Use of the Institute for Healthcare Improvement’s (IHI) Real Time Demand Capacity (RTDC) Model to Promote Organizational Values and Optimize Patient Flow

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Thomas Jefferson University Hospitals (TJUH) in Philadelphia, Pennsylvania were experiencing an excessive number of emergency department boarding (ED) and diversion hours in September of 2010 resulting in patient and staff dissatisfaction, patient safety concerns, and lost revenue. A Work Out was held with 75 participants to identify barriers to timely admission and discharge. It was quickly apparent that there were significant opportunities to improve coordination and communication across the organization. Hospital personnel created a new Patient Flow Management Center (PFMC) to coordinate all elements of the admission, discharge, and transfer process and deployed new real time patient tracking software. However, there were struggles with change and teamwork and hospital leadership was seeking to create a new culture of service excellence, collaboration, ownership, and respect following the adoption of new organizational values.

Introduction
Hospital leadership learned of the Real Time Demand Capacity (RTDC) model promoted by the Institute for Healthcare Improvement (IHI). A large multidisciplinary team comprised of representatives from nursing, environmental services, hospital administration, bed management, and the medical staff attended a two day conference on the model in Denver, Colorado in the Fall of 2011. Here the team learned the core components of the model, heard best practices from other providers, and established relationships with industry experts who had achieved positive results with RTDC. The conference itself also provided the participants with an opportunity to get to know each other on a personal level and fostered team building. This team immediately saw the benefits of the model and worked together to develop an implementation plan.

Objectives

Methods
The implementation team restructured the daily bed meetings. This consisted of the following: inviting the charge nurses, nurse managers and senior administration to the meeting to report their predicted demand and capacity for beds; changing the focus of the meeting from information reporting to collaborative action plan development; and developing a custom RTDC application to display demand and capacity information at the daily bed meeting. The RTDC application helped eliminate manual reporting and enabled the team to trend supply and demand and determine if action plans were effective.

Results
Deployment of the RTDC model together with opening our PFMC and implementing ED process improvement initiatives resulted in a 70% reduction in ED boarding hours, a 50% reduction in blocked beds, and the virtual elimination of ED diversion. Although unquantifiable, initiating the RTDC model helped strengthen the multidisciplinary team now responsible for patient flow and aligned their work with our organizational values.