

Sheet 7, exercise 1 (e) (ii)

Score equations:

$$GLM : \sum_{i=1}^N \frac{\partial \mu_i}{\partial \beta} v_i^{-1} (\mathbf{Y}_i - \mu_i)$$

$$QUASI - GLM : \sum_{i=1}^N \frac{\partial \mu_i}{\partial \beta} \frac{v_i^{-1}}{\phi^*} (\mathbf{Y}_i - \mathbf{X}_i \beta)$$

$$GEE : \sum_{i=1}^N \left(\frac{\partial \mu_i}{\partial \beta} \right)^T \mathbf{V}_i^{-1} (\mathbf{Y}_i - \mu_i),$$

where \mathbf{V}_i has elements ϕv_i .