**Assessment of CMS Metrics for Hospital Reimbursement Programming Code and Analysis Outcomes**

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**Programming Code**

/\*UPLOAD EACH OF FOUR FILES TO SAS\*/

/\*UPLOAD CASE MIX INDEX FILE\*/

PROC IMPORT DATAFILE=REFFILE

DBMS=CSV

OUT=WORK.CMI;

GETNAMES=YES;

RUN;

PROC CONTENTS DATA=WORK.CMI; RUN;

/\*UPLOAD READMISSION FILE\*/

PROC IMPORT DATAFILE=REFFILE

DBMS=CSV

OUT=WORK.READMISSION;

GETNAMES=YES;

RUN;

PROC CONTENTS DATA=WORK.READMISSION; RUN;

/\*UPLOAD GENERAL INFORMATION FILE\*/

PROC IMPORT DATAFILE=REFFILE

DBMS=CSV

OUT=WORK.'GENERAL'n;

GETNAMES=YES;

RUN;

PROC CONTENTS DATA=WORK.'GENERAL'n; RUN;

/\*UPLOAD HOSPITAL VALUE BASED PROGRAM FILE\*/

PROC IMPORT DATAFILE=REFFILE

DBMS=CSV

OUT=WORK.HVBP;

GETNAMES=YES;

RUN;

PROC CONTENTS DATA=WORK.HVBP; RUN;

/\*COMBINE CMI AND GENERAL INFORMATION DATA\*/

proc sort data=WORK.CMI out=work.\_tmpsort1\_;

by 'Facility ID'n;

run;

proc sort data=WORK.GENERAL out=work.\_tmpsort2\_;

by 'Facility ID'n;

run;

data work.combine;

merge \_tmpsort1\_(in=in1 keep='Facility ID'n casemixindex 'Facility ID'n)

\_tmpsort2\_ (in=in2 keep='Hospital Ownership2'n 'Facility ID'n);

by 'Facility ID'n;

if in1 and in2;

run;

proc delete data=work.\_tmpsort1\_ work.\_tmpsort2\_;

run;

/\* COMBINE FIRST COMBO WITH HVBP DATA\*/

proc sort data=WORK.COMBINE out=work.\_tmpsort1\_;

by 'Facility ID'n;

run;

proc sort data=WORK.HVBP out=work.\_tmpsort2\_;

by 'Facility ID'n;

run;

data work.combine2;

merge \_tmpsort1\_(in=in1 keep='Facility ID'n casemixindex

'Hospital Ownership2'n 'Facility ID'n) \_tmpsort2\_ (in=in2

keep='MSPB-1 Performance Rate'n 'Facility ID'n);

by 'Facility ID'n;

if in1 and in2;

run;

proc delete data=work.\_tmpsort1\_ work.\_tmpsort2\_;

run;

/\*COMBINE SECOND COMBO DATA WITH READMISSION DATA\*/

proc sort data=WORK.COMBINE2 out=work.\_tmpsort1\_;

by 'Facility ID'n;

run;

proc sort data=WORK.READMISSION out=work.\_tmpsort2\_;

by 'Facility ID'n;

run;

data work.FINAL;

merge \_tmpsort1\_(in=in1 keep='Facility ID'n casemixindex

'Hospital Ownership2'n 'MSPB-1 Performance Rate'n 'Facility ID'n)

\_tmpsort2\_ (in=in2 keep='Total Excess Readmission Ratio'n

'Total Number of Discharges'n 'Facility ID'n);

by 'Facility ID'n;

if in1 and in2;

run;

proc delete data=work.\_tmpsort1\_ work.\_tmpsort2\_;

run;if in1 and in2;

run;

proc delete data=work.\_tmpsort1\_ work.\_tmpsort2\_;

run;

/\*FILTER OUT MISSING READMISSION DATA\*/

proc sql noprint;

create table work.filter as select \* from WORK.FINAL

where('Total Number of Discharges'n NE 0);

quit;

/\*SUMMARY STATISTICS FOR CMI, READMISSION, MSPB \*/

proc means data=WORK.FILTER chartype mean std min max n vardef=df;

var casemixindex 'MSPB-1 Performance Rate'n 'Total Excess Readmission Ratio'n;

run;

proc univariate data=WORK.FILTER vardef=df noprint;

var casemixindex 'MSPB-1 Performance Rate'n 'Total Excess Readmission Ratio'n;

histogram casemixindex 'MSPB-1 Performance Rate'n

'Total Excess Readmission Ratio'n;

inset mean std min max n / position=ne;

footnote1 "Report Created on" %sysfunc(today(), date9.) at %sysfunc(time(), timeampm.);

run;

/\*FREQUENCIES OF CATEGORICAL VARIABLE\*/

proc freq data=WORK.FILTER;

tables 'Hospital Ownership2'n / nocum plots=(freqplot);

footnote1 "Report Created on" %sysfunc(today(), date9.) at %sysfunc(time(), timeampm.);

run;

/\*ANOVA FOR MSPB AND OWNERSHIP\*/

proc glm data=WORK.FILTER;

class 'Hospital Ownership2'n;

model 'MSPB-1 Performance Rate'n='Hospital Ownership2'n;

means 'Hospital Ownership2'n / hovtest=levene welch plots=none;

lsmeans 'Hospital Ownership2'n / adjust=tukey pdiff alpha=.05;

footnote1 "Report Created on" %sysfunc(today(), date9.) at %sysfunc(time(), timeampm.);

run;

quit;

/\*ANOVA FOR ERR AND OWNERSHIP\*/

proc glm data=WORK.FILTER;

class 'Hospital Ownership2'n;

model 'Total Excess Readmission Ratio'n='Hospital Ownership2'n;

means 'Hospital Ownership2'n / hovtest=levene welch plots=none;

lsmeans 'Hospital Ownership2'n / adjust=tukey pdiff alpha=.05;

footnote1 "Report Created on" %sysfunc(today(), date9.) at %sysfunc(time(), timeampm.);

run;

quit;

/\*CORRELATION BETWEEN CMI AND MSPB\*/

proc corr data=WORK.FILTER pearson nosimple plots=scatter(ellipse=none);

var casemixindex;

with 'MSPB-1 Performance Rate'n;

footnote1 "Report Created on" %sysfunc(today(), date9.) at %sysfunc(time(), timeampm.);

run;

/\*CORRELATION BETWEEN CMI AND ERR\*/

proc corr data=WORK.FILTER pearson nosimple plots=scatter(ellipse=none);

var casemixindex;

with 'Total Excess Readmission Ratio'n;

footnote1 "Report Created on" %sysfunc(today(), date9.) at %sysfunc(time(), timeampm.);

run;

/\*CORRELATION BETWEEN ERR AND MSPB\*/

proc corr data=WORK.FILTER pearson nosimple plots=scatter(ellipse=none);

var 'Total Excess Readmission Ratio'n;

with 'MSPB-1 Performance Rate'n;

footnote1 "Report Created on" %sysfunc(today(), date9.) at %sysfunc(time(), timeampm.);

run;

**Data Analysis Outcomes**

**A screenshot of a graph

Description automatically generated**

**A graph of performance rate

Description automatically generated**

**A graph of a distribution of total excess readmission ratio

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**A screenshot of a graph

Description automatically generated**

**A screenshot of a computer screen

Description automatically generated**

**A screen shot of a chart

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**A screenshot of a report

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