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Involvement of a surgical service improves patient satisfaction in patients admitted with small bowel obstruction

Ryan K. Schmocker, M.D., Xia Vang, B.S., Linda M. Cherney Stafford, M.P.H., Glen E. Leverson, Ph.D., Emily R. Winslow, M.D.*

Department of Surgery, University of Wisconsin School of Medicine and Public Health, Clinical Science Center, 600 Highland Avenue, Madison, WI 53792, USA

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Abstract

BACKGROUND: For patients with small bowel obstruction (SBO), surgical care has been associated with improved outcomes; however, it remains unknown how it impacts satisfaction.

METHODS: Patients admitted for SBO who completed the hospital satisfaction survey were eligible. Only those with adhesions or hernias were included. Chart review extracted structural characteristics and outcomes.

RESULTS: Forty-seven patients were included; 74% (n = 35) were admitted to a surgical service. Twenty-six percent of the patients (n = 12) were admitted to medicine, and 50% of those (n = 6) had surgical consultation. Patients with surgical involvement as the consulting or primary service (SURG) had higher satisfaction with the hospital than those cared for by the medical service (MED) (80% SURG, 33% MED, $P = .015$). SURG patients also had higher satisfaction with physicians (74% SURG, 44% MED, $P = .015$).

CONCLUSION: Surgical involvement during SBO admissions is associated with increased patient satisfaction, and adds further weight to the recommendation that these patients be cared for by surgeons.

Small bowel obstruction (SBO) is a common problem, accounting for 12% to 16% of admissions to the surgical service in patients with acute abdominal conditions.[1] More than 300,000 operative procedures for SBO are performed annually in the United States, costing 2.3 billion dollars per year.[2] Of all patients admitted for SBO, a relatively small fraction (18% to 24%) requires operative intervention with the remaining patients treated successfully with supportive care.[3,4] As a result, these patients are currently managed by a variety of inpatient providers, including surgeons, internists, hospitalists, and family medicine providers. Although the fraction of patients managed by nonsurgical care providers depends on local institutional practice and structure, it is estimated that 40% of all patients with SBO are cared for on medical services.[5,6]

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* Corresponding author. Tel.: +1-608-262-2025; fax: +1-608-252-0913.
E-mail address: winslow@surgery.wisc.edu

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Although most patients with SBO improve without surgery, operative exploration is recommended for patients without resolution of the obstruction within 3 to 5 days.[7,8] The determination of the need for and timing of surgery is therefore critical to clinical decision making. Several series have previously examined patient outcomes as a function of admitting service.[6,9,10] These data suggest that for most patients, admission to a surgical service is associated with a shorter length of stay, lower hospital charges, and lower mortality when compared with admission to a medical service.[6,9,10] As a result, modern consensus guidelines recommend that most patients with SBO be admitted to a surgical service.[7]

In addition to these practice guidelines, the institution of the Affordable Care Act adds new and unique pressures that may soon influence patient management. Specifically, Hospital Value-based Purchasing links Medicare and Medicaid reimbursement to patient satisfaction scores, as measured by the Hospital Consumer Assessment of Healthcare Services (HCAHPS) survey.[11] Despite the emphasis on and impending financial implications of patient experience scores, relatively little is known about the clinical and structural determinants of care that impact patient satisfaction. Specifically, it is currently unknown how inpatient management practices impact satisfaction for patients admitted with SBO. The aim of this study was therefore to examine the effects of admitting service on HCAHPS scores for patients with SBO, with the ultimate goal of identifying structural processes that could be targeted for improvement efforts.

Patients and Methods

Patients

Patients who were admitted to the University of Wisconsin Hospital and Clinics between 2009 and 2012 were identified using International Classification of Diseases, Ninth Revision (ICD-9) codes for SBO. Of those, the subgroup that completed the HCAHPS survey was identified. Standard HCAHPS exclusion criteria were applied and include age less than 18, admissions for psychiatric diagnosis, and patients discharged to a skilled nursing facility. Charts from eligible patients were identified, and a detailed retrospective chart review abstracted relevant demographic and clinical variables. Because of the wide clinical range of etiologies in patients with ICD-9 codes for SBO, we reviewed the physician notes and images for each patient to ascertain the proximate cause of the obstruction (eg, malignant, related to inflammatory bowel disease, adhesive, hernia related, and other causes). Because we aimed to evaluate the satisfaction of patients most likely to need surgical intervention, we included only patients with SBO because of adhesions or hernias in the analysis. For analysis, patients were divided into groups that had surgical contact, meaning either admission to a surgical service or admission to a medical service with a surgical consultation, and those with care by a medical service only. The Institutional Review Board approved this study before its inception.

Survey

The HCAHPS survey consists of 32 questions[12] that are used to measure patient perceptions of hospital care. Satisfaction with physician communication was determined using the following domain-specific HCAHPS questions: "During this hospital stay, how often did doctors treat you with courtesy and respect?," "During this hospital stay, how often did doctors listen carefully to you?," and "During this hospital stay, how often did doctors explain things in a way you could understand?." All these questions have the following possible choices: never, sometimes, usually, and always, with always being referred to as the topbox response. The physician communication composite measure was constructed using these 3 questions by first determining the percentage of patients who rated each question as topbox. The composite was then calculated by taking the average of the topbox percentage for each of the 3 individual questions to determine the overall composite score. Overall, hospital satisfaction was determined using the summative HCAHPS question "Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?." Responses of 9 or 10 were considered topbox according to HCAHPS standard prescription.[12] In addition, as a control for other factors that could have influenced the differences between those that had surgical involvement and those that did not, we examined the responses of the other HCAHPS domains. The composites examined were: communication with nurses (2 questions), pain management (2 questions), discharge information (2 questions), medication communication (2 questions), and single questions addressing cleanliness and quietness of the hospital environment. These composite domains were calculated as described above.

Statistical analysis

Univariate analyses were performed to assess the relationships between HCAHPS patient satisfaction domains and patient/system-level variables, and statistical analysis was performed using SPSS statistical software Version 21.0 (IBM Corp., Armonk, NY). *t* tests were used for continuous variables and chi-square tests for categorical variables as appropriate. Calculation of the *P* value for the physician composite domain was performed using a *t* test for the percentage topbox response for each of the 3 questions for each group.

Results

A total of 92 patients with complete HCAHPS data and ICD-9 codes for SBO were identified. After identification