

5.4.5a Attach Calibration and Discrimination Testing Results

CBE ID 5110, Standardized Readmission Ratio (SRR) for dialysis facilities

The model's ability to distinguish between patients who will and will not have a hospital readmission within 4-30 days was measured using the Area Under the Receiver Operating Characteristic (AUC) curve. The predicted AUC value is 0.683, which indicates the model has fair discriminatory power. This means the model is effective at differentiating between patients with higher and lower risk of a hospital readmission. Specifically, if a patient who was readmitted to the hospital and a patient who was not are randomly selected, the model will correctly identify which patient was readmitted 68.3% of the time.

Model calibration was assessed using a risk-decile calibration plot, which compares the mean predicted and mean observed readmission rates within deciles of predicted risk. Calibration plots display the agreement between predicted and observed rates across risk strata, with closer alignment indicating better calibration.

According to the risk-decile plot below, the observed readmission rates increased monotonically across predicted risk deciles, suggesting that the model provides meaningful separation of patient risk groups. The very close alignment between the predicted and observed readmission rates indicates that the model is well-calibrated across risk strata.

