Model:

$$\text{logit}(p)=\alpha_0+\alpha_1\times X_{time}+\alpha_2\times X_{age1}+\alpha_3\times X_{age2}+\alpha_4\times X_{age3}+\alpha_5\times X_{age4}+\alpha_6\times X_{edugp2}+\alpha_7\times X_{edugp3}+\alpha_8\times X_{edugp4}+\alpha_9\times X_{curs}+\alpha_{10}\times X_{cigs}+\alpha_{11}\times X^2_{cigs}+\alpha_{12}\times X_{sex}+\beta_1\times X_{bmi\_underweight}+\beta_2\times X_{bmi\_overweight}+\beta_3\times X_{bmi\_obese}+\gamma_1\times X_{sex}\times X_{bmi\_underweight}+\gamma_2\times X_{sex}\times X_{bmi\_overweight}+\gamma_3\times X_{sex}\times X_{bmi\_obese}$$

Where

p probability of being diagnosed of MI in a case-control study, given BMI, time since FHS baseline, age, attained education, current smoking status, average number of cigarets smoked per day, and gender

X_{time} = time since FHS study baseline(days) <—-Controls were matched on time to cases.

X_{age1} = age(years)

$$X_{age2} = \begin{cases} X_{age1}-50 & X>50 \\ 0 & X\leq 50 \end{cases}$$

$$X_{age3} = \begin{cases} X_{age1}-60 & X>60 \\ 0 & X\leq 60 \end{cases}$$

$$X_{age4} = \begin{cases} X_{age1}-70 & X>70 \\ 0 & X\leq 70 \end{cases}$$

$$X_{edugp2} = \begin{cases} 1 & \text{High school diploma or GED} \\ 0 & \text{Otherwise} \end{cases}$$

$$X_{edugp3} = \begin{cases} 1 & \text{Some college or Vocational school} \\ 0 & \text{Otherwise} \end{cases}$$

$$X_{edugp4} = \begin{cases} 1 & \text{College(BS, BA) degree or more} \\ 0 & \text{Otherwise} \end{cases}$$

$$X_{curs} = \begin{cases} 1 & \text{Current smoker} \\ 0 & \text{Not current smoker} \end{cases}$$

$$X_{cigs} = \begin{cases} \text{Count} & \text{Average number of cigarettes smoked per day} \\ 0 & \text{Not current smoker} \end{cases}$$

$$X_{bmi\_underweight} = \begin{cases} 1 & BMI<18.5 \\ 0 & \text{Otherwise} \end{cases}$$

$$X_{bmi\_overweight} = \begin{cases} 1 & 25 \leq BMI<30 \\ 0 & \text{Otherwise} \end{cases}$$

$$X_{bmi\_obese} = \begin{cases} 1 & BMI \geq 30 \\ 0 & \text{Otherwise} \end{cases}$$

$$X_{sex} = \begin{cases} 1 & \text{Male} \\ 0 & \text{Female(recode sex 2=0)} \end{cases}$$