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# Subscription to the Surgical Council on Resident Education Web Portal and Qualifying Examination Performance

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- BACKGROUND:** The Surgical Council on Resident Education (SCORE) curriculum for general surgery was developed to guide surgery residents in the acquisition of knowledge for patient care. We hypothesized that residents in programs that subscribed to the SCORE web portal would perform better on the American Board of Surgery (ABS) Surgery Qualifying Examination (QE).
- STUDY DESIGN:** Scaled scores and the percent passing the 2011 ABS Surgery QE for individual residents and programs were compared between programs that subscribed to the SCORE portal in 2010 to 2011 and those that did not subscribe. Regression analyses were performed to control for program QE percent passing from 2004 to 2008 (baseline performance), as well as demographic factors known to affect examination results.
- RESULTS:** There were 200 programs and 893 residents that subscribed to the SCORE web portal and 33 programs with 139 residents that did not subscribe. Regression analysis comparing predicted 2011 mean program QE scores based on 2004 to 2008 results showed that subscribing programs had a substantial increase in mean scaled scores of 1.4 points (adjusted means of 81.5 and 80.1, respectively), controlling for the percentage of international medical graduates and program size ( $p = 0.048$ ). Residents from SCORE portal subscribing programs had a QE percent passing that was 1.6% higher than nonsubscribing residents, and the mean percent passing was higher for subscribing programs (86.4% vs 82.7%), but neither difference was statistically significant. The SCORE subscription status did not correlate with program size, percent of international medical graduates, or baseline scale scores.
- CONCLUSIONS:** There was a considerable improvement in mean QE scaled scores for residents in programs that initially subscribed to the SCORE web portal. The percent passing the QE showed a trend toward improvement for subscribing programs and their residents. This association is promising and deserves additional investigation. (*J Am Coll Surg* 2014;218:566–572. © 2014 by the American College of Surgeons)
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Established in 2004, the Surgical Council on Resident Education (SCORE) is a consortium of 7 US-based surgical organizations: the American Board of Surgery (ABS), American College of Surgeons, American Surgical Association, Association of Program Directors in Surgery,

Association for Surgical Education, ACGME, and the Society of American Gastrointestinal and Endoscopic Surgeons. Since its inception, SCORE has worked toward 2 goals: to develop a standardized, competency-based curriculum for general surgery residency training that addresses the 6 competency areas as defined by the ACGME and to develop a web portal to deliver this content to general surgery residents.<sup>1</sup>

Between 2004 and 2006, an initial curriculum outline was developed covering the competency of patient care and operative skills. This curriculum was developed through an iterative process that involved SCORE representatives and program directors in surgery. The operative case experience of surgery residents was examined and classified by program directors, and input was obtained

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**Abbreviations and Acronyms**

ABS	= American Board of Surgery
IMG	= international medical graduate
QE	= Qualifying Examination
SCORE	= Surgical Council on Resident Education

from other stakeholders.<sup>2</sup> This curriculum outline was the basis for development of the early content that was delivered on the SCORE web portal, which was piloted by 33 residency programs in 2008.<sup>3</sup> This curriculum outline has since been expanded to include the competencies of medical knowledge, systems-based practice, professionalism, and interpersonal skills and communication. The curriculum outline is dynamic and is reviewed and updated annually according to recommendations made by various stakeholder groups, as coordinated by the ABS. It is publicly available on the SCORE web portal (<http://www.surgicalcore.org/public/curriculum>), and the American Board of Surgery website ([http://www.absurgery.org/default.jsp?score\\_booklet](http://www.absurgery.org/default.jsp?score_booklet)), as well as in a print version. The web portal is intended to serve as both a curriculum platform to support didactic learning and self-directed learning by resident users, including point of care reference materials to assist in managing patient conditions and preparing for operations.

In 2009, the web portal was made available to all residency programs free of charge. In the 2010 to 2011 academic year, the portal became a subscription-only resource, and by 2012, 96% of general surgery residency programs subscribed to the SCORE web portal to support education. Participation in the web portal has expanded to include surgery residencies in Canada and other nations throughout the world, as well as more than half of osteopathic surgery training programs. The SCORE curriculum and associated content, as delivered on the web portal, has become an important tool for learning within the majority of general surgery residency training programs in the United States.

The primary goal of surgical training is to prepare residents to safely enter independent clinical practice. Certification by the ABS recognizes individuals who have met a defined standard of education and training, and have demonstrated adequate knowledge and clinical judgment in specific content areas of surgery. As part of the certification process for surgery, candidates must pass the written General Surgery Qualifying Examination (QE), followed by an oral examination (General Surgery Certifying Examination). The QE is designed to evaluate a candidate's knowledge of surgical principles and the science applicable to surgery.<sup>4</sup> The modular organization of material on the SCORE web portal is designed to

help users navigate the breadth of information one needs to master across the specialty content areas. Within each module are defined learning objectives, study questions, and supporting materials (eg, textbooks, anatomical figures, radiographic images, and videos) to support and expand learning of these principles.

With the SCORE portal in use in so many training programs, we sought to determine whether it has had an impact on the progress of graduated residents toward achieving board certification. We hypothesized that residents in programs that subscribed to the SCORE web portal would have better than expected performance on the ABS General Surgery QE than those in nonsubscribing programs.

**METHODS**

Scaled scores and percent of candidates passing the 2011 ABS General Surgery QE for programs that subscribed to the SCORE web portal in 2010 to 2011 were compared with those that did not subscribe. Program-level data were computed by averaging first-time US individual-level performance on the QE during the baseline years of 2004 to 2008 and in 2011. Of the 257 programs that had examinees ( $n = 1,378$ ) on the 2011 QE, 233 programs were used in the analyses (200 subscribers and 33 nonsubscribers), representing 1,032 first-time US examinees (893 subscribers and 139 nonsubscribers). Canadian and repeat examinees were excluded from the analyses. Also, programs that were disapproved during the baseline years or that did not have data across all baseline years and in 2011 were also excluded.

Regression analyses were used to determine if programs that subscribed to SCORE performed significantly better than expected in comparison with their baseline level of performance. Baseline performance was defined as the 5 years of examination results (2004 to 2008) on the QE before potential access to the SCORE web portal. To control for program characteristics that might also impact examination performance, the percentage of international medical graduates (IMGs) enrolled in a residency program, program size (number of graduating chief residents), program type (university-affiliated, independent, or military), and geographic location were added to the regression model. Finally, SCORE subscriptions status was included in the model to determine if the results from subscribing programs differed from their baseline scores and control for demographic variables.

In addition to program subscription status, SCORE usage data was also analyzed to investigate possible relationships with QE performance. Individual resident SCORE usage files were averaged to the program level

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