ERHS 642 Logistic Regression Spring 2016

Homework Assignment 9

Consider the **ICU_altered** data set.

1.
   a. Present a table containing coefficients, standard errors, Wald Chi-Square values and p-values for your final model from homework assignment 6
   b. Present a table containing odds ratios, 95% confidence intervals and p-values for your final model from homework assignment 6.

2. Use logistic regression diagnostics to identify outliers.

   a. Present scatterplots of h, difchisq, difdev and db vs. pihat
   b. Present a summary table describing the outliers
   c. Explain why the outliers are outliers[1]
   d. Present one or more tables showing effect of deleting outliers on model coefficients&p-values, GOF statistics&p-values and model stability
   e. Propose how to deal with the outliers (a hypothetical answer is sufficient; don't redo the analysis)

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[1] Example of an <u>in</u>adequate explanation: It's an outlier because difchisq is large
Another example of an <u>in</u>adequate explanation: It's an outlier because pihat is small but the person died
Example of an adequate explanation: It's an outlier because the subject had value a for risk factor A, value b for risk factor B and value c for risk factor C. All three values suggest a low mortality risk (resulting in a low value for pihat) but the subject died