

A Case Study in Healthcare Resource Planning and Emergency Preparedness

- Do you have the capacity to handle the next major heat wave? Or the Olympics coming to town?
- What will it cost to be ready for an outbreak of the Asian Bird Flu? Or Salmonella Poisoning?
- What if a neighboring facility lost power, or was damaged by a tornado? How would that impact you?

Optimal Care Software gives Healthcare administrators the insight and control to optimally balance the availability of resources while controlling operating costs.

Case Study: Hospital F

Hospital F, an east-coast hospital, was having issues with rising emergency department (ED) demand and costs. They were also unexpectedly running out of intensive care unit (ICU) beds at critical times.

Optimal Care Software utilized our resource planning tools and techniques to examine these issues and produce the weekly resource planning reports needed by Hospital F's emergency department and ICU department heads to efficiently manage the delivery of optimal care to their patients.

Regaining Control of the Emergency Department

Optimal Care Software started by examining the historical emergency department demand for Hospital F. While it was clear that emergency department visits were increasing, it was important to determine demand patterns empirically to quantify anecdotal beliefs such as "we're always busy on Mondays." First, the Day of Week variability was examined (Figure 1), along with the Seasonal Variation (Figure 2) of key conditions that drive the demand for resources.

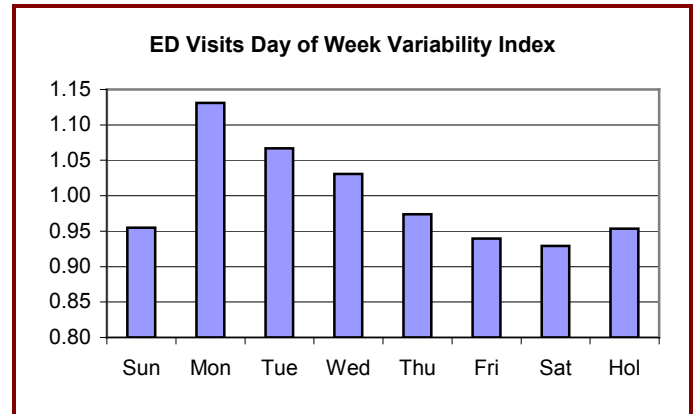


Figure 1: Hospital F's Day of Week Variability Index (1.0 is average) for emergency department visits, 2005-2007

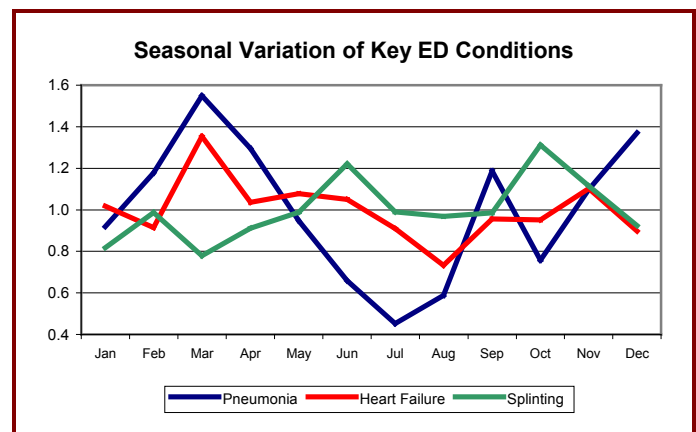


Figure 2: Hospital F's Seasonality Index (1.0 is average) for key emergency department patient conditions

These historical demand patterns were then combined with Optimal Care Software's time-series analysis forecasting models to provide an accurate picture of upcoming demand by individual resource, including availability confidence levels (aka Service Levels). As illustrated in Figure 3, using the demand level of the blue line assures adequate resources 85% of the time, while using the red line assures adequate resources 95% of the time. For a critical resource, you should use a 99% service level. For a less critical, more expensive resource, you could use an 85% service level. This allows you to accurately balance resource availability with operational costs to meet your budget.



Healthcare Resource Planning & Preparedness

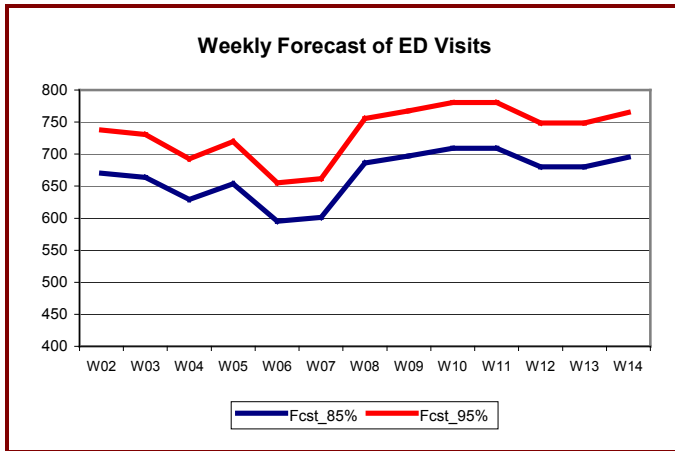


Figure 3: Hospital F's weekly forecast of emergency department visits at the 85% and 95% service levels.

ICU Capacity Management

Hospital F has 9 ICU beds. They needed forewarning of potential shortages in order to correctly manage their critical care patients.

Optimal Care Software performed a capacity analysis (Figure 4) to provide a daily probability that they could exceed their capacity. This directly translates to improved patient care and staff satisfaction.

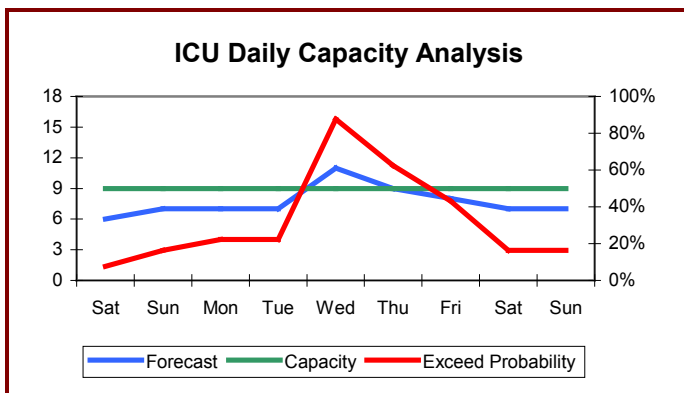


Figure 4: Hospital F's Daily ICU Capacity. Left axis shows volume, right axis shows probability to exceed capacity.

'What-if' Scenario Analysis

With the Optimal Care Software products you will have the knowledge needed to intelligently balance preparedness and costs. You can determine what resources will be needed for different levels of readiness. You will have the ability to perform 'what-if' scenario analysis to see the impact of a major change in demand.

As a Healthcare provider, you are balancing the need to be as ready as possible for a sudden increase in demand, while still being fiscally responsible. You need to perform intelligent risk management. Optimal Care Software will help you strike that balance, and be ready no matter what new challenge tomorrow brings.

The Optimal Care Software Solution

Optimal Care Software uses advanced resource demand forecasting & replenishment optimization algorithms. Combined with the deep experience of Optimal Care Software's professional services group, the result is a powerful new approach to optimizing the delivery of Healthcare.

Optimal Care Software provides a complete solution of professional services, software tools for ongoing self-directed resources management, and training on the effective use of those tools. The significant cost savings ensure that the payback for system setup costs is quickly realized, and the ongoing return on investment is exceptional.

All Optimal Care Software products and services are offered with no-risk, satisfaction guaranteed conditions. Call us today for more information on how Optimal Care Software can help you optimize your Healthcare delivery.



Optimal Care Software

Effective Healthcare Resource Planning

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