Evaluation of Initial Participation in Public Reporting of American College of Surgeons NSQIP Surgical Outcomes on Medicare's Hospital Compare Website

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BACKGROUND: In October 2012, The Centers for Medicare and Medicaid Services (CMS) began publicly reporting American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) surgical outcomes on its public reporting website, *Hospital Compare*. Participation in this CMS-NSQIP initiative is voluntary. Our objective was to compare CMS-NSQIP participating hospitals with ACS NSQIP hospitals that elected not to participate.

STUDY DESIGN: Hospital Compare and American Hospital Association Annual Survey data were merged to compare CMS-NSQIP participants with nonparticipants. Regression models were developed to assess predictors of participation and to assess if hospitals differed on 32 process, 10 patient experience (Hospital Consumer Assessment of HealthCare Providers and Systems [HCAHPS]), and 16 outcomes (Hospital Compare and Agency for Healthcare Research Quality) measures. Additionally, performance on 2 waves of publicly reported ACS NSQIP surgical outcomes measures was compared.

RESULTS: Of the 452 ACS NSQIP hospitals, 80 (18%) participated in CMS-NSQIP public reporting. Participating hospitals had more beds, admissions, operations, and were more often accredited (Commission on Cancer and the Council of Teaching Hospitals [COTH] [$p < 0.05$]). Only COTH membership remained significant in adjusted analyses (odds ratio 2.45, 95% CI 1.12 to 5.35). Hospital performance on process, HCAHPS, and outcomes measures were not associated with CMS-NSQIP participation for 54 of 58 measures examined. Hospitals with "better-than-average" performance were more likely to publicly report the Elderly Surgery measure ($p < 0.05$). In wave 2, an increased proportion of new participants reported "worse-than-average" outcomes.

CONCLUSIONS: There were few measurable differences between CMS-NSQIP participating and nonparticipating hospitals. The decision to voluntarily publicly report may be related to the hospital's culture of quality improvement and transparency. (J Am Coll Surg 2014;218:374–380. © 2014 by the American College of Surgeons)

In response to payers, purchasers, patients, and professional organizations, public reporting of health care outcomes has seen a rapid increase over the past decade.[1-3] Despite early successful initiatives in cardiac surgery in 1990s,[4] there has been little national public reporting of surgical outcomes.

Hospital Compare is a public reporting program operated by the Centers for Medicare and Medicaid Services (CMS), which reports process-of-care, patient satisfaction, and outcomes measure performance for more than 4,000 Medicare-certified hospitals in the United States.[5]

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Abbreviations and Acronyms

ACS = American College of Surgeons
AHA = American Hospital Association
AHRQ = Agency for Healthcare Research Quality
CMS = Centers for Medicare and Medicaid Services
COTH = Council of Teaching Hospitals
HCAHPS = Hospital Consumer Assessment of HealthCare Providers and Systems
OR = odds ratio

Currently, some postoperative complications are publicly reported, but these are based on administrative data and have been shown to be relatively inaccurate.[6,7] The American College of Surgeons National Surgery Quality Improvement Program (ACS NSQIP) is a quality assessment and improvement program in which clinical data are used to provide hospitals with risk- and case-mix adjusted, nationally benchmarked, 30-day postoperative outcomes.[8] This standardized data collection and detailed risk adjustment approach offers hospital quality comparisons that are far more accurate than those provided by administrative data.[6,9]

In October 2012, ACS NSQIP partnered with CMS to promote public reporting and transparency of surgical outcomes. The ACS NSQIP hospitals were offered the opportunity to voluntarily publicly report 3 of their ACS NSQIP risk-adjusted surgical outcomes on Hospital Compare (CMS-NSQIP initiative).[8] This represents the first national public reporting initiative of postoperative outcomes data based on clinical registry data. The first wave of participation in this voluntary pilot initiative began in October 2012, with a second opportunity for hospitals to join in April 2013.

Our objectives were to examine differences between hospitals that chose to participate in the CMS-NSQIP public reporting initiative vs those that did not by examining (1) structural characteristics; (2) performance on publicly reported process, patient experience, and outcomes measures; and (3) performance on the 3 ACS NSQIP surgical care outcomes that each hospital could choose to publicly report on Hospital Compare. We hypothesized that the ACS NSQIP hospitals with more structural characteristics reflecting quality and better performance on publicly reported Hospital Compare (process, outcome, and patient experience) measures would be more likely to participate in the CMS-NSQIP initiative.

METHODS

Sample

Hospitals were given the opportunity to review their ACS NSQIP outcomes before deciding to publicly report them to CMS. Hospitals that participated in the initial reporting of ACS NSQIP outcomes were identified through the Hospital Compare October 2012 release, as were participants in the April 2013 release (wave two).

Data sources

Three data sources were used in this study. First, the 2010 American Hospital Association (AHA) Annual Survey was used to ascertain hospital-level structural characteristics for each ACS NSQIP hospital. Second, the 2010 release of the CMS Hospital Compare dataset was used to obtain 58 measures of hospital quality: 6 risk-adjusted outcomes, 32 process-of-care measures, 10 patient experience measures (Hospital Consumer Assessment of HealthCare Providers and Systems [HCAHPS]), and 10 Agency for Healthcare Research Quality (AHRQ) risk-adjusted Patient Safety Indicators. Last, 2 consecutive waves of ACS NSQIP surgical outcomes of death and serious morbidity after Elderly Surgery, Colon Surgery, and Lower Extremity Bypass were examined.

Measures

Using data from the AHA Annual Survey, differences in 20 hospital characteristics were compared between CMS-NSQIP participants and nonparticipants including hospital ownership/control (government, nongovernmental nonprofit, and for-profit), number of hospital beds (<200, 200 to 299, 300+), number of hospital admissions and inpatient surgical operations, number of operating rooms, Commission on Cancer accreditation, Joint Commission accreditation, and membership in the Council of Teaching Hospitals (COTH). Finally, 2 other measures related to quality of care present in the AHA Annual Survey were included: (1) hospitals tracked and communicated clinical and health information, and (2) hospitals disseminated reports to the community on quality and cost of service.

From the Hospital Compare dataset, 6 risk-adjusted outcomes measures were examined: death and readmission related to heart attack, heart failure, and pneumonia. Thirty-two process-of-care measures were examined: 11 heart attack or chest pain measures, 4 heart failure measures, 6 pneumonia process of care measures, and 11 Surgical Care Improvement Project (SCIP) process-of-care measures. Ten HCAHPS patient experience measures were examined. Finally, 10 AHRQ risk-adjusted Patient Safety Indicators were compared and categorized as better-than-US-national-rate, no-different-than-US-national rate, and worse-than-US-national rate by Hospital Compare.

Three different ACS NSQIP surgical measures were made available for hospitals to voluntarily publicly report: death or serious complication after[10]: (1) Elderly Surgery,

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