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$125M Value Initiative Pays Off at Yale New Haven

Rene Letourneau for *HealthLeaders Media* | March 16, 2015

By zeroing in on quality variation improvement and holding regular meetings between finance and clinical leaders to review data, the $3.4 billion institution has been able to significantly reduce expenses and to achieve physician and nursing buy-in.

When the leadership team at Yale New Haven Health System set out two years ago to cut $125 million in costs and reduce its cost per case by 20%, its focus was on improving quality and reducing variations in care.

By zeroing in on quality variation improvement, the system has been able to reduce expenses and to achieve physician and nursing buy-in, which is a critical component to finding sustainable efficiencies, says Steve Allegretto, system vice president, analytic strategy and financial planning at the three-hospital, $3.4 billion institution.

"The best way to get clinicians to view it is to present it from a patient quality standpoint. We've been able to build trust in this process between the financial and clinical people that we have never had before, and this trust is a major part of moving this organization forward," Allegretto says.

"It's hard to talk to physicians and [nurses] about the cost per case when you are talking about a person's life, but if we can say, 'here's a case where something happened to a patient that we wouldn't want to have happen to one of our family members,' then we can generate a discussion that can lead to improved care and improved margins."

Improving Communication with Data

By integrating data from its patient electronic medical record, business data systems (including cost accounting for hospital and physician activity), and quality algorithms (including clinical registry data), Yale New Haven has been able to produce reliable, actionable data that has advanced the conversation with physicians and nursing, Allegretto says.

"This is something I've been trying to do within our organization for more than 15 years—that is to get clinical and financial leaders sitting at the same table to talk about process of care variation. Using the process variation data to look at the quality outcome side of care has led directly to an analysis of revenues and costs," Allegretto says.

He adds that this data analysis has consistently demonstrated that there is a direct relationship between process, quality, cost, and revenue and net margin variations.

"The old thinking was that we collected more revenue on those complicated cases where there may have been variations in care and outcomes for patients. We now realize that the contribution margin, as a percent of revenue, is higher for cases that don't have variations in quality. We showed that improving quality has improved margins. That went a very long way to building a common understanding and a common language to engage physicians, nurses, and other clinicians to lead improvement efforts," he says.

Developing a Common Language

That common language developed by Allegretto and others at Yale New Haven is called quality variation indicators (QVIs), which are potentially avoidable clinical complications and adverse events that occur due to variations in care. Yale New Haven now tracks the monthly trend of 27 QVIs, such as central line-associated blood stream infections and deep vein thrombosis, both organization-wide and by clinical service line.

Finance and clinical leaders meet regularly to review data around QVIs, to discuss their impact on quality and cost per case, and to find ways to improve and standardize care. These data are also highlighted in the monthly financial statement close package—

another sign of the cultural integration of quality and financial data, Allegretto says.

The results have been considerable. For example, between 2012 and 2014, one of Yale New Haven's hospitals reduced its cases of ventilator-associated pneumonia from 18 to four, saving about $84,000 per patient.

"Not only have we avoided the pain and suffering of patients, but we also reduced our expenditures by $1 million dollars between 2012 and 2014. This alignment between clinical and finance, with a common set of metrics and goals, has led to unprecedented alignment of efforts and clinical and financial outcomes, results that we can all get excited about," Allegretto says.

Identifying and Preventing Variations in ICU Care

One area where most hospitals, including Yale New Haven, experience considerable clinical variation is in the ICU. Allegretto says that the complex medical situations of the patients who are treated there make it challenging to standardize protocols. This can result in variations in care and create an environment where patients are at a higher risk for complications and longer ICU stays.

"We are very focused on process changes, including the use of technology and real-time data aggregation, to and stays," he says. "ICUs are not only among the most expensive units of the institution, they also have one of the highest rates of QVIs."

To reduce variation, Yale New Haven has been developing plans to institute real-time monitoring of patient data by the centralized SWAT (specialized workforce for clinical interventions on seriously ill patients) nurses with a goal of preventing or intervening sooner in deterioration of all of its patients, including those in its ICUs.

"Our goal is centralized remote surveillance of 100% of all of our medicine and surgery patients. We hope to reduce variations in care, improve identification of patients with problems, and thus improve our outcomes, including our length of stay in the ICU," Allegretto says.

"It has long been known that inpatient hospitalization is a risk for hospital-acquired conditions, and we now know that these conditions, like QVIs, occur more frequently among patients in the ICU. Our goal is to intervene before patients need to be transferred to the ICU and to reduce their length of stay."

Having Difficult End-of-Life Discussions

While having conversations about end-of-life care is not easy, Allegretto says helping patients and their families understand that these difficult clinical decisions are based on data and are intended to avoid ineffective and, at times, uncomfortable procedures or care is important for improving care and lowering costs.

Between July 2011 and May 2013, 95 patients in one of Yale New Haven's hospitals spent at least one night in the oncology unit before being transferred to the ICU, where they died, he says. As a result of the transfer to the ICU, the health system incurred about $1.3 million in direct costs that potentially could have been avoided while patients received high-cost interventions, which may have extended their lives but did not save them.

"We need to look at how we can better predict the impact of end-of-life interventions, including ICU transfers. We also need to engage in a national discussion regarding end-of-life care and engage patients and their families in these critical decisions. We need to be talking about how we can identify those patients where we should be having palliative care discussions," Allegretto says.

"It requires a recognition by the organization and the clinicians across multiple disciplines that we are going to build in a process that allows for the identification of those patients for those questions to be asked. I realize this is not easy stuff. We are not making cars or widgets. We are trying to standardize very complex care for individual patients… so we need to get this right and give patients, their families, and clinicians the right tools. By identifying and reducing avoidable quality variation, we will provide higher value to our patients and continue to bend the cost curve."