMH 15Jul2014 */
IF MISSING(C1) THEN C1='0';
IF MISSING(C2) THEN C2='0';
IF MISSING(C3) THEN C3='0';
IF MISSING(C99) THEN C99='0';
END; /* 4) JMH 15Jul2014 */
/* 3) end JMH 15Jul2014 */
end;

run;

proc sort data=results06;
by paramn paramc ord statord;
run;

data allresults;
set results06;
if paramc ne '';
by paramn paramc ord statord;

flag=1;
run;

data labels;
set allresults;
attrib o1 label = "Raw value"
o2 label = "Raw value"
o3 label = "Raw value"
o99 label = "Raw value"
c1 label = "Change"
c2 label = "Change"
c3 label = "Change"
c99 label = "Change";
if visit='Baseline' then do;
c1='';
c2='';
c3='';

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c99='';
end;

run;
/**/
/*proc sort data=allresults out=extraline (keep=paramc visit paramn) nodupkey;*/
/*by paramn paramc visit;*/
/*run;*/
/**/
/*data extraline;*/
/*set extraline;*/
/**/
/*if visit='Baseline' then ord=-1;*/
/*if visit='Day 1' then ord=0.1;*/
/*if visit='Day 2' then ord=1.9;*/
/*if visit='Day 21' then ord=6.9;*/
/*if visit='Day 3' then ord=2.9;*/
/*if visit='Day 30' then ord=7.9;*/
/*if visit='Day 4' then ord=3.9;*/
/*if visit='Day 5' then ord=4.9;*/
/*if visit='Day 6/Discharge Confinement' then ord=5.9;*/
/*if visit='Day 60' then ord=9.9;*/
/*if visit='Day 91/Discharge Ambulatory' then ord=11.9;*/
/**/
/*run;*/

data labels_1;
set labels;* extraline;
run;

proc sort data=labels_1;
by paramn ord;
run;

proc sort data=labels_1;
by paramn ord statord;
run;

proc sort data=labels out=page_num (keep=paramn paramc ord visit) nodupkey;
by paramn paramc ord visit;
run;

data page_num;
set page_num;
page=_n_;
drop ord;
run;

proc sort data=page_num;
by paramn paramc visit;
proc sort data=labels_1;
by paramn paramc visit;
run;

data paging;
merge labels_1 page_num;
by paramn paramc visit ;

flag=1;

if first.ord and ln ge 7 then ln=1; /*Amend to look presentable, and avoid page overflows*/
else ln+1;
if ln=1 then page+1;
call symput("page",compress(put(page,best.)));
call symput("chg",compress(chg));
if ord in (-1 0.1 1.9 6.9 2.9 7.9 3.9 4.9 5.9 9.9 11.9) then visit='';
run;

proc sort data=paging;
by paramn;
run;

data lastpage_1;
set paging;
by paramn;
if last.paramn;
run;

proc sort data=lastpage_1;

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by paramn ord;
run;

data lastpage;
set lastpage_1;
by paramn ord;
if last.ord then call symput('maxpage', trim(left(put(page,best.))));
run;

proc sort data=paging;
    by paramn ord statord;
run;

proc sql noprint;

create table tflds.&tfldno as
select paramc, visit, stat, o1 as THS_raw, c1 as ths_chg, o2 as mcc_raw, c2 as mcc_chg, o3 as sa_raw, c3 as sa_chg, o99 as overall_r
aw, c99 as overall_chg, paramn, page
from paging
order by paramn, ord, statord;

quit;

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.t106343 (read) ;
ods results off;
ods rtf toc_data file="/cvn/projects/prj/data/000000106343/TFL/dev/Tables/&tfldno..rtf" style=t106343 startpage=yes headery=1440 foot
ery=1440 ;
ods noproctitle;
%do i=1 %to &page;

title ;
footnote;
%let wd=0;

%let npage=%eval(&i);

ods proclabel = ' ';

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

    _firtitl="Table 15.2.6.24 Summary of Weight, Waist Circumference and BMI Results - Safety Population";
    _secndtitl="Safety Time Period: Randomized Period";
    _upcas=(length("Path: &TFLpath.")-length(compress("Path:&TFLpath.",'ABCDEFGHIJKLMNOPQRSTUVWXYZ')))/2;
    len=&blankn.-length("(Page &npage of &maxpage)");
    if eof then do;
        call symput('par',put(paramn,best.));
        call symput('_FSRTITL', trim(left(_firtitl)));
        call symput('_SECTITL', trim(left(_secndtitl)));
        call symput('_blankn', compress(put(len,best.)));
    end;
    drop _firtitl _secndtitl _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 missing headline headskip nowd split = '$' ;;
    column flag page paramn paramc ord visit statord stat
/*      ( "THSm2.2 $(N=&trt1) &linebot" o1 c1) */
/*      ("mCC $(N=&trt2) &linebot" o2 c2) */
/*      ("SA $(N=&trt3) &linebot" o3 c3) */

```

```

/**/
/*      ( "Overall Safety$(N=&trt99) &linebot" o99 c99); */

%if &par= 3 %then %do;
  ("THSm2.2 $(N=&trt1) &linebot" o1)
  ("mCC $(N=&trt2) &linebot" o2 )
  ("SA $(N=&trt3) &linebot" o3 )
  ( "Overall Safety$(N=&trt99) &linebot" o99 );;
%end;
%else %do;
  ("THSm2.2 $(N=&trt1) &linebot" o1 c1)
  ("mCC $(N=&trt2) &linebot" o2 c2)
  ("SA $(N=&trt3) &linebot" o3 c3)
  ( "Overall Safety$(N=&trt99) &linebot" o99 c99);;
%end;

define flag          / order order=internal noprint;
define page          / order order = internal noprint;
define paramn        / order order = internal noprint;
define ord            / order order = internal noprint;
define statord        / order order = internal noprint;
define paramc         / group style={just=left cellwidth=0.4 cm} style(header)={just=left} 'Parameter$(units)';
define visit          / group style={just=left cellwidth=0.5 cm} style(header)={just=left} 'Study$Day';
define stat           / display style={just=left cellwidth=0.5 cm} style(header)={just=left} 'Statistic';

%if &par= 3 %then %do;
  define o1           / display style={just=left cellwidth=0.35 cm} style(header)={just=left} 'Raw value';
  define o2           / display style={just=left cellwidth=0.35 cm} style(header)={just=left} 'Raw value';
  define o3           / display style={just=left cellwidth=0.35 cm} style(header)={just=left} 'Raw value';
  define o99          / display style={just=left cellwidth=0.35 cm} style(header)={just=left} 'Raw value';
%end;
%else %do;
  define o1           / display style={just=left cellwidth=0.35 cm} style(header)={just=left} 'Raw$value';
  define c1           / display style={just=left cellwidth=0.25 cm} style(header)={just=left};
  define o2           / display style={just=left cellwidth=0.35 cm} style(header)={just=left} 'Raw$value';
  define c2           / display style={just=left cellwidth=0.25 cm} style(header)={just=left};
  define o3           / display style={just=left cellwidth=0.35 cm} style(header)={just=left} 'Raw$value';
  define c3           / display style={just=left cellwidth=0.25 cm} style(header)={just=left};
  define o99          / display style={just=left cellwidth=0.35 cm} style(header)={just=left} 'Raw$value';
  define c99          / display style={just=left cellwidth=0.25 cm} style(header)={just=left};
%end;

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

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";
line "\b\fs24\sa24&_SECTITL." ; * \b = bold, \fs24 is font size 12pt, \sa24 is space after 12pt;
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: Change is change from baseline, where baseline is defined as the last assessment prior to first randomized product use
in mCC / THS 2.2 Menthol arms'; /* 5) JMH 07Oct2014 */
line 'or the last assessment prior to 10 AM on Day 1 in the SA arm.';
line ' ';
line 'Appendix 15.3.6.9';
line "Study ID:ZRHM-REXA-08-US Program:&TFLprg Status: &status" &_blankn.**"\-\' " &sysdate" &_blankn.**"\-\' "(Page &i of &pag
e)";
endcomp;
run;
%end;
ods rtf close;
ods results on;
ods path sashelp.tmplmst (read);

```

```
%mend ;

%outrtf(blankn=37, halfblnk=N);

ods listing;
ods listing close;

proc datasets lib=work nolist memtype=data kill; quit;
%m_logchk;
*=====;
*  END OF PROGRAM CODE                               ;
*=====;
```