**DEVELOPMENT OF TWO REGISTRY-BASED MEASURES SUITABLE FOR CHARACTERIZING HOSPITAL PERFORMANCE ON 30-DAY ALL-CAUSE MORTALITY RATES AMONG PATIENTS UNDERGOING PERCUTANEOUS CORONARY INTERVENTION**

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**Background:** Variations in outcomes following PCI may reflect differences in quality of care. At present, there is no national effort to monitor PCI mortality. We present risk models for PCI mortality based on registry data and approved by the National Quality Forum that were designed to characterize 30-day PCI mortality.

**Methods:** We developed hierarchical logistic regression models to calculate hospital-level, risk-standardized, 30-day all-cause mortality rates (RSMR) for patients undergoing PCI. To optimize clinical interpretability and model performance, we created 2 cohorts: PCI admissions with either STEMI or cardiogenic shock, and PCI admissions with neither STEMI nor cardiogenic shock. Models were derived using clinical data from the National Cardiovascular Data Registry’s CathPCI Registry that were linked with 2006 administrative claims data to determine outcomes. Models were validated using similar data from 2005.

**Results:** In the derivation of the STEMI or Shock model (n=15,123), unadjusted 30-day mortality rate was 9.2%. The final model included 13 variables with calibration ranging from 1.4% to 40.3% in the lowest and highest deciles. The 25th and 75th percentiles of the RSMR across 614 hospitals were 8.5% and 9.7%, with 5th and 95th percentiles of 7.6% and 11.0%. The odds of all-cause 30-day mortality rates for a hospital one standard deviation below average was 1.9 times that of a hospital one standard deviation above average. In the derivation of the non-STEMI/non-Shock model, the unadjusted 30-day mortality rate was 1.4%. The final model included 15 variables with calibration ranging from 0.1% to 7.0% in the lowest and highest deciles. In this cohort, the 25th and 75th percentiles of RSMR across 612 hospitals were 1.3% and 1.6%, with 5th and 95th percentiles of 1.0% and 2.0%. The odds of all-cause 30-day mortality rates for a hospital one standard deviation below average was 2.1 times that of a hospital one standard deviation above average. Model performance was comparable in the 2005 data.

**Conclusions:** These registry-based models produce estimates of hospital RSMR that can be used to evaluate and improve the quality of care of PCI patients.