

Surgical Education

How prepared are your interns to take calls? Results of a multi-institutional study of simulated pages to prepare medical students for surgery internship



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Abstract

BACKGROUND: This study evaluated a simulated pages curriculum that was developed to assess communication and clinical decision making in medical students and interns.

METHODS: A curriculum consisting of 14 simulated pages was administered across 5 institutions to 150 senior medical students. A 3-case subset was administered to interns who did not participate in the curriculum. Six expert surgeons identified critical fails and set passing scores for case-specific assessments using the Graphical Hofstee Method.

RESULTS: Participants in the curriculum demonstrated superior clinical decision making compared with non-participants across all cases scenarios ($P < .01$). Average medical student scores for clinical decision making were 46.9%. Global ratings averaged 6.0 for communication and 5.2 for patient care. Passing rates averaged 46%.

CONCLUSIONS: Participation in a mock page curriculum improved performance. The performance of participants based on expert standards set for simulated page performance highlight the need for innovative approaches to improve interns' preparedness to take calls.

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One of the critical challenges of a surgical intern's 1st days on the wards is responding to pages about patients in need of immediate attention while on call. Despite the anxiety associated with this universal responsibility and the risks incurred with poor performance, little attention has been paid to preparing trainees to perform this task safely and effectively.¹ The ability to function effectively as a healthcare

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team member is now regarded as a prerequisite skill for all medical professionals. Interprofessional communication is a critical aspect of safe team function, but general assessments of communication do not readily capture the nature of specific team interactions.

Physician–nurse telephone communication differs from other physician communication tasks in that the communication is not face-to-face, tends to be brief, and may involve patients the physician has not seen before. Yet, such consultations lead to critical decisions that affect patients' care. Several studies cite the importance of effective physician–nurse communication in improving quality of care, patient outcomes, patient satisfaction, and in decreasing cost of care.^{2–5}

Formal evaluation of physicians' telephone communication skills has primarily targeted physician–patient telephone consultations,^{6,7} although some work has been done to identify key qualities or attributes of good physician–nurse phone communication.⁸ However, efforts to measure and improve the physician–nurse telephone communication skills have tended to focus on the nursing side of the interaction.⁹ One effort was aimed directly at improving medical students' phone consultation skills and showed that exposure to simulated pages contributed to medical students' clinical expertise and prepared them for internship.^{10,11}

This study was designed to measure interprofessional communication and clinical decision making in phone consultations with nurses about common clinical challenges on the surgical unit. Instruments developed as part of this study were intended for competency assessment and standard setting in accordance with the recommendations of the Accreditation Council for Graduate Medical Education.^{12,13}

Methods

Participants

This multi-institutional study received approval from institutional review boards at each participating institution and all participants provided informed consent. Senior medical students from 5 Liaison Committee on Medical

Education accredited institutions participated in a formal mock page curriculum. This curriculum included 14 cases administered over the phone and was integrated throughout the 4-week surgical intern preparedness elective^{10,14–16} at each institution. Data for this study were collected during the administration of the mock page curriculum during the 2009 to 2010 and 2010 to 2011 academic years (Fig. 1). As a comparison group to the students in the formal curricula, we used a 3-case subset of the 14 mock page assessment cases to assess performance of 27 incoming interns who did not participate in the formal curriculum and/or any other type of intern preparedness curriculum. These incoming interns were assessed before they assumed any clinical responsibilities.

Case development

The development and implementation of the mock page curriculum is outlined in Fig. 1. A team of surgeons, residents, nurses, and medical education experts developed 14 cases (mock pages) representative of calls surgical interns might respond to on any given day. Cases targeted a specific clinical challenge and many of the cases included a specific communication challenge, for example, dealing with an inexperienced or confrontational nurse. Twelve cases involved physician–nurse communication and 2 cases included physician–patient communication. Sequencing of cases was designed to begin with less clinically challenging cases and the timing of each case throughout the 4 weeks was standardized for all sites.

Each case included an introductory script, standardized prompts, and pertinent information to be communicated to the student when queried. When a learner returned a page, the nurse or patient explained the reason for the call and then provided additional information as queried. Certain prompts were also scripted to ensure standardization of the case.

Each case included 3 assessment components (Fig. 2):

1. Case-specific clinical decision-making checklist (scored to reflect whether the learner should or should not do each item); the total score on this component of the

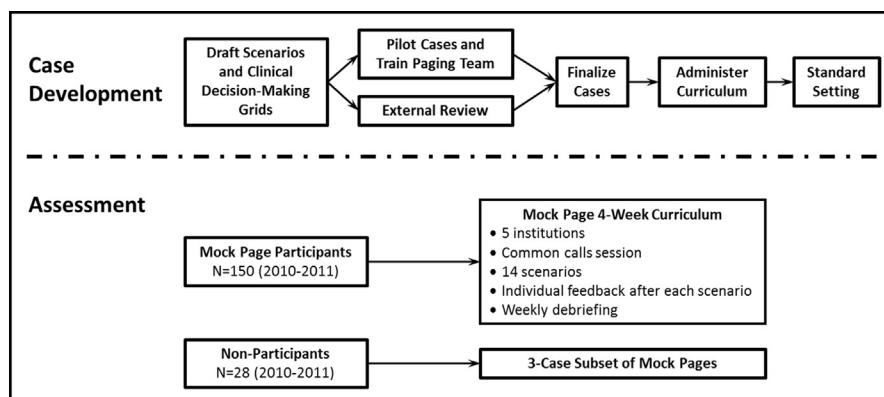


Figure 1 Summary of mock page curriculum development and study design.

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