ACS NSQIP data is more accurate than administrative data for tracking 30-day hospital readmissions

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With Medicare penalties on hospitals with higher-than-expected rates of 30-day readmissions expected to rise in 2014, more hospitals are evaluating the most accurate methods for tracking readmissions of patients. A new study appearing in the June issue of the *Journal of the American College of Surgeons* finds that the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) led to more accurate data tracking than another popular database, the University HealthSystem Consortium (UHC), for tracking 30-day hospital readmissions among colorectal surgical patients.

Currently, readmissions for Medicare patients alone cost $26 billion annually. About $17 billion of that could be avoided if patients received the right care from the start, according to a February 2013 report from the Robert Wood Johnson Foundation.* Last year, the Centers for Medicare and Medicaid Services (CMS) began cutting one percent of reimbursements for 30-day readmissions among Medicare patients. That penalty is expected to increase to two percent in 2014 and three percent in 2015.

Readmissions are devastating for patients who have had major operations and then end up back in the hospital 30-days later due to complications. "It's extremely disruptive to patients, their lifestyles, and their caregivers," said Elizabeth Wick, MD, FACS, study author and assistant professor in the department of surgery at Johns Hopkins

Medicine, Baltimore.

Readmissions can also lead to poorer outcomes for the underlying disease. "For example, for colorectal cancer, the goal is to get these patients into chemotherapy within three months of the operation," Dr. Wick explained. "But if a patient is readmitted with a wound infection, that event delays initiating additional treatment to fight the disease, which could have a long-term impact on the outcome."

But tracking readmissions is challenging for hospitals. Moreover, in the current climate there is no standardized way that readmission data is reported to CMS. As the authors point out, "there is no consensus on the best methodology for establishing preventable readmission and by default, pay-for-performance incentives are beginning to use all-cause readmission rates."

One tool, the University HealthSystem Consortium (UHC) database, is commonly used to track readmissions by using administrative data that's used for billing purposes. "A major issue is that manual data is so labor intensive to collect," Dr. Wick said. "Billing data was never intended to be used to drive patient care. But we've been using that data as a last resort, because until recently we didn't have anything else to work with."

For the study, Dr. Wick and colleagues compared the ACS NSQIP database, which tracks data from the patient's chart, with the UHC database, which uses administrative data, to determine which system was more accurate. All readmissions identified from both databases were then further scrutinized by surgeons who went back and reviewed charts of the readmitted patients.

The two databases are markedly different. ACS NSQIP uses nurses or other clinically trained staff to enter data from the surgical patient's chart into the database, which includes about 530 hospitals nationwide.

When nurses have questions, they consult with the surgeon or call the patient directly, Dr. Wick said. Furthermore, if a hospital participates in ACS NSQIP, clinicians can review clinical patient data, and also compare themselves with other hospitals in the database because all of the data collection and definitions are standardized.

The UHC database collects administrative data from billing information at 407 academic medical centers and their affiliated hospitals and benchmarks results to comparator institutions, but the data is never reviewed by clinicians. Dr. Wick and her team looked at readmission data for patients who had colorectal operations between July 2009 and November 2011 at Johns Hopkins University Medical Center, which uses both ACS NSQIP and UHC. During that time, 735 patients underwent colorectal operations. When the researchers compared how accurately NSQIP, UHC and patient chart review captured information on these patients, they found several important differences: The NSQIP database reported that 107 patients had been readmitted, while the UHC database said that 129 had been readmitted within 30 days.

Furthermore, ACS NSQIP data tracked seven patients who had been readmitted to other hospitals. UHC data included 31 readmissions that were not captured in NSQIP. Twenty of the UHC cases were noted because the two databases have different definitions of a 30-day readmission. UHC starts counting right after discharge, whereas NSQIP starts counting after the actual operation, allowing UHC to track patients for a longer period after the surgical procedure.

The databases also differ on how many of the readmissions were directly related to the actual operation. NSQIP found that 72 percent of the readmissions were directly related to the surgical procedure, while the UHC database tracked only 51 percent related to the surgical procedure.

Further patient chart review by a surgeon found that NSQIP's numbers

were more accurate. "In general, UHC consistently reported lower rates of readmissions related to index hospital stay compared with other methods," the study authors wrote.

"When we drilled down the data, NSQIP data turned out to be light years ahead in accuracy," Dr. Wick said.

The researchers identified surgical site infection (SSI) as the only postoperative complication that could be traced back to the index hospital, noting that "readmission was necessary for safe patient care." Several other postoperative complications, including dehydration, gastrointestinal-related issues, and deep venous thrombosis could largely be prevented from happening during hospitalization, thus curbing readmissions for those types of conditions. "With improved patient-care efforts and more accurate data, more than 30 percent of the readmissions could have been prevented," the authors wrote.

Still, most hospitals that are not in the NSQIP database are relying on less accurate billing data to track readmissions and may not accurately be identifying causes for them, Dr. Wick observed. "Internally, if you want to improve patient care, it's not enough just to know that the patient came back," Dr. Wick said. "You need to know why. And NSQIP data is key to providing those answers."

More information: * The Revolving Door: A Report on U.S. Hospital Readmissions, Robert Wood Johnson Foundation. Available at www.rwjf.org/content/dam/farm/ … orts/2013/rwjf404178. Accessed June 10, 2013.

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