Quality Incentives Show Positive Results at Year 3

BY DENISE NAPOLI
Assistant Editor

Hospitals participating in year 3 of the Premier Hospital Quality Incentive Demonstration program raised quality scores across all measured areas by an average of 15.8%, with the greatest improvements in treatment of pneumonia and heart failure patients, according to the Centers for Medicare and Medicaid Services.

The Hospital Quality Incentive Demonstration (HQID), which began in 2003, measures what percentage of patients at 250 participating hospitals are getting appropriate care in five areas: heart attack, heart failure, pneumonia, coronary artery bypass graft, and hip and knee replacements. CMS awards bonuses based on the performance and improvement measures.

Data used for the program were collected by Premier, a network of not-for-profit hospitals. According to CMS and Premier, since the program's inception, gains have been made in percentage of patients receiving adequate care in all five of the measured areas. CMS reported that a total of 96% of heart attack patients at participating hospitals received adequate care in 2006, compared with 87% at baseline, according to the Premier measure. Similarly, 97% of coronary artery bypass graft patients, up from 85% 3 years ago, got adequate care.

The data from year 3 of the program also showed that 89% of heart failure patients, compared with 64% in 2003, received appropriate treatment, and among pneumonia patients, 90%, versus 69% 3 years ago, received quality care. A total of 97% of hip and knee replacement patients, compared with 85% in 2003, received proper care according to the measures.

Premier reported that hospitals in the top 10% in each area receive a bonus payment of 2% of the Diagnosis Related Group–based prospective payment for the patients with the measured condition for all Medicare fee-for-service beneficiaries. Hospitals in the next highest 10% receive a 1% payment. Facilities in the top 50% of each area receive recognition on the CMS Web site (the complete list is at www.cms.hhs.gov/HospitalQualityInits/35_HospitalPremier.asp and download the "Top 50% Performers for Year 3" file).

Dr. Franklin Michota, of the department of hospital medicine at the Cleveland Clinic, said the HQID program is a useful tool to motivate even individual physicians. "That 1%-2% Medicare reimbursement update could be huge for the hospital's bottom line, which could affect lots of things in [the physician's] world. It could affect ancillary support, or your office space."

But the program is not without problems. For example, Dr. Michota said, data on when to give antibiotics in pneumonia patients— part of the quality measures for treatment of pneumonia patients—is being challenged in the current literature. "It's not clear that [administering timed antibiotics] is consistently and reliably linked to mortality, and the adverse effect might be treating too many people with antibiotics who don't have pneumonia."

Dr. Michota added that other areas where hospitalists can expect to see process-based quality measures like these enacted in the future include treatment for deep vein thrombosis, the use of anticoagulants, and checking the immunization status of incoming patients. ■

Radio Frequency ID Devices Can Interfere With Equipment

BY KATHRYN DEMOTT
Senior Editor

Radio frequency identification devices for tracking blood products and medical supplies in hospitals demonstrated enough electromagnetic interference with intensive care unit equipment to be potentially hazardous to patients, according to a report in the June 25 issue of JAMA.

The findings are alarming because the application of such radio frequency identification devices (RFIDs) is increasingly being explored in health care settings, Dr. Donald Berwick noted in an accompanying editorial.

The technology, which is used in everything from security access cards to electronic toll-collection devices, is currently under investigation for remotely monitoring medical equipment and for tracking inventory and the placement of specific items such as surgical sponges.

The findings suggest that on-site tests of electromagnetic interference are warranted before hospitals start using new RFIDs, said Dr. Erik Jan van Lieshout, one of the study's coauthors from the University of Amsterdam, and his associates.

The investigators analyzed the effects of two RFIDs on 41 medical equipment systems in simulation studies that did not involve patients. The RFIDs were selected because they were being studied for their usefulness in tracking blood products and expensive medical supplies in the ICU.

Each of the 41 medical equipment systems was subjected to three tests of electromagnetic interference in a one-bed ICU room. Of the 123 tests, 34 induced an electromagnetic interference incident that was reproducible. Of those 32 incidents, 22 were considered potentially hazardous and included the switching off of ventilator equipment, complete stoppage of syringe pumps, and incorrect inhibition of pacemakers (JAMA 2008; 299:2884-90).

'Attention must be paid to these disturbing findings.'

DR. BERWICK

The RFID that had a passive tag, meaning that it is powered by the electromagnetic field of the reader device, induced a greater number of incidents than did an active tag, in which a power source transmits continuously to the reader. The median distance at which the incidents occurred was 30 cm.

In his editorial, Dr. Berwick took issue with the investigators' disclaimer that their findings apply only to the specific RFID systems they tested.

"Frankly the 2 tested systems are not unlike many others in current use, and attention must be paid to these disturbing findings," wrote the president and chief executive officer of the Institute for Healthcare Improvement, based in Cambridge, Mass. (JAMA 2008; 299:2898-99). ■

Quality Improvement Programs Assess Risk Differently

BY JEFF EVANS
Senior Writer

CINCINNATI — Quality improvement programs at hospitals might report significantly different rates of risk-adjusted comorbidities and outcomes for surgical patients, according to a retrospective analysis of two programs within one health system.

The risk-adjusted mortalities calculated by the American College of Surgeons' National Surgical Quality Improvement Program (NSQIP) and the University HealthSystem Consortium (UHC) for the general and vascular surgery services in the Ohio State University health system were different for "pretty much the same patient population over the same time period," Dr. Steven M. Steinberg said at the annual meeting of the Central Surgical Association.

Dr. Steinberg, chief of the division of critical care, trauma, and burn in the department of surgery at Ohio State, and his coinvestigators compared the NSQIP records of 120 consecutive general and vascular surgery inpatients with their matching records, which were submitted to UHC from January to June 2006.

NSQIP provides a prospective database of 30-day, risk-adjusted surgical outcome data on inpatients and outpatients from participating hospitals.

UHC's membership of 101 academic medical centers and 170 of their affiliated hospitals includes about 90% of nonprofit academic medical centers. UHC uses the Centers for Medicare and Medicaid Services' system for classifying the severity of illness, the All Patient Refined Diagnosis Related Groups.

"From our point of view, [UHC's methodology] is somewhat more complex than the NSQIP methodology," Dr. Steinberg said.

According to NSQIP, Ohio State's ratio of observed to expected mortality was 0.76, placing it in the top quartile. But UHC calculated a ratio of 1.45, putting it in the bottom quartile. A ratio less than 1 indicates that the hospital is performing better than expected given the complexity of its patient population and surgical case complexity.

Overall, NSQIP tallied significantly fewer comorbidities per person after risk adjustment than did UHC (1.38 vs. 2.85). These included discordant results between NSQIP and UHC for the rates of hypertension (47% vs. 43%, respectively) and diabetes (11% vs. 14%), as well as cardiac (10% vs. 12%) and pulmonary comorbidities (18% vs. 23%).

'Clearly, not all risk adjustment is the same.'

DR. STEINBERG

Significant discordance also occurred between NSQIP and UHC results for all complications combined (28% vs. 11%).

"Clearly, not all risk adjustment is the same. Both NSQIP and the University HealthSystem Consortium risk adjustment of data cannot be kept at our institution because they are so different," Dr. Steinberg said. "From my point of view, NSQIP has more face validity than the UHC system, not just because we did better [on NSQIP] but because it's something that I can understand, whereas I have great difficulty in being able to understand the UHC process."

Several audience members thought that the results illustrate the problems with using retrospective analyses of administrative data sets to evaluate outcomes, rather than prospective databases that are maintained by a trained and dedicated nurse, as is the case with NSQIP.

The difference in the ratio of observed to expected mortality between these quality improvement programs could be attributable to a number of factors:

- ▶ Problems with documentation and coding (although this is unlikely, according to Dr. Steinberg).
- ▶ Differences in the participation of medical centers in each quality improvement program (although 56 centers participate in both NSQIP and UHC).
- ▶ Possible incorrect classification—for example, UHC defines a service line by ICD-9 codes, not whether a patient was ever actually on a service.
- ▶ Differences in the programs' risk-adjustment methodologies. ■