/\*Example of Coding Technique Previously Written for Preceptor program\*/ /\*during Master’s training at GSU. Data taken from excel queries of EHR\*/ /\*at Skyland trail, an in-patient Mental Health treatment facility in\*/ /\*Atlanta, GA. Coded by Morgan Smith on SAS 9.4 and subsequently compiled\*/ /\*on 04/24/19 for the purpose of showing basic use of Proc SQL\*/

/\*Creating table of clients with length of stay LE 35 weeks\*/

**proc** **sql**;

create table functional as

select distinct clientid as client, intck("weeks",episodeadmitdate,episodedischargedate) as los\_weeks, hc\_flag,

admai, dcmai, Diff\_MAI,

ADBASOV, DCBASOV, (dCBASOV-ADBASOV) AS DIFF\_BASOV,

ADMDS\_Esteem, dcmds\_Esteem, Diff\_MDS\_Esteem,

ADMDS\_Optimism, dcmds\_optimism, diff\_mds\_optimism,

ADMDS\_Anger, dcmds\_anger, diff\_mds\_anger,

ADMDS\_power, dcmds\_power, diff\_mds\_power,

adbhs, dcbhs, diff\_bhs

from project.data

where calculated los\_weeks le **35**

order by clientid;

**quit**;

/\*Creating separate variables for first and last measures\*/

**proc** **sql**;

create table first as

select clientid, episodeadmitdate, episodedischargedate,

N\_TotalScoreMADRS as First\_MADRS, N\_TotalScoreBPRS as First\_BPRS, N\_TotalScoreHAMA as First\_HAMA, N\_TotalScoreYMRS as First\_YMRS,

HC\_Flag, los\_weeks, FF\_LOS\_Measure\_W, SA\_Flag, N\_TotalScoreYMRS, ff\_time

from Project.ff\_date\_flag

where FF\_Time="First";

**quit**;

**proc** **sql**;

create table last as

select clientid, episodeadmitdate, episodedischargedate,

N\_TotalScoreMADRS as Last\_MADRS, N\_TotalScoreBPRS as Last\_BPRS, N\_TotalScoreHAMA as Last\_HAMA, N\_TotalScoreYMRS as Last\_YMRS

from Project.ff\_date\_flag

where FF\_Time="Last";

**quit**;

/\*Sample Size based on stay of <35 weeks\*/

**proc** **sql**;

select count(distinct clientid) as Number\_of\_Clients

from univariate

where los\_weeks le **35**;

**quit**;

/\*by hc\_flag\*/

**proc** **sql**;

select hc\_flag, count(distinct clientid) as Number\_of\_Clients

from univariate\_trimmed

group by hc\_flag;

**quit**;

/\*Gender of 171 clients and test for Independence\*/

**proc** **sql**;

create table gender as

select distinct clientid , sex, hc\_flag

from univariate

where los\_weeks le **35**;

**quit**;

**proc** **freq** data=gender;

table sex \* HC\_Flag/exact norow nopercent expected;

**run**;

/\*Not Recoding H&P dates b/c not present for non healhty-challenge and not necessarily within appropriate time frame of +/- 2 weeks of admission.\*/

/\*Creating Rule for Date of first and last measure to be within 2 weeks of Date of admission/discharge respectively which proved to be too restrictive\*/

/\*so going back to an indicator of First/Last but keeping alternate coding as comment\*/

**proc** **sql**;

create table physical as

select \* , intck("weeks",episodeadmitdate,episodedischargedate) as los\_weeks

from project.data

where calculated los\_weeks le **35**;

**quit**;

/\*Creating tables to allow an Analysis of Differences for BMI & Waist by Gender\*/

/\*First Measure Female\*/

**proc** **sql**;

create table physical\_first\_F as

select clientid, sex, episodeadmitdate, episodedischargedate, bmi as bmi\_first\_F, waist as waist\_first\_F, HC\_Flag, los\_weeks, Vitals\_LOS\_Measure\_W

from project.Physical\_time

where time="First" and Sex="F";

**quit**;

/\*First Measure Male\*/

**proc** **sql**;

create table physical\_first\_M as

select clientid, sex, episodeadmitdate, episodedischargedate, bmi as bmi\_first\_M, waist as waist\_first\_M, HC\_Flag

from project.Physical\_time

where time="First" and Sex="M";

**quit**;

/\*Differences in Females\*/

**proc** **sql**;

create table physical\_diff\_F as

select a.clientid, a.episodeadmitdate, a.episodedischargedate, a.sex, bmi\_first\_F, bmi\_last\_F, (bmi\_last\_F-bmi\_first\_F) as bmi\_diff\_F,

waist\_first\_F, waist\_last\_F, (waist\_last\_F-waist\_first\_F) as waist\_diff\_F, a.HC\_Flag, los\_weeks, Vitals\_LOS\_Measure\_W

from physical\_first\_F as a, physical\_last\_F as b

where a.clientid=b.clientid and a.episodeadmitdate=b.episodeadmitdate

and a.episodedischargedate=b.episodedischargedate;

**quit**;

/\*Differences in Males\*/

**proc** **sql**;

create table physical\_diff\_M as

select a.clientid, a.episodeadmitdate, a.episodedischargedate, a.sex, bmi\_first\_M, bmi\_last\_M, (bmi\_last\_M-bmi\_first\_M) as bmi\_diff\_M,

waist\_first\_M, waist\_last\_M, (waist\_last\_M-waist\_first\_M) as waist\_diff\_M,

a.HC\_Flag

from physical\_first\_M as a, physical\_last\_M as b

where a.clientid=b.clientid and a.episodeadmitdate=b.episodeadmitdate

and a.episodedischargedate=b.episodedischargedate;

**quit**;

/\*Differences in Unidentified\*/

**proc** **sql**;

create table physical\_diff\_U as

select a.clientid, a.episodeadmitdate, a.episodedischargedate, a.sex, bmi\_first\_U, bmi\_last\_U, (bmi\_last\_U-bmi\_first\_U) as bmi\_diff\_U,

waist\_first\_U, waist\_last\_U, (waist\_last\_U-waist\_first\_U) as waist\_diff\_U,

a.HC\_Flag

from physical\_first\_U as a, physical\_last\_U as b

where a.clientid=b.clientid and a.episodeadmitdate=b.episodeadmitdate

and a.episodedischargedate=b.episodedischargedate;

**quit**;

/\*BMI Totals and By HC for Graphics\*/

**proc** **sql**;

select avg(bmi\_total\_first) as bmi\_total\_first, avg(bmi\_total\_last) as bmi\_total\_last, avg(bmi\_total\_diff) as bmi\_total\_diff

from project.physical\_diff\_bmiwaist;

**Quit**;

**proc** **sql**;

select avg(bmi\_total\_first) as bmi\_total\_first, avg(bmi\_total\_last) as bmi\_total\_last, avg(bmi\_total\_diff) as bmi\_total\_diff,

hc\_flag

from project.physical\_diff\_bmiwaist

group by hc\_flag;

**Quit**;

/\*Exploring FF Scores by HC status and time\*/

/\*MADRS\*/

/\*For Remission\*/

/\*Differece in times to Remission\*/

Title"Differece in Times to Remission on MADRS by HC Challenge Group-SQL";

**PROC** **SQL**;

SELECT HC\_FLAG, N(DISTINCT CLIENTID) AS COUNT, AVG(N\_TOTALSCOREMADRS) AS AVE\_MADRS, AVG(FF\_LOS\_Measure\_W) AS AVE\_WEEKS

FROM PROJECT.DATA

WHERE (HC\_Flag NE **.**) AND (FF\_LOS\_Measure\_W between **0** and **30**) AND (n\_totalscoremadrs between **0** and **7**)

GROUP BY HC\_FLAG;

**QUIT**;

Title;

Title"Differece in Times to Remission on MADRS for Total Group-SQL";

**PROC** **SQL**;

SELECT N(DISTINCT CLIENTID) AS COUNT, AVG(N\_TOTALSCOREMADRS) AS AVE\_MADRS, AVG(FF\_LOS\_Measure\_W) AS AVE\_WEEKS

FROM PROJECT.DATA

WHERE (HC\_Flag NE **.**) AND (FF\_LOS\_Measure\_W between **0** and **30**) AND (n\_totalscoremadrs between **0** and **7**);

**QUIT**;

Title;

Title"Differece in Times to Remission on MADRS by HC Challenge Group-TTEST";

**Proc** **Ttest** Data=project.data;

class hc\_flag;

var FF\_LOS\_MEASURE\_W n\_totalscoremadrs;

where HC\_Flag NE **.** and FF\_LOS\_Measure\_W between **0** and **30** and n\_totalscoremadrs between **0** and **7**;

**run**;

Title;