

Hospitalists in Medical Education: Coming to an Academic Medical Center Near You

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Hospitalists are physicians whose medical practice focuses on general medical inpatient care. In the past decade, the number of practicing hospitalists has soared, and hospitalist programs have been established at both community hospitals and academic medical centers. As hospitalists increasingly assume a greater share of inpatient care responsibilities, they will contribute to the training of medical students and house staff. This paper reviews current data on the impact of hospitalists on medical education and the future of hospitalist training.

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Overview of Hospital Medicine

Since the 1996 publication of the *New England Journal of Medicine* article, in which the term “hospitalist” was coined, the field of hospital medicine has undergone explosive growth.¹ Various definitions of the term “hospitalist” have been proposed, but the Society of Hospital Medicine has recently adopted the following consensus definition:

*Hospitalists are physicians whose primary professional focus is the general medical care of hospitalized patients. Their activities include patient care, teaching, research, and leadership related to Hospital Medicine.*²

Proponents of hospitalist care maintain that through increased presence in an inpatient setting and a growing expertise with acute care medicine, hospitalists can improve the efficiency and quality of hospital care. Although the growth of hospital medicine has not been without controversy, most studies of the role of hospitalists in patient care have shown improved outcomes.

These studies suggest hospitalists decrease hospital costs, including length of stay, without negatively impacting patient satisfaction.³⁻⁵ While much attention relative to hospitalists has been focused on patient care and quality outcome measurements, this review will explore another core component of the hospitalist movement: the role of the hospitalist in medical education.

Hospitalists in Medical Education

Training in internal medicine and pediatrics has historically involved residents on hospital rotations caring for patients who, lacking a private physician to direct care, were assigned to the ward service and a ward attending. The ward attending provided patient care on a rotating basis along with other duties in the lab, clinic or subspecialty office. This rotating inpatient attending service, in addition to other responsibilities, has led this block of time to be viewed as “the 40-day month.”⁶ The advent of the hospitalist movement allows a smaller cadre of dedicated clinicians to provide hands-on care of hospitalized patients, leadership in important areas of hospital operations, quality improvement, and teaching of medical students and resident trainees.

Hospitalists are playing an increasingly important role in medical education. Currently, there are approximately 15,000 hospitalists practicing in internal medicine and pediatrics in the United States with a projected workforce of 30,000 by the year 2010.⁷ In 2003, 18% of hospitalists were employed at academic medical centers, up from 10% in 2000.⁸ Early in the development of the hospitalist movement, a 1999 survey of internal medicine chairs and residency program directors reported that at more than half of responding programs hospitalists participated in resident education.⁹ Furthermore, 64% of programs with hospitalists planned to expand their hospitalist program, and 37% of programs without hospitalists planned to hire them in the future.

The impact of hospitalist involvement in medical education has been evaluated in a number of studies involving both internal medicine and pediatric training programs. These studies have similarly reported that the house staff educational experience with hospitalists is at

least equal to, if not superior to, that with traditional attending models. Hospitalists as inpatient attendings lead to higher levels of house staff satisfaction with their inpatient rotations,¹⁰⁻¹⁶ offer greater availability,^{11,12,15} make better use of evidence-based medicine,^{12,16} emphasize cost-effective care^{10,14,16} and give better feedback.^{12,14,15} All studies noted that hospitalist faculty tended to be younger than traditional inpatient attending teaching faculty. Whether the positive effects of hospitalists on resident education persist as the field matures remains to be determined.

Given the nature of the hospitalists' practice, it has been anticipated that while hospitalists may improve teaching in certain areas, residents may suffer loss of autonomy in providing patient care.¹⁷ No significant decline in resident autonomy has been noted in studies to date.^{11,14,16,18} However, these studies examined only hospitalist models with daytime attending coverage. The ability of house staff to retain patient care autonomy at night and on weekends may offset the increased hospitalist attending presence during the day. The effect of 24-hour, in-house attending coverage on house staff training remains to be studied.

Implementation of a hospitalist attending model, in which fewer attendings provide more inpatient coverage, threatens to limit house staff exposure to various styles of practice, to subspecialists and to physician-scientists.^{11,19} At one institution, where a high proportion of general medicine inpatient care is provided by hospitalist faculty attendings, house staff exposure to subspecialist teaching is enhanced through a variety of dedicated subspecialist-focused, resident morning reports, journal clubs, conferences and an added intern-year subspecialty rotation.¹⁹

Establishing a dedicated hospitalist program to exclusively provide inpatient care and inpatient teaching is financially challenging. In a 2003 Society of Hospital Medicine hospitalist survey, two-thirds of hospitalist groups reported receiving financial support to supplement professional fees, with a median level of support of \$60,000 per full-time equivalent (FTE). When the data are narrowed to academic hospitalist groups, 80% receive financial support, with a median of \$71,000 per FTE.²⁰ Traditionally, teaching has been an underreimbursed part of medical school faculty's activities.²¹ Although the professional billing of hospitalist attendings may not cover their own expenses, their clinical service has been shown to reduce hospital expenses. By improving the efficiency of patient care, the hospitalist program at the University of California—San Francisco (UCSF) has contributed more than \$1 million in savings to the hospital budget over a two-year time period compared with traditional inpatient attending coverage.²² Ultimately, the financial viability of academic hospitalist programs is dependent on a wide variety of factors, including payer mix, type of payment and whether hos-

pitalist coverage is daytime only or 24-hour coverage.²³

The introduction of the 80-hour-per-week resident work restriction in 2003 presents a challenge to medical education but an opportunity for hospitalists.²⁴ The need to cover the lost clinical time clearly has led to increased hospitalist and physician extender hiring.²⁵⁻²⁷ A 2003 survey of internal medicine residency program directors found that, of responding programs, 66% had patients on nonteaching services and that $\geq 28\%$ of these patients were cared for by hospitalists.²⁸ The addition of hospitalist staff can serve to decompress house staff, allow more time for resident teaching and provide more opportunities for medical students to interact with faculty for clinical teaching and mentorship. Hospitalists can also improve evaluation and feedback of both medical students and residents. After work hour restrictions were implemented at the University of Michigan, medical students, who receive a great deal of clinical teaching from residents, reported decreased quality of their clinical clerkships, except on those services that were expanded with hospitalist faculty.²⁷ Two studies have examined the impact of hospitalist faculty on the quality of medical student education. Hunter²⁹ found that hospitalists rated at least as high as nonhospitalist faculty and outperformed them in effectiveness as clinical teachers. Hauer,¹⁴ however, found that student satisfaction with inpatient clerkships was more significantly correlated with teaching from house staff than with attending model. One innovative approach to meeting both clinical patient requirements and house staff educational needs, while operating under work hour restrictions, employs both a resident-covered teaching service and a hospitalist-covered nonteaching service.³⁰ With this dual team inpatient approach, patient assignment can be controlled to tailor the teaching team patient mix and optimize both teaching and patient care.

It is increasingly recognized that hospitalists effect care improvements through both their increased presence on the inpatient unit as well as their growing leadership roles in areas such as quality improvement, utilization review, clinical pathway development, palliative care, consultation in perioperative medicine and surgical patient comanagement.^{3,31} The ACGME has endorsed a broad curriculum of nonclinical skills that include proficiency in areas such as evidence-based medicine, effective teamwork, communication and quality improvement.³² These areas of ACGME-mandated general competencies in system-based practice meld with the recently developed hospitalist core competencies.³³ Hospitalists represent a group of teachers ideally situated for training house staff in these often overlooked areas.³⁴

As hospitalists are increasingly involved in the training of medical students and residents, there is growing interest of trainees in becoming hospitalists themselves. ACGME requirements for residents in pediatrics and internal medicine specify that a minimum of 40% and 33% of residency

training, respectively, be devoted to ambulatory care.^{35,36} In a survey of practicing hospitalists, respondents reported that their internal medicine residency underemphasized important areas of hospitalist practice, including perioperative consultation, utilization review, quality improvement, insurance reimbursement and care coordination.³⁷ The recognition of the differing needs for future inpatient and outpatient internists and pediatricians, while threatening to further splinter generalist medical training, is resulting in separate training tracks for hospitalist and ambulatory clinicians.^{38,39}

The Future of Hospital Medicine as a Board-Certified Subspecialty?

There is increasing discussion as to whether hospital medicine constitutes a distinct subspecialty and, as such, mandates the need for fellowship training. Currently, no separate board certification exists. However, the field of hospital medicine appears to be following the same trajectory as two other "site-defined" subspecialties: emergency medicine and critical care. The field of hospital medicine has taken steps towards becoming a distinct board-recognizable subspecialty. These steps have included the creation of a national society, The Society of Hospital Medicine; publication of hospital medicine textbooks and a journal (*Journal of Hospital Medicine*); the establishment of distinct residency tracks and fellowship programs; and the publication of a core curriculum of hospital medicine.³³ Currently, there are 11 hospital medicine fellowships in internal medicine, four in pediatrics and two in family medicine.⁴⁰ These fellowships are of 1–3 years' duration and have varied curricula, some of which include formal coursework leading to a master's degree in different disciplines. Most of these hospitalist fellowships are oriented towards preparing trainees for a career in academic medicine.⁴¹ With the rampant growth of hospital medicine, further training after residency is certainly not currently needed to obtain a job as a hospitalist.⁴² There is ongoing debate whether the field of hospital medicine should become a new subspecialty with fellowship requirement or remain a niche within general medical practice.⁴³

Hospitalists are playing an increasingly important role in the American healthcare system through direct patient care and by teaching medical students and house staff. The documented successes of hospitalists in improving clinical care through shorter length of hospital stays and greater efficiency as well as their expertise in different areas of hospital operations should be passed along to trainees through modeling behaviors and direct teaching. Given the rapid development of the field of hospital medicine, continual reassessment of the role of hospitalists in training future physicians is needed.

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