Consider a wider range of potential complications to improve patient safety

Reducing preventable complications is a high priority, especially in light of readmission penalties. A recent data analysis by Premier, Inc, has identified 86 high-impact potential inpatient complications (PICs) associated with increased inpatient mortality, costs, and length of stay (LOS).

In their study of 530 inpatient facilities, Premier, a healthcare performance improvement company based in Charlotte, North Carolina, found:

- Perioperative shock was linked to a 6.5% increased risk of mortality.
- Postoperative or perioperative infection was associated with an increased LOS of 3.46 days and $50 million in excess costs.
- Complications of cardiac device or graft were tied to an increased LOS of 4.28 days and $72 million in excess costs.
- Respiratory failure affected more than 119,000 patients and was associated with an increased LOS of more than 2.12 days and more than $940 million in excess costs.

In a secondary analysis, Premier cited respiratory failure and sepsis/bacteremia among the top 10 PICs most likely to affect mortality, LOS, cost, and reimbursement. Two facilities that have worked with Premier on process improvements shared their success stories during a press conference.

Respiratory failure

Increases in raw mortality and expected mortality rates for 2013 at Memorial University Medical Center in Savannah, Georgia, led to efforts to reduce postoperative respiratory failure.

"We implemented a STOP-Bang protocol," explained Raymond V. Meguiar, MD, senior vice president and chief medical officer, "that includes symptoms and conditions such as snoring, tiredness, observed apnea, elevated blood pressure, increased BMI [body mass index], older age, neck circumference, and gender."

This risk assessment tool helped identify patients at risk for postoperative respiratory failure, and a protocol for early consults with respiratory services and therapists was introduced, he said.

As a result, postoperative respiratory failure dropped almost threefold, from 28.75 to 10.06 per 10,000 adjusted patient days between the first quarter of 2012 and the third quarter of 2013, he said.

"We had to develop protocols to identify risk and ensure evidence-based care was being delivered. We had to have a control plan with constant review. And we had to measure, and measure, and measure," Dr Meguiar said.

Sepsis

At Frederick Memorial Hospital, a 309-bed facility in Frederick, Maryland, a patient was admitted with a seemingly mild urinary tract infection. After initial treatment on a medical-surgical floor, the patient began to deteriorate quickly and was diagnosed with sepsis. Promptly admitted to the ICU, she was later treated and released.
“That case represented to us the potential for what could occur in patients who seem to be doing well but develop complications such as sepsis very quickly and, in many cases, die,” said Sharon L. Powell, MS, RN, CPHQ, patient safety officer and director, performance improvement.

The risk-adjusted mortality rate for sepsis at that time was 16%. A multidisciplinary task force thus was formed and identified the following needs:

• additional education for staff and physicians on early recognition and treatment of sepsis
• a sepsis protocol for the emergency department
• a screening tool for nurses to triage both emergency department patients and inpatients
• a sepsis rapid improvement team.

Making these changes led to a 45% decrease in mortality, a 20% drop in readmissions, and 40% fewer sepsis-related complications.

“We used an evidence-based sepsis bundle developed by the multidisciplinary team to reduce variation in care, and we continue to monitor and analyze data to ensure that we are identifying any further issues in our process,” Powell said.

A work in progress

Although the Premier study doesn’t model a causal chain, future research will attempt to do so. The current findings, however, suggest a broader set of measures that may become the quality indicators of the future, the study notes. ✤

—Elizabeth Wood

Reference

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