ERHS 642 Logistic Regression Spring 2016

Homework Assignment 7 – New Version

Using the ICU_altered data set with STA as the outcome variable,

1. Perform best subsets selection of the main effects model
   - You can use collapsed variables and scale assessment results from HW 6
   - If the main effects model is unstable (huge standard errors or 95% confidence intervals for some variables) or if it contains statistically non-significant variables, consider removing those variables from the model before proceeding to question 2.

2. Compare your main effects model from HW 6 to the model obtained in question 1; explain any differences. Did you miss any important variables in HW 6?

3.
   a. Perform best subsets selection of the interaction terms added to the main effects model
   b. If the final model is unstable or if it contains statistically non-significant variables, consider removing those variables from the model before proceeding to question 4.

4. Compare your final model from HW 6 to the model obtained in question 3b; explain any differences.

5.
   a. Perform stepwise selection of the main effects model
      - You can use collapsed variables and scale assessment results from HW 6
      - If the main effects model is unstable (huge standard errors or 95% confidence intervals for some variables) or if it contains statistically non-significant variables, consider removing those variables from the model before proceeding to question 6.

   b. What is the problem with removing variables from the stepwise selected main effects model? How could you resolve the problem?

6. Compare your main effects model from HW 6 to the model obtained in question 5; explain any differences.

7.
   a. Perform stepwise selection of the interaction terms added to the main effects model
   b. If the final model is unstable or if it contains statistically non-significant variables, consider removing those variables from the model before proceeding to question 8.

8. Compare your final model from HW 6 to the model obtained in question 7b; explain any differences.