Using Lean Sigma to Improve Teamwork and Door to Balloon Times for Acute MI
St. Agnes Hospital

Program/Project Description.
In 2009 the State of Maryland announced new standards for 2010, where C-Port hospitals must meet door to balloon times for Acute MI in less than 90 minutes for 75% of all cases. These new standards would go into effect January 2010. Previously, the standard was set at 120 minutes. At the time of the announcement, St. Agnes door to balloon time performance under 90 minutes was at 50% Failure to meet the new standards could result in the loss of the C-Port program.

Process.
Using Lean Sigma methodology and tools, key stakeholders were identified; existing process was reviewed and waste identified; new process was identified; standard work was defined; key quality indicators were identified; metrics were developed; and regular feedback was provided to front line staff.

Solution.
Key quality indicators were used to develop performance metrics. These metrics created accountability for performance throughout ED and Cath lab team. Cases were reviewed weekly with timely feedback to clinical staff. Barriers to performance were identified and addressed.

Measurable Outcomes.
Within 3 months, door to balloon performance improved from 50% to 75%, and for year to date 2010 is at 82%. This includes all cases with atypical presentations and hemodynamic instability from cardiac arrests prior to arrival.

Sustainability.
Key quality indicators continue to be tracked on a weekly and monthly basis. Cases continue to be reviewed weekly with any outlier cases reviewed the next day.

Role of Collaboration and Leadership.
Prior to this initiative, the ED and cath lab functioned in silos. It was either perceived as the ED’s or the cath lab’s fault if a case exceeded the 90 min. door to balloon time. Now the ED nurses and physicians, cath lab nurses, and cardiologists understood the role that each play in the care of the patient and achieving the desired goal. Physician and nursing leadership for the ED and cath lab met weekly to review cases, egos were checked at the door, and all parties committed to addressing issues openly and honestly. Organizational leadership participated in monthly steering committee meetings where performance was reviewed and provided oversight to the initiative.

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Jan-Dec 2008  45%
Jan-Jun 2009  50%
YTD 2010  82%

![D2B<90 Min Chart](chart1.png)

Median D2B Time

Jul 08-Jun 09  87
Jul 10-Oct 10  71.5

![Median D2B Time Chart](chart2.png)