



Increasing Emergency Department Patient Throughput

Background

Henry Mayo Newhall Memorial (Henry Mayo) is a 238-bed, not-for-profit, acute care community hospital in Valencia, California, serving the fast-growing Santa Clarita Valley. As part of its vision to create an ideal patient-centered environment, the hospital embarked on becoming a “digital” hospital with its decision to replace the mainframe-based computer system with a MEDITECH Client/Server Healthcare Information System.

The EHR system was to be implemented in two phases: Phase 1 replaced admissions, order entry, pharmacy, lab and patient billing functionality; and Phase 2 was to implement advanced clinical applications, including Emergency Department Management (EDM). In addition, the hospital decided to acquire business intelligence and reporting technology to improve its decision-making capabilities, and selected Dimensional Insight’s The Diver Solution™ (Diver).

Challenges

As Henry Mayo was about to begin Phase 2 in 2010, hospital executives decided to accelerate implementation of the MEDITECH EDM. The hospital’s goal was to implement EDM in just seven months - rather than rolling out the software in two stages over a suggested 18 month time period.

Prior to the EDM implementation, Henry Mayo did not have the patient flow data necessary to identify and manage Emergency Department (ED) bottlenecks, resulting in long patient wait times in the ED, as well as admission and discharge delays. Additionally, patients were leaving the ED without being seen, creating health risks for the patient and reducing ED revenues.

Working in Step

The hospital’s decision to compress an 18-month, phased EDM implementation into a few months’ overlapping implementation required Henry Mayo staff, Dimensional Insight, and MEDITECH to work in step: the hospital to lay out the vision, specify work flows, and provide project management and coordination; MEDITECH to implement the EDM system; and Dimensional Insight, working with the Henry Mayo’s Decision Support Team, to extract patient workflow data from EDM, build data models, and create dashboards and scorecards to track results against targets and key performance indicators (KPIs).

To support Henry Mayo’s requirement to manage overall patient flow, Dimensional Insight and the Henry Mayo Decision Support Team created data models that allowed hospital management to determine how long patients spend in the ED, and break down that time for each step in the ED flow. These times were aggregated and incorporated into dashboard measures visible to administrators and clinicians on a timely basis and in an appropriate context.

Business Intelligence Drives Process Improvements

During EDM implementation and testing, Diver ED reports and dashboards helped to refine workflow processes and better understand compliance. For example, initial Diver reports identified a long delay from the time the patient entered the ED to the time the patient saw a doctor. This led to a high percentage of patients leaving the ED without seeing a doctor. Henry Mayo worked with MEDITECH to add a checkpoint to the nursing workflow. Working in concert, Dimensional Insight, MEDITECH, and Henry Mayo quickly refined procedures to rapidly identify bottlenecks in the flow of patients through the department.

The Results Say It All

With the EDM installation, Henry Mayo now has a system capable of generating patient flow data at each step in the process. This data is leveraged in the Diver solution to provide a comprehensive and timely view of ED performance with dashboards and reports that aid management in improving ED throughput, utilization, and efficiency.

Measures are available to track end-to-end patient workflow, from the door to triage, to being seen by a doctor, to decision to admit, to clean room available and to transport to an inpatient room. Moreover, this information is available to clinicians and administrators at each step of the process. Managers are able to easily identify trends and exceptions. The availability of timely data allows them to quickly spot a measure that requires attention, immediately dive into the underlying details to get to the cause, and initiate improvement actions.

The results are impressive. ED wait times have been reduced in multiple areas:

- From the time a patient enters through the ED doors to triage - 80% decrease
- From triage to room - 60% decrease
- From room to physician exam - 63% decrease

Wait time improvements have also reduced by 83% the number of patients leaving the ED without being seen, translating into an additional \$2 million per year in ED revenues.

About Dimensional Insight

Dimensional Insight, Inc. is a leading provider of BI solutions with our BI platform and family of purpose-built applications. Our data integration, modeling, reporting capabilities, analytics, portals, dashboards, and applications empower users throughout the enterprise to make timely, data-driven decisions.

Thousands of worldwide customers choose Dimensional Insight solutions for flexibility, ease of integration, and rapid time-to-value. Dimensional Insight consistently ranks as a top performing BI vendor in customer satisfaction.

Henry Mayo Newhall Hospital Stats:

- 85,8 K outpatients treated
- 12.7k inpatients
- 36.5K patients treated in ED



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