NOTE: Analytical products:

SAS/STAT 15.2

SAS/ETS 15.2

SAS/IML 15.2

SAS/QC 15.2

NOTE: Additional host information:

X64\_10HOME WIN 10.0.22621 Workstation

NOTE: SAS initialization used:

real time 1.16 seconds

cpu time 0.26 seconds

1 proc copy in=TMP1 out=WORK;

NOTE: Writing HTML Body file: sashtml.htm

2 run;

NOTE: Input library TMP1 is sequential.

NOTE: Copying TMP1.DBQ\_I to WORK.DBQ\_I (memtype=DATA).

NOTE: BUFSIZE is not cloned when copying across different engines. System Option for BUFSIZE was used.

NOTE: There were 9971 observations read from the data set TMP1.DBQ\_I.

NOTE: The data set WORK.DBQ\_I has 9971 observations and 51 variables.

NOTE: PROCEDURE COPY used (Total process time):

real time 0.40 seconds

cpu time 0.11 seconds

3 libname ile 'C:\Users\Bobie\Desktop\ILE';

NOTE: Libref ILE was successfully assigned as follows:

Engine: V9

Physical Name: C:\Users\Bobie\Desktop\ILE

4

5 data ilestart;

6 set ile.nhanes2016;

7 run;

NOTE: There were 9971 observations read from the data set ILE.NHANES2016.

NOTE: The data set WORK.ILESTART has 9971 observations and 719 variables.

NOTE: DATA statement used (Total process time):

real time 0.06 seconds

cpu time 0.04 seconds

8

9 proc contents data=ile.nhanes2016;

10 run;

NOTE: PROCEDURE CONTENTS used (Total process time):

real time 0.08 seconds

cpu time 0.04 seconds

11 \*used Friedewald formula to calculate LDL;

12 data ilestart\_filtered;

13 set ilestart;

14 LBDLDL = round(LBXTC-(LBDHDD+LBXSTR/5));

15 run;

NOTE: Missing values were generated as a result of performing an operation on missing values.

Each place is given by: (Number of times) at (Line):(Column).

3720 at 14:10 3720 at 14:21 3720 at 14:29 3717 at 14:36

NOTE: There were 9971 observations read from the data set WORK.ILESTART.

NOTE: The data set WORK.ILESTART\_FILTERED has 9971 observations and 720 variables.

NOTE: DATA statement used (Total process time):

real time 0.05 seconds

cpu time 0.00 seconds

16

17

18 proc contents data=ilestart\_filtered;

19 run;

NOTE: PROCEDURE CONTENTS used (Total process time):

real time 0.07 seconds

cpu time 0.04 seconds

20

21 data ilestart\_raw;

22 set ilestart\_filtered;

23 where LBDLDL is not missing;

24 run;

NOTE: There were 6251 observations read from the data set WORK.ILESTART\_FILTERED.

WHERE LBDLDL is not null;

NOTE: The data set WORK.ILESTART\_RAW has 6251 observations and 720 variables.

NOTE: DATA statement used (Total process time):

real time 0.03 seconds

cpu time 0.00 seconds

25

26 data ilestart\_grp1;

27 set ilestart\_filtered;

28 keep SEQN RIDAGEYR LBDHDD BMXBMI RIAGENDR RIDRETH1 DMDHREDU INDHHIN2 LBDLDL DIQ010 DIQ160;

29 run;

NOTE: There were 9971 observations read from the data set WORK.ILESTART\_FILTERED.

NOTE: The data set WORK.ILESTART\_GRP1 has 9971 observations and 11 variables.

NOTE: DATA statement used (Total process time):

real time 0.02 seconds

cpu time 0.00 seconds

30

31

32 proc contents data=ilestart\_grp1;

33 run;

NOTE: PROCEDURE CONTENTS used (Total process time):

real time 0.01 seconds

cpu time 0.00 seconds

34

35 proc print data=ilestart\_grp1;

36 run;

NOTE: There were 9971 observations read from the data set WORK.ILESTART\_GRP1.

NOTE: PROCEDURE PRINT used (Total process time):

real time 2.22 seconds

cpu time 2.14 seconds

37

38 data ilestart\_grp2;

39 set DBQ\_I;

40 keep SEQN DBD900;

41 run;

NOTE: There were 9971 observations read from the data set WORK.DBQ\_I.

NOTE: The data set WORK.ILESTART\_GRP2 has 9971 observations and 2 variables.

NOTE: DATA statement used (Total process time):

real time 0.00 seconds

cpu time 0.00 seconds

42

43 proc sort data=ilestart\_grp1;

44 by SEQN;

45 run;

NOTE: There were 9971 observations read from the data set WORK.ILESTART\_GRP1.

NOTE: The data set WORK.ILESTART\_GRP1 has 9971 observations and 11 variables.

NOTE: PROCEDURE SORT used (Total process time):

real time 0.01 seconds

cpu time 0.00 seconds

46

47 proc sort data=ilestart\_grp2;

48 by SEQN;

49 run;

NOTE: There were 9971 observations read from the data set WORK.ILESTART\_GRP2.

NOTE: The data set WORK.ILESTART\_GRP2 has 9971 observations and 2 variables.

NOTE: PROCEDURE SORT used (Total process time):

real time 0.00 seconds

cpu time 0.00 seconds

50

51 data merged\_ILEdataset;

52 merge ilestart\_grp1(in=a) ilestart\_grp2(in=b);

53 by SEQN;

54 run;

NOTE: There were 9971 observations read from the data set WORK.ILESTART\_GRP1.

NOTE: There were 9971 observations read from the data set WORK.ILESTART\_GRP2.

NOTE: The data set WORK.MERGED\_ILEDATASET has 9971 observations and 12 variables.

NOTE: DATA statement used (Total process time):

real time 0.00 seconds

cpu time 0.00 seconds

55

56 proc print data=merged\_ILEdataset;

57 run;

NOTE: There were 9971 observations read from the data set WORK.MERGED\_ILEDATASET.

NOTE: PROCEDURE PRINT used (Total process time):

real time 2.43 seconds

cpu time 2.35 seconds

58

59 data merged\_ILEfinal;

60 set merged\_ILEdataset;

61 if DBD900=. then DBD900final=.;

62 else if DBD900=0 then DBD900final=0;

63 else if DBD900 =>1 then DBD900final=1;

64 run;

NOTE: There were 9971 observations read from the data set WORK.MERGED\_ILEDATASET.

NOTE: The data set WORK.MERGED\_ILEFINAL has 9971 observations and 13 variables.

NOTE: DATA statement used (Total process time):

real time 0.01 seconds

cpu time 0.01 seconds

65

66 proc print data=merged\_ILEfinal;

67 run;

NOTE: There were 9971 observations read from the data set WORK.MERGED\_ILEFINAL.

NOTE: PROCEDURE PRINT used (Total process time):

real time 2.46 seconds

cpu time 2.39 seconds

68

69 proc format;

70 value RIAGENDRf 1="Male" 2="Female" . =' ';

NOTE: Format RIAGENDRF has been output.

71 value RIDRETH1f 1='Mexican American' 2='Other Hispanic' 3='Non-Hispanic White' 4='Non-Hispanic

71 ! Black' 5='Other Race - Including Multi-Racial' . =' ';

NOTE: Format RIDRETH1F has been output.

72 value DMDHREDUf 1='Less Than 9th Grade' 2='9-11th Grade' 3='High School Grad/GED or Equivalent'

72 ! 4='Some College or AA degree' 5='College Graduate or above' 9='Do not know' . =' ';

NOTE: Format DMDHREDUF has been output.

73 value INDHHIN2f 1,2,3,4,5,12,13='$ 0 to $ 24,999' 6,7,8='$25,000 to $54,999' 9,10,14='$55,000 to

73 ! $99,999' 15='$100,000 and Over' 77='Refused' 99='Do not know'. =' ';

NOTE: Format INDHHIN2F has been output.

74 value DBD900finalf 0='No' 1='Yes'. =' ';

NOTE: Format DBD900FINALF has been output.

75 value DIQ010f 1='Yes' 2='No' 3='Borderline' 7='Refused' 9='Do not know'. =' ';

NOTE: Format DIQ010F has been output.

76 value DIQ160f 1='Yes' 2='No' 3='Borderline' 7='Refused' 9='Do not know' . =' ';

NOTE: Format DIQ160F has been output.

77 run;

NOTE: PROCEDURE FORMAT used (Total process time):

real time 0.03 seconds

cpu time 0.00 seconds

78

79

80 data ILEfinal22;

81 set merged\_ILEfinal;

82 format RIAGENDR RIAGENDRf. RIDRETH1 RIDRETH1f. DMDHREDU DMDHREDUf. INDHHIN2 INDHHIN2f.

82 ! DBD900final DBD900finalf. DIQ010 DIQ010f. DIQ160 DIQ160f. ;

83 run;

NOTE: There were 9971 observations read from the data set WORK.MERGED\_ILEFINAL.

NOTE: The data set WORK.ILEFINAL22 has 9971 observations and 13 variables.

NOTE: DATA statement used (Total process time):

real time 0.01 seconds

cpu time 0.01 seconds

84

85 data ILEfinal;

86 set ILEfinal22;

87 where LBDLDL is not missing;

88 run;

NOTE: There were 6251 observations read from the data set WORK.ILEFINAL22.

WHERE LBDLDL is not null;

NOTE: The data set WORK.ILEFINAL has 6251 observations and 13 variables.

NOTE: DATA statement used (Total process time):

real time 0.01 seconds

cpu time 0.01 seconds

89

90 proc sort data=ILEfinal;

91 by DBD900final;

92 run;

NOTE: There were 6251 observations read from the data set WORK.ILEFINAL.

NOTE: The data set WORK.ILEFINAL has 6251 observations and 13 variables.

NOTE: PROCEDURE SORT used (Total process time):

real time 0.00 seconds

cpu time 0.00 seconds

93

94 proc print data=ILEfinal;

95 run;

NOTE: There were 6251 observations read from the data set WORK.ILEFINAL.

NOTE: PROCEDURE PRINT used (Total process time):

real time 1.58 seconds

cpu time 1.54 seconds

96

97 proc freq data=ILEfinal;

98 tables RIDAGEYR;

99 run;

NOTE: There were 6251 observations read from the data set WORK.ILEFINAL.

NOTE: PROCEDURE FREQ used (Total process time):

real time 0.03 seconds

cpu time 0.00 seconds

100

101 proc freq data=ILEfinal;

102 tables DBD900final;

103 run;

NOTE: There were 6251 observations read from the data set WORK.ILEFINAL.

NOTE: PROCEDURE FREQ used (Total process time):

real time 0.02 seconds

cpu time 0.00 seconds

104

105

106 proc means data=ILEfinal mean std maxdec=2;

107 var RIDAGEYR BMXBMI LBDLDL LBDHDD;

108 by DBD900final;

109 run;

NOTE: There were 6251 observations read from the data set WORK.ILEFINAL.

NOTE: PROCEDURE MEANS used (Total process time):

real time 0.03 seconds

cpu time 0.00 seconds

110

111 proc freq data=ILEfinal;

112 tables RIAGENDR RIDRETH1 DMDHREDU INDHHIN2 DIQ010 DIQ160;

113 by DBD900final;

114 run;

NOTE: There were 6251 observations read from the data set WORK.ILEFINAL.

NOTE: PROCEDURE FREQ used (Total process time):

real time 0.05 seconds

cpu time 0.01 seconds

115

116 \*Model testing=unadjusted;

117 proc glm data=ILEfinal;

118 class DBD900final(ref='No');

119 model LBDLDL=DBD900final/solution clparm;

120 lsmeans DBD900final /tdiff adjust=tukey cl;

121 run;

122

123 \*Model 1;

NOTE: PROCEDURE GLM used (Total process time):

real time 1.30 seconds

cpu time 0.15 seconds

124 proc glm data=ILEfinal;

125 class DBD900final(ref='No')RIAGENDR(ref='Female') RIDRETH1(ref='Non-Hispanic White');

126 model LBDLDL=DBD900final RIDAGEYR LBDHDD BMXBMI RIAGENDR RIDRETH1 /solution clparm;

127 run;

128

129 \*Model 2;

NOTE: PROCEDURE GLM used (Total process time):

real time 0.04 seconds

cpu time 0.03 seconds

130 proc glm data=ILEfinal;

131 class DBD900final(ref='No')RIAGENDR(ref='Female') RIDRETH1(ref='Non-Hispanic White')

131! DMDHREDU(ref='High School Grad/GED or Equivalent') ;

132 model LBDLDL=DBD900final RIDAGEYR LBDHDD BMXBMI RIAGENDR RIDRETH1 DMDHREDU /solution clparm;

133 run;

134

135 \*Model 3;

NOTE: PROCEDURE GLM used (Total process time):

real time 0.05 seconds

cpu time 0.03 seconds

136 proc glm data=ILEfinal;

137 class DBD900final(ref='No')RIAGENDR(ref='Female') RIDRETH1(ref='Non-Hispanic White')

137! DMDHREDU(ref='High School Grad/GED or Equivalent') INDHHIN2(ref='$25,000 to $54,999') ;

138 model LBDLDL=DBD900final RIDAGEYR LBDHDD BMXBMI RIAGENDR RIDRETH1 DMDHREDU INDHHIN2 /solution

138! clparm;

139 run;

140

141 \*Removing Borderline,Refused and Do not know using ;

NOTE: PROCEDURE GLM used (Total process time):

real time 0.05 seconds

cpu time 0.00 seconds

142 data ILEfinaldata;

143 set ILEfinal;

144 if DIQ010=3 then delete;

145 else if DIQ010=7 then delete;

146 else if DIQ010=9 then delete;

147 if DIQ160=3 then delete;

148 else if DIQ160=7 then delete;

149 else if DIQ160=9 then delete;

150 run;

NOTE: There were 6251 observations read from the data set WORK.ILEFINAL.

NOTE: The data set WORK.ILEFINALDATA has 6111 observations and 13 variables.

NOTE: DATA statement used (Total process time):

real time 0.01 seconds

cpu time 0.01 seconds

151

152 proc print data=ILEfinaldata;

153 run;

NOTE: There were 6111 observations read from the data set WORK.ILEFINALDATA.

NOTE: PROCEDURE PRINT used (Total process time):

real time 1.55 seconds

cpu time 1.51 seconds

154

155 proc freq data=ILEfinaldata;

156 tables DIQ010;

157 run;

NOTE: There were 6111 observations read from the data set WORK.ILEFINALDATA.

NOTE: PROCEDURE FREQ used (Total process time):

real time 0.02 seconds

cpu time 0.00 seconds

158

159 \*Effect modication 1 Doctor told you have diabetes;

160 proc glm data=ILEfinaldata;

161 class DBD900final(ref='No') DIQ010 (ref='No') RIAGENDR(ref='Female') RIDRETH1(ref='Non-Hispanic

161! White') DMDHREDU(ref='High School Grad/GED or Equivalent') INDHHIN2(ref='$25,000 to $54,999');

162 model LBDLDL=DBD900final\*DIQ010 DBD900final DIQ010 RIDAGEYR LBDHDD BMXBMI RIAGENDR RIDRETH1

162! DMDHREDU INDHHIN2 /solution clparm;

163 run;

164

165

166 \*stratification based on diabetes;

NOTE: PROCEDURE GLM used (Total process time):

real time 0.05 seconds

cpu time 0.01 seconds

167 data Diabetes\_set ;

168 set ILEfinaldata;

169 if DIQ010 =1 then output Diabetes\_set;

170 run;

NOTE: There were 6111 observations read from the data set WORK.ILEFINALDATA.

NOTE: The data set WORK.DIABETES\_SET has 774 observations and 13 variables.

NOTE: DATA statement used (Total process time):

real time 0.00 seconds

cpu time 0.00 seconds

171

172 data NonDiabetes\_set;

173 set ILEfinaldata;

174 if DIQ010=2 then output NonDiabetes\_set;

175 run;

NOTE: There were 6111 observations read from the data set WORK.ILEFINALDATA.

NOTE: The data set WORK.NONDIABETES\_SET has 5337 observations and 13 variables.

NOTE: DATA statement used (Total process time):

real time 0.01 seconds

cpu time 0.00 seconds

176

177 proc print data=NonDiabetes\_set;

178 run;

NOTE: There were 5337 observations read from the data set WORK.NONDIABETES\_SET.

NOTE: PROCEDURE PRINT used (Total process time):

real time 1.38 seconds

cpu time 1.31 seconds

179

180 \*Effect modication by stratification based on diabetes;

181 \*Diabetes;

182 proc glm data=Diabetes\_set;

183 class DBD900final(ref='No') RIAGENDR(ref='Female') RIDRETH1(ref='Non-Hispanic White')

183! DMDHREDU(ref='High School Grad/GED or Equivalent') INDHHIN2(ref='$25,000 to $54,999');

184 model LBDLDL=DBD900final\*DIQ010 DBD900final DIQ010 RIDAGEYR LBDHDD BMXBMI RIAGENDR RIDRETH1

184! DMDHREDU INDHHIN2 /solution clparm;

185 run;

186

187 \*NonDiabetes;

NOTE: PROCEDURE GLM used (Total process time):

real time 0.04 seconds

cpu time 0.00 seconds

188 proc glm data=NonDiabetes\_set;

189 class DBD900final(ref='No') RIAGENDR(ref='Female') RIDRETH1(ref='Non-Hispanic White')

189! DMDHREDU(ref='High School Grad/GED or Equivalent') INDHHIN2(ref='$25,000 to $54,999');

190 model LBDLDL=DBD900final\*DIQ010 DBD900final DIQ010 RIDAGEYR LBDHDD BMXBMI RIAGENDR RIDRETH1

190! DMDHREDU INDHHIN2 /solution clparm;

191 run;