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EDITORIAL

Hospitalists' Path to Becoming the Best Educators in the Hospital

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Hospitalists are increasingly assuming a primary role in medical education in the hospital setting, as they also steadily care for a larger portion of hospitalized patients.[1] This issue of the *Journal of Hospital Medicine* highlights the role of hospitalists as teachers in academic medical centers, confirming their expanding and positive role in resident and medical student education. A survey of academic medical centers, a systematic review, an evaluation of the implementation of an educational curriculum, and a survey of residents hint at the challenges hospitalists face in teaching, but also expose us to a more advanced yet facile approach to evaluating the effectiveness of a teaching intervention.[2–5] These publications provoke interesting questions about clinical teaching that hospital medicine educators and researchers should pursue answering. I believe they will also encourage us to innovate in medical education and assessment of that teaching.

Traditionally, teaching attendings for resident teams on medicine or pediatric services rotated through these duties for 1 to 3 months each year, while spending the majority of their time in clinic or research activities. The increasing complexity of hospitalized patients and the pressure to reduce length of stay prompted closer oversight of trainees. With the advent of resident work-hour restrictions, the need for greater clinical involvement by attending physicians made it increasingly difficult to maintain the traditional model of limited engagement by faculty attendings. Simply put, the dwindling pool of willing and able teaching attendings encouraged teaching hospitals to employ hospitalists to fill the gap in teaching and supervision, as well as clinical coverage.[6]

Beasley et al.[2] report that resident work-hour restrictions were associated with an increase in the number of teaching hospitals employing hospitalists to 79% of 193 surveyed hospitals in 2007. Of those hospitals with hospitalists, 92% reported that hospitalists serve as attendings on the teaching service. Hospitalists also teach in a number of other venues within these programs, including formal teaching rounds without direct care responsibility, along with delivering didactic lectures and clinical skills education.

How well are teaching hospitalists performing compared to traditional teaching attendings? Natarajan et al.[4] provide an important summary of the evidence in a systematic review of studies comparing teaching efforts of hospitalist attendings to those of nonhospitalist attendings. Eight studies from a variety of institutions measured trainee (resident or medical student) attitudes. It is gratifying to learn that hospitalists were generally rated higher at overall teaching effectiveness, provision of feedback, knowledge base, and involvement of the learner in patient care. It seems likely that publication bias would overestimate the positive effect of hospitalists on learner attitudes. However, there are plausible reasons that the positive effect is accurate. Because their professional responsibilities are focused in the hospital, hospitalists should naturally be more available to learners for teaching and feedback. Hospitalists tend to be younger in their academic careers, placing them closer to the cutting edge of knowledge gained during residency and possibly fellowship. They may be more in tune with the needs and pressures faced by their learners, having dealt with these same challenges either during recent training or during "nonteaching" rotations.

As a relatively young specialty with young and developing academic hospitalists, will the advantage suggested by the Natarajan et al.[4] systematic review be sustained over the long term as careers in hospital medicine mature? A 2005 systematic review studying this question among practicing clinicians found, somewhat paradoxically, that older, more experienced clinicians appeared to be at risk for providing lower-quality care.[7] To avoid this decline in clinical effectiveness, hospitalists should proactively seek innovative ways to refresh and update their knowledge and skills throughout their careers. This is particularly critical for teaching physicians. We should seize the opportunity to study the relationship between advancing clinical/teaching experience and educational quality within our teaching programs.

The review by Natarajan et al.[4] should also challenge the hospitalist community to achieve even higher levels of proficiency as teachers of medicine. The review alludes to bedside teaching and attention to psychosocial aspects of care as opportunities for improvement by hospitalist teachers. A recent study suggested that physical examination instruction receives declining attention from inpatient teachers and that there are opportunities to increase the amount of bedside teaching.[8] A provocative study of inpatients admitted to a teaching service found that physical examination could substantially impact patient care, but that trainees often failed to appreciate significant findings on initial

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examination.[9] How do teaching hospitalists become proficient at physical examination and bedside teaching? Are there models around the country that are successfully developing outstanding clinician educators, incorporating teach-the-teacher models to improve physical examination and bedside teaching?

A practical limitation of attitude surveys and learner evaluation is the well-known phenomenon of "grade inflation" that resulted in high ratings for all attending groups in the studies summarized by Natarajan et al.[4] This limits the ability of surveys or evaluations to distinguish truly outstanding teachers and consequently makes it difficult to analyze the attributes of these teachers. We need better tools to detect and learn teaching techniques from great teachers in the clinical environment. We need studies evaluating the effect of teaching hospitalists on learner knowledge or, even more importantly, learner outcomes. Ultimately, we need studies of educational interventions that evaluate the impact of these interventions on patient outcome.

Wright et al.[5] provide guidance as they describe the evaluation of a teaching intervention that moves beyond measurement of knowledge or attitudes. The Johns Hopkins Bayview hospitalist group sought to improve the quality of medical consultations performed by hospitalists and by residents rotating on the consultation service using a case-based teaching module with audits of recent notes. The participants then audited their most recent consultation notes with feedback from the module teacher. The study employed pretests and posttests of knowledge—a standard evaluation for educational interventions. This tells us little about the true impact of the teaching module. However, the study then assessed the quality of written consultations done by hospitalists before and after the educational interventions. Scores of consult notes improved significantly after the intervention, although the number of assessments for each physician was limited. Importantly, we need to know if interventions such as this are sustained over time. Wright's well-established medical education research group's study design assessed the impact of an intervention on physician performance and moves us closer to assessment of the impact on actual patient outcomes. As clinical teachers, we would like to believe that our teaching and our educational innovations are having a positive impact on patient care. Can we demonstrate this?

As academic medical centers contend with further resident work-hour restrictions proposed by the Institute of Medicine (IOM),[10] how will this affect hospitalist teachers? The study by Mazotti et al.[3] from the University of California at San Francisco residency program found that about one-quarter of residents reported spending less time teaching after implementation of the Accreditation Council for Graduate Medical Education (ACGME) duty-hour restrictions in 2003. Interestingly, those residents reporting less time spent teaching also reported less emotional exhaustion and perceived that they were delivering higher-quality patient care. This raises a fascinating question for academic hospitalists. Would these findings be similar among teaching hospitalists and nonteaching hospitalists? What about hospitalists who rotate through months of teaching and nonteaching services? Is teaching emotionally exhausting for experienced teachers? A Mayo Clinic study suggested that the extent that faculty physicians are able to engage in work that is most meaningful to them as individuals is a strong determinant of faculty burnout.[11] Is the hospitalist who finds teaching most rewarding at risk of burnout if they are assigned only 2 weeks a year as a teaching attending? The answers to these questions will be critical to hospitalist program leaders trying to assure sustainable careers for hospitalists in their programs.

Although the study by Mazotti et al.[3] did not assess the impact of the reduction in resident teaching time on the teaching responsibilities for academic hospitalists, previous studies suggest that faculty are also teaching less since the introduction of work-hour restrictions.[12,13] If the new IOM recommendations are enacted, who will teach? Although the reported experience following the 2003 work-hour restrictions begs pessimism, the anticipated changes represent an opportunity for creative hospitalist teachers to demonstrate effective adaptations to the changing and compressed inpatient teaching environment.

In summary, this issue of the *Journal* presents studies that praise the role hospitalists play in teaching the next generation of physicians, but also gives a glimpse of future challenges and opportunities. We should take advantage of hospitalists' central position in clinical education in the hospital to innovate, study the effect on both learner outcomes and patient outcomes, and share our experiences with the hospitalist and medical education communities.

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