

Optimization of the Medical Center Emergency Department

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Abstract: Mary Greeley Medical Center (MGMC) in Ames, Iowa has expressed concern in their quality measure regarding admit decision time to emergency department (ED) departure time for admitted patients. At this time, MGMC is reporting a median time of 68 minutes for this process and the need to reduce this time was expressed in order to reduce patient wait times, increase patient satisfaction, increase patient care, remain competitive with hospitals in the surrounding areas, and receive Medicare reimbursements effective in 2017.

The team's goal was to reduce the time from when it is decided a patient should be admitted to the time the patient physically leaves the ED by 20%. In order to accomplish this goal, the objectives of the previously performed current state analysis (CSA) were to determine value added, non-value added, and non-value added but necessary steps within the process, understand the variation in the process, and compare data recorded in Epic, which is MGMC's electronic medical record software, with real time observations.

To achieve these objectives, a process flow chart was created, real time observations were performed, and lastly, reported and real time data were analyzed and compared. The results of the analysis showed the patient care technicians' (PCT) responsibilities during the process were redundant and unnecessary. Furthermore, there was a difference in the average time for the process between the real time observations and the Epic data, which implied a non-standardized process.

These results left the team with several questions regarding MGMC's current system capabilities. After meeting with several MGMC staff members, these questions were answered and the team is now able to propose an improved standardized process from when the decision to admit a patient is made to when the patient departs from the ED.

The proposed solution includes removing the PCT from the process where Epic allows the communications between other staff members to be direct, allowing for staff members to perform their tasks of the process simultaneously where possible, and prompting an A3, which is a problem solving technique used to assist staff in determining what caused a certain situation, when a patient waits for four hours or more. The impact of these changes would decrease the process time from 67 minutes to 53 minutes, which is a 21% decrease in the process time. Moreover, these improvements would increase patient satisfaction, increase patient care, and have a potential for MGMC to earn \$108,000.00 more per year.

Additionally, the team has several recommendations for further improvement. If Epic were to acquire the capability to make the remaining communication steps of the process direct, implementation of those capabilities would make the process more efficient and effective at improving patient care, improving patient satisfaction, and decreasing the overall time to admit a patient from the ED.