Surgical Case Logging Habits and Attitudes: A Multispecialty Survey of Residents

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OBJECTIVE: The Accreditation Council for Graduate Medical Education measures surgical residents' experience in the United States by mandating that residents log each procedure in which they have participated. This system is the primary mechanism by which breadth and depth of surgical training are documented, and data are used for program accreditation and by individual program directors to assess resident preparedness. The study objective was to learn from residents across surgical specialties how this system is being used, and whether they believe these data are reliable.

DESIGN: Investigators developed and administered a voluntary, 45-item survey. Resident demographic data, program details, logging behaviors, and attitudes were examined using descriptive statistics. Authors used multivariate logistic regression to assess respondent and program characteristics associated with logging habits.

SETTING: The survey was administered at a large academic medical center.

PARTICIPANTS: All general surgery, obstetrics and gynecology, orthopedics, urology, neurosurgery, otolaryngology, and plastic surgery residents were eligible. Of 126 surgical residents, 82 participated, yielding a response rate of 65%.

RESULTS: Overall, 7.5% considered the case log system highly inaccurate, 28.8% somewhat inaccurate, 52.5% somewhat accurate, and 11.3% highly accurate. Nearly half (48.1%) use an incorrect metric to log their role as surgeon or assistant. Half logged monthly or less frequently. The longest time residents reported falling behind ranged from less than a week to more than a year, with about half (51.4%) reporting backlogs of 3 months or longer. Approximately two-thirds considered the system difficult to navigate (64.2%) and burdensome (68.8%). Departmental training and reminders to log were associated with high fidelity logging habits.

CONCLUSIONS: Inconsistency of logging habits and perceived lack of accuracy raise concerns about use of the system for assessing surgical preparedness or accrediting training programs. Academic departments playing an active role may benefit from more reliable data to guide improvements in surgical training. (J Surg Ed 73:474-481. © 2016 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEYWORDS: case log, resident preparedness, ACGME

COMPETENCIES: Patient Care, Practice-Based Learning and Improvement, Systems-Based Practice

INTRODUCTION

Considerable concern exists regarding graduating surgical residents' ability to competently perform procedures required by clinical practice.[1] The surgical experience gained during residency is assessed on an individual and program level using a case log system implemented in 2000 by the Accreditation Council for Graduate Medical Education (ACGME). This system is the primary mechanism by which breadth and depth of surgical training are documented and is used by many program directors as a proxy for graduating residents' surgical competence. Among attending physicians, surgical skill has been associated with lower complication rates, and surgeon volume—even at high-volume institutions—is inversely correlated with operative mortality.[2,3] In 2009, the Assistant Executive Director of the American Board of Surgery urged that resident surgical preparedness be "seriously and urgently addressed" for the sake of patient safety, starting with a change in the system residents use to log their surgical cases.[1]

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There is limited information on the accuracy of resident logs. Existing assessments have focused on individual surgical subspecialties and limited elements of the case log system. For example, Simpao et al.[4] found that more than half of anesthesia residents misreported case log numbers by at least 5%. Even assuming accurate resident reporting, Rosenberg and Franzese[5] found that the choice to bundle or unbundle current procedural terminology codes could result in large differences in case numbers for otolaryngology residents. Finally, in a survey of general surgery residents, Snyder et al.[6] highlighted the widespread practice of residents logging their role as the surgeon rather than correctly as the surgical assistant.

Currently there is a lack of empirical data on residents' case logging habits, perceived accuracy, and perceptions of the system used nationally by programs to certify surgeons as ready for independent practice and by the ACGME to evaluate training programs. These data could inform approaches or interventions to improve the accuracy of the case log system. To address this lack of data, we conducted a survey to assess residents' experiences with multiple dimensions of the system.

MATERIALS AND METHODS

We developed and administered an institutional review board–approved survey of all general surgery, obstetrics and gynecology, orthopedics, urology, neurosurgery, otolaryngology, and plastic surgery residents at a single, large academic medical center.

The survey included 45 items and required approximately 20 minutes to complete. Survey items focused on program information, logging behaviors, attitudes toward the case log system, departmental support, and demographic data. When no existing validated question was available, new items were developed de novo by the authors (L.A.C., V.F., and E.G.C.). Questions were pretested by recent residency graduates, and problematic items were revised accordingly. We administered the final survey in both electronic and written formats in October and November 2013. A survey introduction informed participants that participation was voluntary and responses would be confidential. The institutional review board approved a waiver of written consent, with completion of the survey considered implied consent. The survey is included in the Appendix.

Survey results were examined using descriptive statistics. The Pearson chi-square test was used to test for statistically significant differences in logging behaviors between residents of different specialties, genders, seniority, and satisfaction with surgical volume. We used multivariable logistic regression models to assess the characteristics associated with higher fidelity logging habits, including logging frequency, use of a written log to track cases, and appropriate logging of one's role as surgeon vs assistant. We controlled for basic respondent and residency program characteristics including gender, working in excess of 80 hours weekly, departmental logging instruction and reminders, and respondent attitudes toward the case log system. Models were performed using Stata 13 (College Station, TX).

RESULTS

Of the 126 surgical residents in the sample, 82 responded to our survey, yielding a response rate of 65%. The median age of respondents was 30 (range: 26-38), and years of postgraduate education (PGY) was 3 (range: 1-7). Of the respondents, 51.2% were men, compared with 55.6% of the sample population. Our population included 30 general surgery residents (36.6%), 22 obstetrician gynecologists (26.8%), 12 orthopedic surgeons (14.6%), 7 urologists (8.5%), 5 neurosurgeons (6.1%), 3 plastic surgeons (3.7%), and 3 otolaryngologists (3.7%). Overall, respondent characteristics were almost identical to the population of residents in the study sample. Respondents reported working an average of 77.6 hours weekly.

Logging Habits

Half of the residents reported logging monthly or less frequently. Of the 76 respondents aware of their peers' logging habits, 65.8% noted that their peers logged monthly or less frequently. The longest time residents reported falling behind on logging ranged from less than a week to more than a year, with just more than half (51.4%) reporting backlogs of 3 months or longer (Table 1).

Three-quarters of respondents reported they personally maintained a list to track cases, whereas 21.3% reported logging from memory. A small percentage (3.7%) logged cases from a list generated for them by the department or hospital. Of the residents who reported logging from memory, 9 (52.9%) reported typically logging weekly or more frequently, whereas the remaining 8 (47.1%) reported logging monthly or a few times a year.

Respondents reported using several different methods to determine whether to log a case as the primary surgeon or the assistant (Table 1). Slightly more than half (51.9%) correctly logged as the primary surgeon if they have performed greater than 50% of the surgical case. Those who record their role as the primary surgeon for all cases or when they have performed any portion of the case accounted for 35.8%. A small minority either never declare themselves to be the primary surgeon or log as primary surgeon only when they are serving as the teaching assistant (12.3%).

Instruction in Logging

Residents reported receiving varying levels of instruction from their departments, with 52.4% receiving instruction