A S P I R E

Anesthesiology Performance Improvement and Reporting Exchange

ASPIRE Qualified Clinical Data Registry

Risk Adjustment Methodology

ASPIRE relies on the extensive experience and expertise of the Multicenter Perioperative Outcomes Group (MPOG) statistics team to conduct the risk adjustment needed for outcome measures. MPOG is a non-profit academic consortium founded for the purposes of research (https://www.mpogresearch.org/about-mpog).

ASPIRE QCDR risk adjusts the following outcomes measures:

ASPIRE 18	CARD 01	Avoiding myocardial Injury
ASPIRE 19	AKI 01	Avoiding acute kidney injury

To evaluate provider-level risk adjustment we will calculate the observed to expected outcomes ratio (O/E) for myocardial injury and acute kidney injury. The O/E is calculated using a logistic regression model for each individual outcome and predicts (given a set list of patient and hospital level variables) the expected probability of having the outcome.   We anticipate adjusting for surgery risk score, emergent procedures, ASA, gender, age, body mass index, laboratory values, and teaching versus private hospital. Patient specific comorbidities will be evaluated for each individual outcome as well.

The logistic regression model is developed and executed at a patient level (i.e. each row of data is one patient). Within the patient level database, there will be a provider ID and the expected probabilities are then summed for each provider. The risk-adjusted estimate is calculated by taking the actual observed number of rates for each provider and divided by the expected number of outcomes (O/E ratio). An O/E of 1.0 indicates outcomes as expected, an O/E < 1.0 is better than expected and an O/E > 1.0 is worse than expected.