Lab Turnaround Time

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IDENTIFICATION:

The treatment of acute stroke patients must be completed within a designated period of time to allow for the evaluation and administration (if deemed appropriate) of alteplase within a three-hour period from symptom onset.

Several steps in the evaluation process must be completed timely to allow for time to administer alteplase, including the ordering and reporting of key lab work-studies.

Compliance with meeting the 45-minute turnaround time from order to completion of labs in Q1 FY 09 was 78% and in Q2 FY 09 was 75%. Based on these compliance rates, an opportunity for improvement has been identified.

PROCESS:

Using Mercy Medical Center’s performance improvement approach, AIIM, the multi-disciplinary team developed strategies for the improvement of lab turnaround times for acute stroke patients. AIIM stands for assess, improve, implement, and measure and a PI approach to evaluate a problem, determine possible causes and determine ways to improve. The strategies that were developed include:

- Summer 08- Implemented the use of a whiteboard in the lab to track stroke alert patients
- Ongoing- Review each stroke alert with stroke committee and discuss possible reasons for delays
- Fall 08- Post turnaround time goals in the Emergency Room so that all staff are familiar with the goal of 45 minutes
- Mar 09- Added a cover sheet to the stroke alert packet that allows the nurse to track all turnaround times
- Mar 09- Added a green sheet to the stroke alert packet to accompany the labs in the tube system to alert the lab staff to stroke alert labs
- Spring 09- Reviewed in-patient stroke alert process with ICU/IMC staff to ensure staff are aware of the 45 minute turnaround time goal
- Spring 2009- Perform tracers in the ED, ICU and Lab to test staff’s knowledge of the lab turnaround time goals
- Mar and Apr 09- Reviewed turnaround time goals with Lab staff and test their knowledge
• Summer 09- Implemented the use of a timer in the lab to remind lab staff when to call the stroke alert unit about the labs

**SOLUTION:**

Through the development of lab turnaround time strategies, Mercy Medical Center was able to decrease the average turnaround time for lab work and for the treatment time – door to needle, for acute stroke patients. These results have been sustained in the first two quarters of FY 2010 due to the successful implementation of strategies that are easily followed and have been made part of the process used by the stroke program.

Working collaboratively, the team was able to decrease the average lab work turnaround time to 33 minutes in Q1 and Q2 FY 2010 from an average of 42 minutes in FY 2009. The compliance with achieving the benchmark of 45 minutes was achieved in 92% of the stroke alert cases compared to 83% in year before.

Since the implementation of these strategies, 40% of the acute stroke patients were treated with alteplase in under 60 minutes from arrival or door to needle time.

**OUTCOMES:**

![Graph showing lab testing complete within 45 minutes from July 2008 to December 2009.](image-url)