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proc datasets lib=work nolist memtype=data kill; quit;
/*=====
*Covance Study ID      : 000000106331
*Program Name          : t_prduse_pref_fas.sas
*Purpose                : Summary of Product Use by Product Use Category in Ambulatory Period - FAS
                        Table 15.2.4.68
*Input Data             : adam.adsl
*Output Data            : tflds.T_15_02_04_68
*Macros Called          : %m_printto, %trans, %outrtf, m_logchk2
*Programmed by          : Ranju Gautam
*Creation Date          : 2015-05-28
*== Modification History =====
*Date      Initials   No. Reason;
*=====*/

%m_printto(route=YES);

data adsl;
  set adam.adsl(where=(fasfl ='Y'));
  if trt01pn=4 then trt=1;
  else if trt01pn=5 then trt=2;
  else if trt01pn=3 then trt=3;
  if PRODPREF='No preference' then PRODPREF='Nopreference';
  if PRODPREF='THS 2.2 menthol' then PRODPREF='THS';
run;

proc sql noprint;

*for block1a;
  select count (distinct usubjid)  into :trt1ths from adsl where trt=1 and PRODPREF='THS' ;
  select count (distinct usubjid)  into :trt1mc from adsl where trt=1 and PRODPREF='mCC' ;
  select count (distinct usubjid)  into :trt1sa from adsl where trt=1 and PRODPREF='SA' ;
  select count (distinct usubjid)  into :trt1npr from adsl where trt=1 and PRODPREF='Nopreference' ;

select count (distinct usubjid)  into :trt2ths  from adsl where trt=2 and PRODPREF='THS' ;
select count (distinct usubjid)  into :trt2mc   from adsl where trt=2 and PRODPREF='mCC' ;
select count (distinct usubjid)  into :trt2sa   from adsl where trt=2 and PRODPREF='SA' ;
select count (distinct usubjid)  into :trt2npr  from adsl where trt=2 and PRODPREF='Nopreference' ;

select count (distinct usubjid)  into :trt3ths  from adsl where trt=3 and PRODPREF='THS' ;
select count (distinct usubjid)  into :trt3mc   from adsl where trt=3 and PRODPREF='mCC' ;
select count (distinct usubjid)  into :trt3sa   from adsl where trt=3 and PRODPREF='SA' ;
select count (distinct usubjid)  into :trt3npr  from adsl where trt=3 and PRODPREF='Nopreference' ;

quit;

*for the first row;

proc freq data=adsl;
  tables trt*trt01p*PRODPREF/noprint out=r1;
  tables trt*trt01p*PRODPREF*GPUCAT5N*GPUCAT5/noprint out=r2;
  tables trt*trt01p*PRODPREF*GPUCAT5N*GPUCAT5*PUCAT5N*PUCAT5/noprint out=r3;
  tables trt*trt01p*PRODPREF*GPUCAT5*GPUCAT5N*PUCAT5EX/noprint out=r4;
run;

data r4;
  set r4;
  where trt=1 and PUCAT5EX ne '';
run;

data r1;
  set r1;
  if PRODPREF NE '';
run;

data r2;
  set r2;
  if PRODPREF NE '';
run;

data r3;
  set r3;

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if PRODPREF NE '';
run;

%macro trans(inds=,outds=t, id= , by=, pre=);
proc sort data=&inds;
  by &by;
run;

proc transpose data=&inds out=&&outds.&inds(drop=_name_) prefix=&pre;
  var count;
  by &by ;
  id &id;
run;

proc sort data=&&outds.&inds;
  by &by;
run;
%mend trans;

%trans(inds=r1, by=trt trt01p, id=PRODPREF, pre=pref);
%trans(inds=r2, by=trt trt01p GPUCAT5N GPUCAT5, id=PRODPREF,pre=pref );

%trans(inds=r3, by=trt trt01p GPUCAT5N GPUCAT5 PUCAT5N PUCAT5, id=PRODPREF,pre=pref );
%trans(inds=r4, by=trt trt01p GPUCAT5N GPUCAT5 PUCAT5EX , id=PRODPREF,pre=pref );

*adding all rows together and sorted by treatment arm;
data fin;
  set tr1 tr2 tr3 tr4;
run;

proc sort data=fin;
  by trt trt01p GPUCAT5N PUCAT5N;
run;

data fin1;
  length c1-c4 c1_ c2_ c3_ c4_ $ 30;
  set fin;
  if trt01p ne '' and GPUCAT5='' and PUCAT5='' then term=trt01p;
  else if GPUCAT5 ne '' and PUCAT5='' then term=GPUCAT5;
  else term=PUCAT5;

  if trt=1 and GPUCAT5N=1 and PUCAT5N=8 then term='Predominantly CC ([5-30]%)';
  if trt=1 and GPUCAT5N=1 and PUCAT5N=9 then term='Primarily CC ([0-5]%)';

  if trt=1 and GPUCAT5N=2 and PUCAT5N=3 then term='Primarily THSm2.2 ([95-100]%)';
  if trt=1 and GPUCAT5N=2 and PUCAT5N=4 then term='Predominantly THSm2.2 ([70-95]%)';

  if trt=1 and GPUCAT5N=3 and PUCAT5N=5 then term='Dual mostly THSm2.2 ([60-70]%)';
  if trt=1 and GPUCAT5N=3 and PUCAT5N=6 then term='Dual balanced ([40-60]%)';
  if trt=1 and GPUCAT5N=3 and PUCAT5N=7 then term='Dual mostly CC ([30-40]%)';

*for treatment 2;
if trt=1 and GPUCAT5N=1 and PUCAT5N=8 then term='Predominantly CC ([5-30]%)';
if trt=1 and GPUCAT5N=1 and PUCAT5N=9 then term='Primarily CC ([0-5]%)';

if trt=1 and GPUCAT5N=2 and PUCAT5N=3 then term='Primarily THSm2.2 ([95-100]%)';
if trt=1 and GPUCAT5N=2 and PUCAT5N=4 then term='Predominantly THSm2.2 ([70-95]%)';

if trt=1 and GPUCAT5N=3 and PUCAT5N=5 then term='Dual mostly THSm2.2 ([60-70]%)';
if trt=1 and GPUCAT5N=3 and PUCAT5N=6 then term='Dual balanced ([40-60]%)';
if trt=1 and GPUCAT5N=3 and PUCAT5N=7 then term='Dual mostly CC ([30-40]%)';
if GPUCAT5N ne . then do;

  if prefNopreference =. then prefNopreference=0;
  if prefSA =. then prefSA=0;
  if prefTHS =. then prefTHS=0;
  if prefmCC =. then prefmCC=0;

  if trt=1 then do;
  if prefNopreference ne . then c1=put(prefNopreference, 3.)||' ('||put(prefNopreference*100/&trt1npr,5.1)||')';
  if prefSA ne . then c2=put(prefSA, 3.)||' ('||put(prefSA*100/&trt1sa,5.1)||')';
  if prefTHS ne . then c3=put(prefTHS, 3.)||' ('||put(prefTHS*100/&trt1ths,5.1)||')';

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if prefmCC ne . then c4=put(prefmCC, 3.)||' (||put(prefmCC*100/&trt1mc,5.1)||)';
end;

if trt=2 then do;
if prefNopreference ne . then c1=put(prefNopreference, 3.)||' (||put(prefNopreference*100/&trt2npr,5.1)||)';
if prefSA ne . and &trt2sa > 0 then c2=put(prefSA, 3.)||' (||put(prefSA*100/&trt2sa,5.1)||)';
if prefTHS ne . then c3=put(prefTHS, 3.)||' (||put(prefTHS*100/&trt2ths,5.1)||)';
if prefmCC ne . then c4=put(prefmCC, 3.)||' (||put(prefmCC*100/&trt2mc,5.1)||)';
end;

if trt=3 then do;
if prefNopreference ne . then c1=put(prefNopreference, 3.)||' (||put(prefNopreference*100/&trt3npr,5.1)||)';
if prefSA ne . and &trt2sa > 0 then c2=put(prefSA, 3.)||' (||put(prefSA*100/&trt3sa,5.1)||)';
if prefTHS ne . then c3=put(prefTHS, 3.)||' (||put(prefTHS*100/&trt3ths,5.1)||)';
if prefmCC ne . then c4=put(prefmCC, 3.)||' (||put(prefmCC*100/&trt3mc,5.1)||)';
end;
end;

else do;
c1=put(prefNopreference, 3.);
c2=put(prefSA, 3.);
c3=put(prefTHS, 3.);
c4=put(prefmCC, 3.);
end;

if GPUCAT5N = . and prefSA= . then c2='0 ';
if GPUCAT5N ne . and prefSA= 0 then c2='0 ( 0.0)';
if GPUCAT5N=. then do;
term ='\b '||trim(term) ||' \b0';
c1='\b '||trim(c1) ||' \b0';
c2='\b '||trim(c2) ||' \b0';
c3='\b '||trim(c3) ||' \b0';
c4='\b '||trim(c4) ||' \b0';
end;

IF PUCAT5EX NE '' AND PUCAT5EX ='Exclusively THS 2.2' THEN TERM=' '||'Exclusively THSm2.2 (100%)';

if GPUCAT5N ^=. and PUCAT5N ^= . then term = ' '||trim(term);
IF strip(term)='Primarily THSm2.2 ([95-100]%)' then termn=1;
IF strip(term)='Exclusively THSm2.2 (100%)' then termn=2;
IF strip(term)='Predominantly THSm2.2 ([70-95]%)' then termn=3;

if trt=1 then do;

if strip(term)='THS 2.2' then term='THSm2.2 ([70-100]%)';
if strip(term)='Dual' then term='Dual ([30-70]%)';
if strip(term)='CC' then term='CC ([0-30]%)';

end;

if c1 ne '' then c1_=c1;
if c2 ne '' then c2_=c2;
if c3 ne '' then c3_=c3;
if c4 ne '' then c4_=c4;

drop prefNopreference prefSA prefTHS prefmCC c1 c2 c3 c4;;
run;

data fin2(rename=(c1_=c4 c2_=c3 c3_= c1 c4_=c2));;
set fin1;
if GPUCAT5N=2 then GPUCAT5N_=1;
else if GPUCAT5N=3 then GPUCAT5N_=2;
else if GPUCAT5N=1 then GPUCAT5N_=3;
else GPUCAT5N_=GPUCAT5N;

IF gpucat5='' and trt=1 then gpucat5n=2;
IF gpucat5='' and trt=2 then gpucat5n=1;
IF gpucat5='' and trt=3 then gpucat5n=4;

if gpucat5='Missing' and pucat5='' then delete;

if gpucat5='Abstinent' and pucat5='' then delete;

if gpucat5='Predominantly Abstinent' and pucat5='' then delete;

if gpucat5='Not Abstinent' and pucat5='' then delete;

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if trt ne 1 and gpucat5='CC' and pucat5='' then delete;

if trt=3 and gpucat5n_in (4 5 6) then _gpucat5n_=6;
else _gpucat5n_=gpucat5n_;

if trt in ( 2) then do;
brk=gpucat5n;
if brk = 99 then brk = 1;
end;

if trt =1 and term ne 'Missing' then do;
brk=gpucat5n;
if brk = 99 then brk = 1;
end;
else if trt=3 then do;
brk=1;
end;
if trt=1 and pucat5n=99 then do;
term='Discontinued in previous period';
end;
if trt in (2 3) and compress(term)='Missing' then term='Discontinued in previous period';
if term='\b THSm2.2 \b0' then term='\b THSm2.2 Arm\b0';
if term='\b mCC \b0' then term='\b mCC Arm\b0';
if term='\b SA \b0' then term='\b SA Arm\b0';
if compress(c1_)= '0(0.0)' then c1_= ' 0';
if compress(c2_)= '0(0.0)' then c2_= ' 0';
if compress(c3_)= '0(0.0)' then c3_= ' 0';
if compress(c4_)= '0(0.0)' then c4_= ' 0';
run;

proc sort data=fin2;
by trt GPUCAT5N_ GPUCAT5N termn PUCAT5N;
run;

%let tflno=T_15_02_04_68;

data tflds.T_15_02_04_68;
set fin2 ;
run;

data paging;
set fin2;
cnt+1;

if _n_<=9 then page=1;
else if 9 < _n_ < =17 then page=2;
else page=3;
call symput("page",compress(put(page,best.)));
if GPUCAT5N=. then GPUCAT5N=0;
run;

options number nodate orientation=landscape missing=' ';
ods escapechar='|';
%let linetop = \brdrt\brdrs\brdrw30;
%let linebot = \brdrb\brdrs\brdrw30;

%macro outrtf(blankn=130, halfblnk=N);
%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",""));
call symput('TFLprg',reverse(scan(strip(reverse(compress("&_SASPROGRAMFILE","")),1,"/"))));
run;

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

ods path stdlib.t106343 (read) ;
ods results off;

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ods rtf toc_data file="/cvn/projects/prj/data/000000106343/TFL/&TFL_Part./Tables/&tflno..rtf" style=t106343 startpage=yes headery=14
40 footery=1440 ;
ods noproctitle;
%do i=1 %to &page;

title ;
footnote;

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

%let title1=%str(Table 15.2.4.68 Descriptive Statistics of Product Use Categories by Preferred);
%let title2=%str(Product Declared at Admission - FAS);
_firtitl1="&title1.";
_firtitl2="&title2.";

_upcas=(length(_firtitl1)-length(compress(_firtitl1,'ABCDEFGHIJKLMNOPQRSTUVWXYZ')))/2;
len=&blankn.-length("(Page &i of &page)");

if eof then do;
    call symput('_FSRTITL1', trim(left(_firtitl1)));
    call symput('_FSRTITL2', trim(left(_firtitl2)));

    call symput('_blankn', compress(put(len,best.)));
end;
drop _firtitl1 _firtitl2 _upcas len;
run;

ods proclabel = ' ';
ods listing close;

proc report data = comp headline headskip nowd split = '$'
%if &i=1 %then %do; contents=' '
%end;
%else %do;
contents=' ' ;
%end;;
;
column page trt brk GPUCAT5N term ("Product preference &linebot" ("THSm2.2" c1)
("mCC" c2) ("SA" c3) ("No preference" c4) );

define page          / order order = internal noprint;
define trt           / order order = internal noprint;
define GPUCAT5N      / order order = internal noprint;
define brk           / order order = internal noprint;
define term           / display 'Product Use Categorization' style={cellwidth=1.2 in asis=on} style(header)={just=left} ;
define c1             / display 'n (%)' style={just=c cellwidth=0.5 in } ;
define c2             / display 'n (%)' style={just=c cellwidth=0.5 in};
define c3             / display 'n (%)' style={just=c cellwidth=0.5 in};
define c4             / display 'n (%)' style={just=c cellwidth=0.5 in};

break after page/page;

compute before page / style={just=left protectspecialchars=off};
line "&linetop";
endcomp;

compute after page / style={just=left protectspecialchars=off};
line "&linebot";
endcomp;

compute after brk;
line " ";
endcomp;

compute before _page_ / style={just=left protectspecialchars=off};
line "\b\fs24\sa24&_FSRTITL1." ;
line "\b\fs24\sa24&_FSRTITL2." ;

line "&linebot";
endcomp;

compute after _page_ / style={just=left protectspecialchars=off};
line 'Note: mCC = Menthol conventional cigarettes; SA = Smoking abstinence; THSm2.2 = Tobacco Heating System.';

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    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 the column header (N). ';
    line 'Note: Ambulatory Safety column refers to product use categorization over the whole ambulatory period based on missing imputa
tion rules for safety summaries.';
    line ' ';
    LINE "Appendix 15.3.1.5";
    line "Study ID: ZRHM-REXA-08-US      Program: &TFLprg      Status: &status" &_blankn.*"\~" "&sysdate" &_blankn.*"\~" "(Page &i of &p
age)";
    endcomp;
run;
%end;
ods rtf close;
ods results on;
ods path sashelp.tmplmst (read);

%mend outrtf;

%outrtf(blankn=36, halfblnk=N);

ods listing;

%m_logchk2;

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