Program 13.5 Bootstrap Confidence Intervals

%macro bootstrap(infile, out);

\*\*\* get the number of subjects;

data infile;

set &infile;

by pat;

if first.pat;

run;

data filerecs;

set infile end=\_last\_;

rec=\_n\_;

if \_last\_=1 then output filerecs;

run;

%global filrecs;

data \_null\_;

set filerecs;

call symput("filrecs",put(rec,8.));

run;

\*\*\* sample with replacement;

data sample;

do i=1 to &filrecs;

rec=int((ranuni(-1)\*&filrecs)+1);

output;

drop i;

end;

run;

proc sort data=sample;

by rec;

run;

proc freq data=sample noprint;

table rec/out=norecs (keep=rec count);

run;

\*\*\* unique sample;

data uniquesample;

set sample;

by rec;

if first.rec;

selected=1;

run;

data infile2;

set &infile;

by pat;

retain rec;

if \_n\_=1 then rec=0;

if first.pat then rec+1;

run;

data mysample;

merge infile2 (in=one) uniquesample (in=two);

by rec;

if one and two;

run;

data mysample;

set mysample;

pat2=pat;

run;

\*\*\* subjects sampled more than once;

data extrapats;

merge infile2 (in=one) norecs(in=two where=(count>1));

by rec;

if one and two;

run;

proc sort data=extrapats;

by pat;

run;

\*\*\* subjects sampled more than twice;

data extrapats3;

set extrapats;

retain irec;

if \_n\_=1 then irec=0;

exrecs=count-1;

do i=1 to exrecs;

index=i;

irec=irec+1;

selected=1;

pat2=pat+(0.0001\*i);

output;

end;

drop i exrecs;

run;

proc sort data=extrapats3;

by pat biweekno;

run;

data &out;

set mysample extrapats3;

drop pat;

run;

proc sort data=&out(rename=(pat2=pat));

by pat biweekno;

run;

%mend bootstrap;

%bootstrap(studyperioddata, newstudydata);