

# Performance Strategies



Using Analytics to Drive a Culture of Excellence

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## Using Analytics to Manage Hospital Throughput and Capacity



*David Richardson, MD, FACEP  
Associate Vice-Chair, Department of Emergency Medicine  
Lehigh Valley Hospital and Health Network, Allentown, Pa.*



What healthcare organization doesn't want to meet its goal for admissions? Every hospital drives toward meeting its goal, yet capacity constraints make it a challenge. In late 2006 and early 2007, Lehigh Valley Hospital and Health Network (LVHNN), in Allentown, Pa., was faced with increased demand for services and an inability to manage its capacity. Operating rooms were put on hold and transfer patients were being turned away — yet admissions were below its goal.

The emergency department (ED) is a major source of hospital admissions and was on diversion to ambulances between 170 and 220 hours a month. Ambulance diversion, commonly used by medical facilities when their hospital is perceived to have exceeded its capacity to care for patients', has been labeled an ED problem. However with the loss of 1-1.5 admissions for every hour of ambulance diversion, it clearly has a significant impact on revenue, patient safety and caregiver satisfaction as well as meeting the goal for admissions.

By employing analytics, LVHNN has been able to monitor the success of multiple process changes that are designed to increase hospital and ED virtual capacity by decreasing hospital and ED patient length of stay.

### **LVHNN Executives Drive Improvement**

Recognizing the systemic nature of the problem, executives at LVHNN launched a project to identify throughput inefficiencies to find ways to expand capacity. Named "Turnaround Time Committee," the initiative enlisted teams of healthcare professionals to evaluate dozens of possible process changes that could improve throughput.

Dashboards and scorecards are being used to monitor the success of these process changes. Using these tools, executives can drill down into time-stamped activity data to examine where and when process inefficiencies are occurring and to measure the impact on capacity, cost and quality. The data can be customized and filtered to support individual preferences, making it easy to measure the success or failure of various changes. At LVHNN, this customization has helped drive adoption to more than 1,400 users who have daily access to meaningful scorecards. If metric goals are not achieved, an automatic e-mail is sent to appropriate stakeholders to actively monitor process changes.

For example, the time from discharge order to the time that the patient is discharged is tracked for each one of the facilities. The goal is to discharge patients within 2 hours of the discharge order. Using analytics, we are able to drill down to discharge orders placed before 11 a.m., between 11 a.m. and 2 p.m., and after 2 p.m.; and also see discharge orders by physician, physician group, and hospital site. We can use this information to provide resources to physicians to meet the goal of discharging patients before 11 a.m. so that the bed can be freed for the next admission.

We've achieved significant results since the inception of this ongoing program:

- Reduced ambulance diversions by more than 80 percent
- Reduced ED wait times by 23.5 percent
- Reduced inpatient bed turnaround time from an average of 210 minutes per bed to an average of 60 minutes per bed
- Increased admissions to meet the goal for admissions

**NEXT**

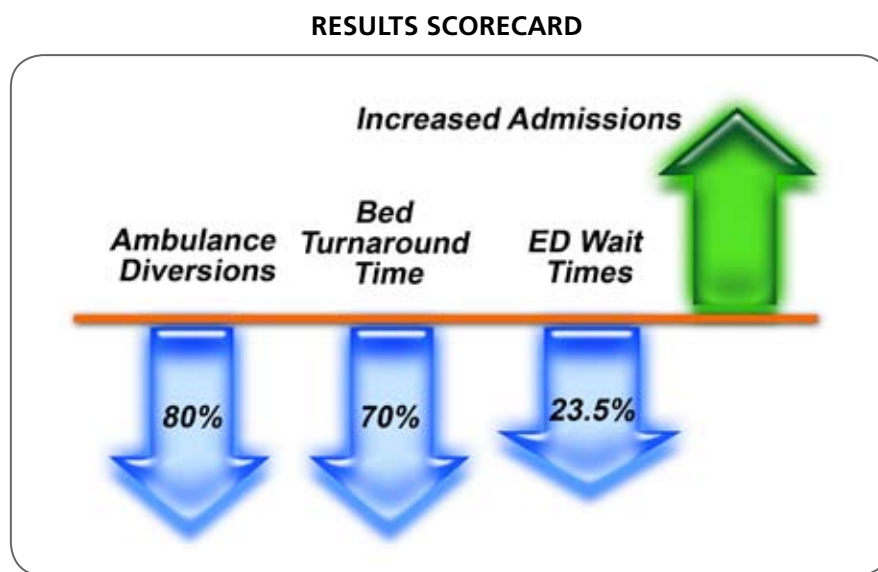
## Using Analytics to Manage Hospital Throughput and Capacity (Cont.)

### Analytics is Important in Changing Behavior

Analytics is an important element of sustainable performance improvement. Achieving these results required significant clinical process redesign and behavioral change. Faced with changing the way they have practiced for perhaps decades, clinicians may experience something akin to the five stages of grief — first there is denial, anger, bargaining, depression and finally acceptance. Providing your stakeholders with timely, accurate, relevant and quantifiable data is one of the key factors in changing behavior. Once the results of making those changes become evident — in this case with increasing admissions and decreasing diversions — you will achieve buy-in and acceptance and ultimately drive higher performance.

<sup>1</sup>Pham, et al., "The Effects of Ambulance Diversion: A Comprehensive Review," Academic Emergency Medicine. 13(11):1220-1227.

Dr. David Richardson spoke at McKesson's recent Executive Retreat for senior healthcare executives. Dr. Richardson was part of a panel discussion, "Gaining a Competitive Edge with the Power of Analytics," which was led by Tom Davenport, the industry expert featured in this issue of Performance Strategies.



Using analytics to identify inefficiencies, LVHVN provides resources to physicians to meet the goal of discharging patients before 11 a.m. so that the bed can be freed for the next admission.

## Learn More

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