

Emergency Department Dashboard

The impetus to create the dashboard stemmed from requests by the department chairman and hospital executive board for insight into operational and performance metrics including the daily and monthly volume, admission rate, re-admissions, the frequency of patients boarded in the ED and bed status on the inpatient floors, and ultimately patient flow and throughput.

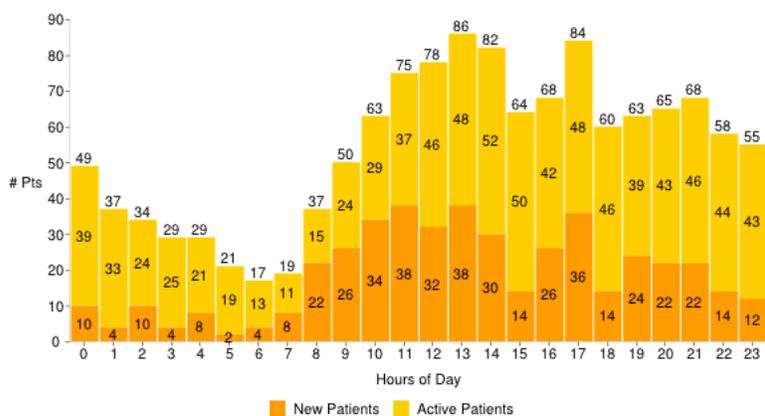
Some of the simpler-to-obtain metrics were completed on a daily basis by the Director of Operations who ran a SQL query through the Cognos query tool to obtain the data which was then parsed by hand or through an Excel spreadsheet. As can be imagined, this was tedious and time consuming manual labor that took the Director's time and focus from other important projects.

As a medical student with an engineering and system administration background, I believed that I had the requisite knowledge to help create a dashboard that would encompass all of the above metrics into a single email. Finding the data within the Allscripts EMR was difficult and tedious but with pages of notes and trial and error I was able to create SQL functions and procedures to allow for efficient retrieval. The results (graphs) were generated by using Perl to expeditiously parse through the generated results and piped through queries against Google chart images.

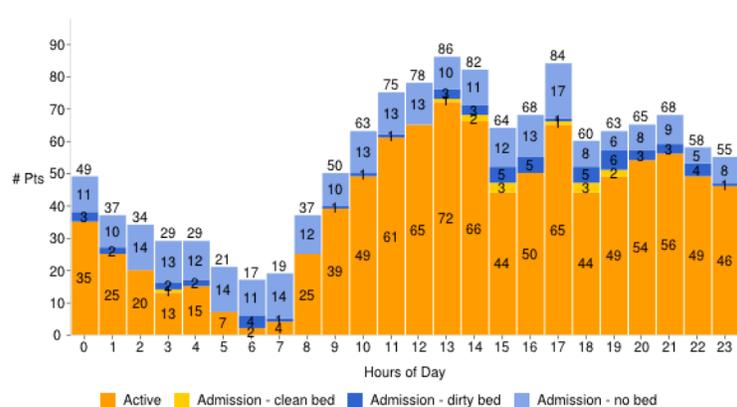
The idea, brainstorming, and implementation for the dashboard occurred during the Winter of 2010 and the product went into production March 2011. Successive iterations have been made after constructive feedback from interested parties telling us "what works and what doesn't work".

A second version of the dashboard was created to allow us to accommodate future requests for metrics while simplifying and refactoring the code to meet these and other needs. This newer version has changed the presentation of the data in a much cleaner and more understandable manner.

Adult Patients By Hour



Adult Occupancy



Adult Patient Flow and Throughput - Admissions (medians)

