Status for the project: Diagnostics and Characterization of binomial regression models as of June 10, 2010:

The topics below refer to those of the project description.

Residuals:

* An overview of various residuals, terminology and R implementation is badly needed.
* One important plot generally not available is the Half-normal plot, possibly with simulated envelopes.

Link functions:

* Generalized link functions are implemented for cumulative link models in package ordinal. The log-gamma link and Aranda-Ordaz links are available; for more details see the documentation for clm().
* Profile likelihoods, various plots etc. are also available for the link parameter (lambda).

Profile likelihood curves:

* Profile likelihood plots are available for binomial models via clm(), but since the method is easily implemented it would probably make sense to make the same plot method for profile.glm objects

Grouping of observations:

* group.glm() is already in package Rmisc.
* ungroup.glm() is not yet available, but should be easy to produce.

Goodness of fit:

* Two versions of the Hosmer and Lemeshow test are already in package Rmisc in HLtest(), but possibly it needs updating.
* The normal approximation to Pearson’s test is also there. The bootstrap is not implemented, but maybe it is not particularly interesting.

General descriptions of fit:

* Many descriptions are available in Rmisc via Rsq(), getError(), classError() and tabSummary() including ROC curves and empirical CDFs

Over dispersion:

* William’s procedure is probably not that interesting now that GLMMs make it possible to model over dispersed binomial data in better ways.