

Case Study: Hospital Executive Council

Syracuse, New York

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Improving efficiency and outcomes in a single hospital is no easy task. Making quality improvements across four hospitals can be exponentially more challenging. The four acute-care hospitals of metropolitan Syracuse, New York, took on the challenge and are succeeding. How are they doing it? Although the hospitals compete for market share in several services, they recognize that cooperating in other areas, such as reducing lengths of stay, for example, can benefit all of the facilities.

The four hospitals—**Community General Hospital, Crouse Hospital, St. Joseph’s Hospital Health Center, and University Hospital of the State University of New York Upstate Medical University**—serve an immediate population of approximately 600,000 people. They also serve as the regional tertiary center for the Central New York Health Service Area, which includes a population of 1.4 million people. The **Hospital Executive Council**, a collaborative planning organization for the hospitals, maintains the community-wide system and supports data gathering and reporting among the facilities.

Employing the right tool

The major drivers of improved efficiency and outcomes included excess hospital stays, reimbursement limitations, and staff shortages in nursing and other areas. To target specific areas for improvement, the hospitals needed to compare their patient data to that of other hospitals around the country. They selected the **3M™ Benchmarking with Analytics** product to help them with this effort because it offered the hospitals the ability to identify severity of illness and risk of mortality in utilization and outcomes data, and because of its link to substantial state and national benchmark databases, according to Ronald J. Lagoe, Ph.D., executive director, Hospital Executive Council.

“The ability of the All Patient Refined DRG system to identify hospital inpatients by severity of illness and risk of mortality has added an important dimension to the evaluation of healthcare utilization and outcomes,” Lagoe says. “The tool has enabled the classification system to evaluate levels of illness for an entire range of conditions for each patient, rather than an individual diagnosis or procedure.”



Benchmarking for improved efficiency

To drive increased efficiency into inpatient acute care, the hospitals set about determining how the stays of their patients compared to severity-adjusted national averages.

“Only through identification of benchmarks adjusted for severity of illness was it possible to establish meaningful objectives for hospital length-of-stay reduction,” says Lagoe.

To accomplish the major reduction in length of stay necessary, hospital data needed to be analyzed multiple ways, enabled by the 3M™ Benchmarking with Analytics. The hospitals compiled and distributed benchmarking data related to length of stay using these categories:

- Hospital length of stay by discharge status compared with severity-adjusted benchmarks
- Physician length of stay compared with severity-adjusted benchmarks
- Hospital nursing unit discharges and lengths of stay by severity of illness

By comparing data in these categories with severity-adjusted benchmarks, hospital administrators were able to more closely pinpoint opportunities for improvement.

Hospital length of stay by discharge status compared with severity-adjusted benchmarks

“The All Patients Refined system made it possible for the four Syracuse hospitals to identify and address utilization concerns on a system-wide and institution-specific basis,” says Lagoe. “In 1996, with the hospitals’ first use of the 3M Benchmarking software, total differences in patient days between actual stays and severity-adjusted national benchmark stays for the hospitals’ adult medicine and adult surgery populations were 56,035 and 43,351, respectively.”

Lagoe explains that these figures were calculated by multiplying the differences between actual and national benchmark stays by number of discharges. The populations were broken down by discharge status, which suggested opportunities for the hospitals to improve utilization through length-of-stay reduction.

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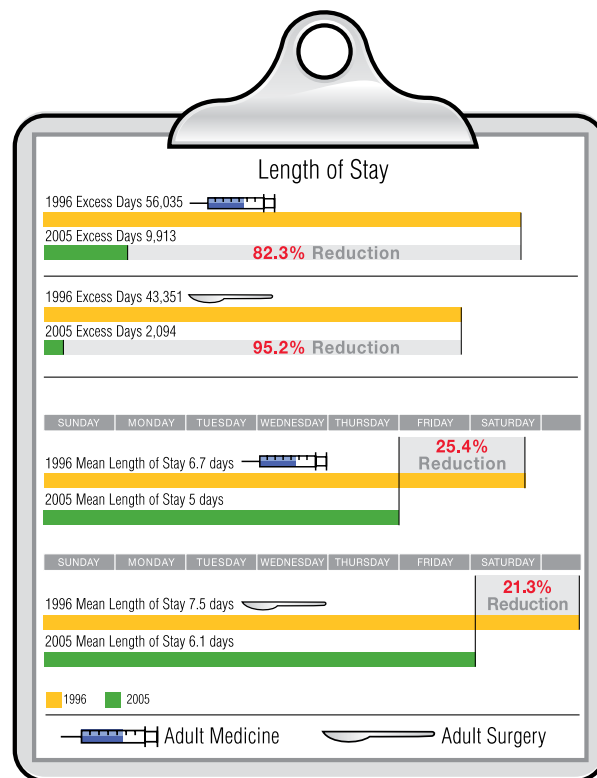


Figure 1. Major improvements in reducing length of stay have occurred between 1996—when the hospitals first began using the 3M Benchmarking software—and 2005

For the adult medicine population, the mean length of stay by individual patient declined from 6.7 to 5 days, a reduction of 25.4 percent. At the same time, the severity-adjusted national stay increased from 4.4. to 4.7 days, indicating that the illness level rose for this population. The mean length of stay for adult surgery patients declined from 7.5 to 6.1 days, a reduction of 21.3 percent. And according to the severity-adjusted national stay, the illness level of this population had also risen, indicated by a mean length of stay increase from 5.4 to 6 days.

Physician length of stay compared with severity-adjusted benchmarks

Because physicians are ultimately responsible for discharge orders, the hospitals used the 3M benchmarking software to analyze stays by individual physicians.

“The 3M APR DRG system has been essential to this process because the populations treated by individual physicians vary by severity of illness,” notes Lagoe. “The system has been able to identify these differences and project benchmark lengths of stay on a physician-specific basis.”

The physician length-of-stay data was used to develop utilization profiles for individual physicians, which the Departments of Medical Affairs distributed to the hospital medical staffs. Distributing the data for physician review made physicians more aware of their performances in relation to the national benchmarks and challenged them to do better. The reports also served as a way to implement conversations on the need for improvements.

In the time since the physician data was distributed and reviews began, physician stays compared with severity-adjusted national averages improved dramatically. Between the four hospitals, the number of physicians with stays at or shorter than severity-adjusted national averages increased from 39.4 percent in 2001 to 66.5 percent in 2006 (*see figure 2*).

Hospital nursing unit discharges and lengths of stay by severity of illness

Though dramatic reductions in length of stay have already been realized at the hospitals, follow-up efforts to monitor care utilization are ongoing. During 2005 and 2006, the Hospital Executive Council began distributing regular reports by nursing unit. The reports include inpatient utilization and mean length of stay by level of severity.

The data on hospital discharges and lengths of stay by severity of illness and nursing unit are being used extensively in the hospitals. Hospital administrative and clinical staffs have employed this information to track changes in utilization by nursing unit, including increases or decreases in severity of illness. The hospital staffs have also used the reports to monitor and improve lengths of stay. Lagoe believes that without the 3M™ APR DRG severity-adjusted benchmarks, these changes could not have been monitored.

At St. Joseph’s Hospital Health Center, the reports have demonstrated substantial savings in patient days for medical/surgical units during the fourth quarter of 2006 and for the hospitalist program beginning in the third quarter. At University Hospital, the nursing unit data demonstrated a reduction in stays below the severity-adjusted benchmark beginning in January 2007 (*see figure 3, next page*).

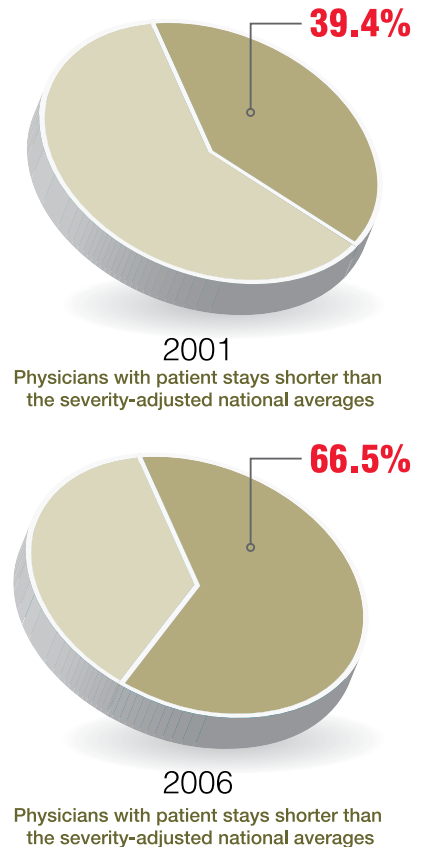


Figure 2. Among the four hospitals, there was a dramatic increase in the number of physicians whose patients had length of stays shorter than severity-adjusted national averages

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Achieving better outcomes

Using the 3M™ Benchmarking with Analytics has not only helped the hospitals gain efficiencies, but has also assisted them in working to improve outcomes. Since the mid 1990s, the hospitals have used 3M APR DRGs to evaluate inpatient mortality. In 2006, they began a stronger focus on mortality, distributing periodic reports showing major outcomes indicators. The reports give actual inpatient mortality and risk-adjusted national averages broken down by hospital for designated periods.

Distribution and review of the outcomes data reports has created a greater awareness of the need for reference to risk-adjusted mortality data within the Syracuse hospitals. This same process was necessary before implementation of the length-of-stay initiatives previously described. Individual hospitals are currently planning specific initiatives based on diagnoses and procedures where risk-adjusted mortality rates exceed national averages. According to Lagoe, identification of these items should generate opportunities for further improvements in patient outcomes.

Additionally, the 3M APR DRGs are being employed to develop periodic risk-adjusted mortality reports for the hospitals according to the **Agency for Healthcare Research and Quality (AHRQ)** indicators. AHRQ indicators are used in national and regional hospital report cards, and Lagoe states that “distributing this information should help the hospitals identify and address further outcomes data issues.”

More benefits to be realized

The Hospital Executive Council and the Syracuse hospitals are looking at additional ways the 3M Benchmarking with Analytics product can help them achieve their improvement goals. The council is evaluating approaches for applying the severity of illness system to readmissions. Also, says Lagoe, “Another important opportunity for severity of illness and risk of mortality data are enhanced benchmarking resources. 3M Health Information Systems has been pursuing this objective through evaluation of additional data sets and software enhancements.”

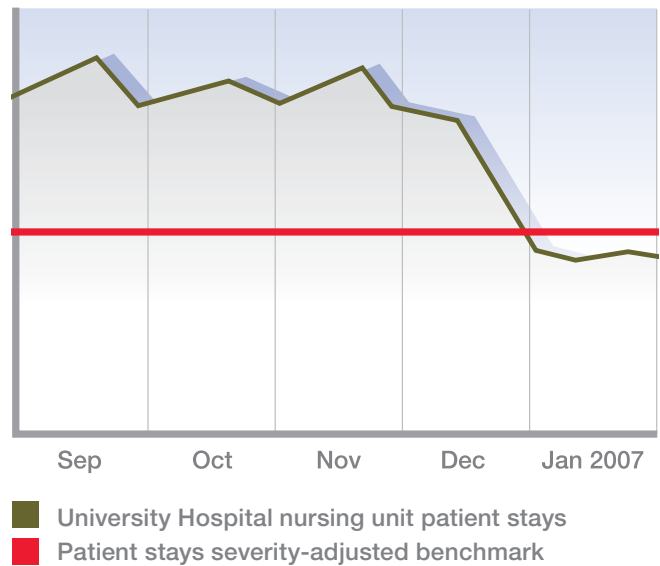


Figure 3. In January 2007 at the University Hospital, the nursing unit data reflected a reduction in stays lower than the severity-adjusted benchmark

Learn more about 3M APR DRG products

3M APR DRGs provide a clinically-based severity-measurement system for delivering precise metrics on the clinical complexity of your patient population.

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