

Logistic Regression Homework

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Logistic Regression Homework, Vittinghoff's Book Chap 5.

1. Use the regression coefficients from the logistic model presented in Table 5.2 in the logistic formula (5.2) to estimate the quantities in Table 5.3 for a 65-year-old individual. Use additional calculations to add a new section to Table 5.3 for an age increment of five years.
2. For the fitted logistic regression model in Table 5.6, calculate the log odds for a 60-year-old smoker with cholesterol, SBP, and BMI values of 250 mg/dL, 150 mmHg, and 20, respectively. Now calculate the log odds for an individual with a cholesterol level of 200 mg/dL, holding the values of the other predictors fixed. Use these two calculations to estimate an odds ratio associated with a 50 mg/dL increase in cholesterol. Repeat the above calculations for a 70-year-old individual with identical values of the other predictors. Comment on any differences between the two estimated odds ratios.
3. Use the regression output in Table 5.16 and a calculation similar to that presented in (5.11) to compute the odds ratio comparing the odds of CHD in a 55-year-old individual with arcus to the corresponding odds for a 40-year-old who also has arcus.