ACS NSQIP Program Data Tracks Surgical Patient Readmission Data Better Than Administrative Data

As the Centers for Medicare & Medicaid Services (CMS) continues to cut reimbursement to hospitals with high rates of patient readmissions, hospitals are looking for more accurate ways to track information on patients who end up being readmitted to the hospital within 30 days of discharge. Now, a new study has found that data collected through the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) may offer significant advantages in providing accurate readmission data compared with medical records data and even a surgical patient's actual chart. The study appears in the March issue of the Journal of the American College of Surgeons.

"If we're going to try to reduce readmissions and improve care for surgical patients, we have to know why they are being readmitted," said Karl Bilimoria, MD, assistant professor of surgery and director of the surgical outcomes and quality improvement center at Northwestern University, Chicago. "The CMS readmission data doesn't offer that [information] to hospitals, and the more granular you can get with the information, the more actionable it will be locally for quality improvement and reduction of readmissions."

Currently, more than one in 10 surgical patients have complications that send them back to the hospital within 30 days, according to a 2012 study in the Journal of the American College of Surgeons.i

Most hospitals use clinical patient records and administrative data to determine how patients fare after a surgical procedure. But these methods have limitations. Clinical patient records are considered the gold standard of patient tracking because a clinical professional records the information in real time. However, patient records do not allow hospitals to compare their results with that of other hospitals, since those records provide information only about patients in that specific hospital or health system.

Administrative data, such as the type submitted to CMS, are mostly recorded for billing purposes, usually by someone with no patient care training. Administrative data also do not give reasons for readmissions, and do not indicate whether a readmission was planned or unplanned. A readmission is considered "unplanned" if it is not stipulated in advance as being part of the perioperative process.

Hospitals participating in ACS NSQIP can review clinical patient data, as well as compare themselves with other hospitals in the database because all of the data collection and definitions are standardized. In January 2011, ACS NSQIP began collecting key data on the frequency and reasons behind readmissions. While the ACS NSQIP information is useful, Dr. Bilimoria and the Northwestern research team

wanted to see whether the information accurately matched the patient records and how the information compared to administrative data.

The surgeons looked at data on 1,748 patients in the Northwestern Memorial Hospital ACS NSQIP database. Nearly 70 percent of the patients had operations that required a hospital stay, and nearly all came to the hospital able to function independently. About 7.5 percent were readmitted within 30 days of their operations.

The investigators then assessed the accuracy of the ACS NSQIP data by comparing it with the readmission data in the patients' medical records—a comparison that yielded a rate of 99.8 percent agreement with the patients' charts. Only two readmissions were not captured in the ACS NSQIP data.

Additionally, two readmissions were misclassified because the patients were readmitted through the emergency department (ED). Dr. Bilimoria said the two ED readmissions reflected a difference in terminology, rather than an inaccuracy, because patients who come through the ED are not always recognized as a readmission. The difference highlights the need for comparing sources of information in order to improve the quality of surgical patient care and tracking. "Since seeing that inconsistency, we've been able to correct it," Dr. Bilimoria said.

ACS NSQIP also had a 95.7 percent agreement with the patient charts on tracking whether the readmission was planned or unplanned and nearly 80 percent agreement on the cause of the readmissions. Administrative data cannot distinguish planned from unplanned readmissions, and may thus unfairly penalize hospitals for a planned readmission. ACS NSQIP allows hospitals to be compared and focus on unplanned readmissions.

Though the administrative data showed high agreement with patient charts on recording readmissions--99.5 percent--agreement was significantly lower on the reasons behind the readmission (55.1 percent). "Historically, the most used source of readmission data has been administrative data," the authors wrote.

But, Dr. Bilimoria said, "ACS NSQIP is as reliable as going through a chart. It's certainly a better source than administrative data."

"It's the type of data you can use to identify opportunities for improvement," Dr. Bilimoria added. A 2009 study in the Annals of Surgery found that hospitals could prevent 250 to 500 patient complications each year that ACS NSQIP is used.ii

Surgeons at Northwestern Memorial Hospital have used the data to improve their surgical site infection and urinary tract infection rates for surgical patients. "We keep an eye on all outcomes," Dr. Bilimoria said. "If we're average on one quality of care standard, we can recognize it and move toward becoming excellent."

Other study participants include Morgan M. Sellers, BA; Ryan P. Merkow, MD, MS; Amy Halverson, MD, FACS; Keiki Hinami, MD, MS; Rachel R. Kelz, MD, MSCE, FACS; David J. Bentrem, MD, MS, FACS; Karl Y. Bilimoria, MD, MS.

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