THE ASSOCIATION BETWEEN TIMELY PCI FOR STEMI AND EMERGENCY DEPARTMENT CROWDING

Poster Contributions
Poster Sessions, Expo North
Sunday, March 10, 2013, 9:45 a.m.-10:30 a.m.

Session Title: AMI and PCI II
Abstract Category: 28. Quality of Care and Outcomes Assessment
Presentation Number: 1199-94

Authors: Christopher Warren Jones, James J. Augustine, Seema S. Sonnad, Thomas A. Sweeney, Henry L. Weiner, Charles L. Reese, IV, Christiana Care Health System, Newark, DE, USA

Background: Performance of percutaneous coronary intervention (PCI) within 90 minutes of hospital arrival for ST-segment elevation myocardial infarction (STEMI) patients is a commonly cited clinical quality measure. The Centers for Medicare and Medicaid Services (CMS) now use this measure to adjust hospital reimbursement via the Value-Based Purchasing Program. Our objective was to determine whether measures reflective of emergency department (ED) crowding and operational efficiency are associated with performance on this quality measure.

Methods: Information on PCI performance for all hospitals reporting core measure data to CMS from 10/1/2010 to 9/30/2011 was obtained from data.medicare.gov. This was linked to ED operational data from 2011 obtained from the Emergency Department Benchmarking Alliance, an organization which collects data from a diverse cohort of EDs throughout the United States. CMS has defined a performance standard (91.86%) and benchmark standard (100%) for the percentage of STEMI patients who receive PCI within 90 minutes of hospital arrival. Using these standards, hospital PCI performance was grouped into three categories. Univariate analyses were performed to determine differences in standard ED crowding metrics across groups. These ED metrics describe overall ED performance and are not limited to STEMI patients. Statistical significance was assessed using the Kruskal-Wallis test.

Results: ED metrics were available for 429 hospitals; 272 (63%) of these reported at least 10 PCIs to CMS during the study period. Mean hospital performance on the 90 minute arrival to PCI benchmark was 94.0% (95% CI 93.0-94.9, range 42-100). Multiple measures of ED crowding differed among hospitals by level of PCI performance. Median ED length of stay was 209 minutes among hospitals performing below the performance standard, and 173 minutes among hospitals meeting the benchmark standard (p < .001). Median time from ED patient arrival to physician evaluation was 39 minutes for low-performing hospitals, and 23 minutes for hospitals meeting the PCI benchmark (p < .001).

Conclusions: Better performance on measures associated with ED crowding is associated with more timely PCI performance.