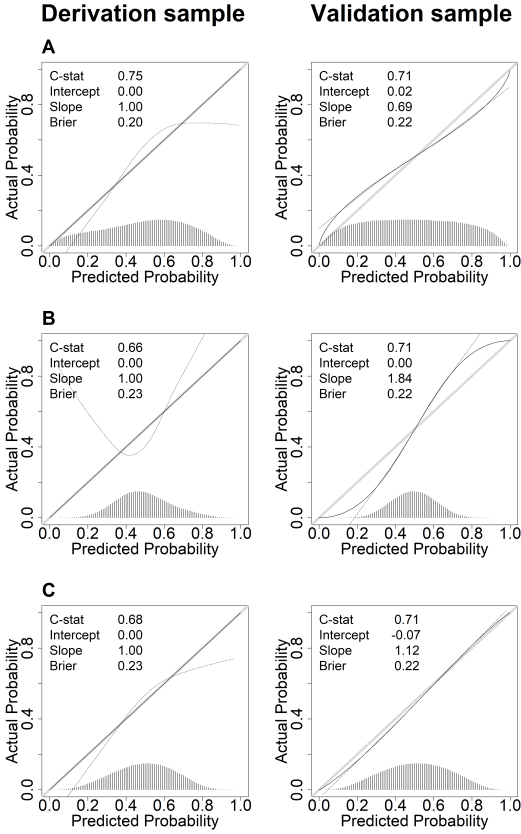


## Differential measurement heterogeneity at derivation



**FIGURE 9** Predictive performance of a single-predictor binary logistic regression model. In all three scenarios,  $\psi_{D\{0,1\}}$  and  $\psi_{V\{0,1\}}$  equal 0, the default value for  $\theta_{D\{0,1\}}$  and  $\theta_{V\{0,1\}}$  is 1.0, and the default value for  $\sigma_{\epsilon(D\{0,1\})}^2$  and  $\sigma_{\epsilon(V\{0,1\})}^2$  is 0.5. Otherwise, the predictor measurement structure for the cases at derivation (specified by  $\theta_{D1}$  and  $\sigma_{\epsilon(D1)}^2$ ) corresponds to:

A.  $W_D = \theta_D X + \epsilon_D$ , where  $X \sim N(0, 0.5)$  and  $\epsilon_D \sim N(0, 0)$ .

Measurements of cases are more precise at derivation.

B.  $W_D = \theta_D X + \epsilon_D$ , where  $X \sim N(0, 0.5)$  and  $\epsilon_D \sim N(0, 2.0)$ .

Measurements of cases are less precise at derivation.

C.  $W_D = \theta_D X + \epsilon_D$ , where  $\theta_{D1} = 0.5$ ,  $X \sim N(0, 0.5)$  and  $\epsilon_D \sim N(0, 0.5)$ .

Associations between  $X$  and  $W$  in cases are weaker at derivation.