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Editor's Note—Over the past decade, American medicine has witnessed a revolution in health care delivery that arguably rivals any preceding it in our society. Adopting a model of care popular for decades in other countries such as Great Britain and Canada, the United States has largely shifted to a hospitalist-based mode of inpatient care delivery since the mid 1990s. Affecting virtually every aspect of our health care system, the stunning growth and rapid integration of hospital-based medicine has affected the practice of both medicine and surgery by significantly modifying the delivery of inpatient, outpatient, and subacute care. Conservative estimates suggest there are currently 7000 to 8000 hospitalists practicing in the United States with a projected workforce of approximately 20,000 physicians.¹ The present demand for hospitalists is greater than the supply, evidenced by the large number of classified advertisements for hospital medicine physicians currently appearing in American medical journals.

Criticism of the movement has centered on the purposeful interruption in the continuity of care created by an intentional "handing-off" of patient responsibility from primary care provider to hospitalist. Although concern for adverse patient outcomes and dissatisfaction has been frequently cited,

research critically analyzing the hospitalist movement has not substantiated these fears. Critics have also claimed that hospitalist-based care is purely a cost and resource saving strategy motivated by a managed care environment. Although the promise of hospitalist cost efficiency (now confirmed by substantial literature) has undeniably aided growth of the movement, the true catalyst lies in the hearts of hospitalists themselves who are motivated by the same altruistic patient centered factors that lead all physicians to their chosen career paths.

This article details the history of hospitalists in the United States by defining the practice of hospital medicine, and reviewing the evidence extolling its virtues. Although hospital medicine appears here to stay, work must still be done to address a number of current and future issues facing hospitalists and the health care community embracing them.

Hospital Medicine: Past, Present, and Future

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Drivers of Change Toward Hospitalist-Based Care Delivery

The establishment of a hospitalist system of care by the Park Nicollet Clinic is widely regarded as one of the first large-scale experiments in hospital medicine in the United States. Driven primarily by physician dissatisfaction with the uncertainty of night call and the challenges of getting

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through the post call day, general internists and family practitioners at the Minnesota multispecialty physician practice created a successful hospitalist service in 1994.² Wachter's subsequent 1996 report of this and similar experiences represent the first description of the emerging role of hospitalists in the American health care system.³ In addition to physician dissatisfaction with traditional models of inpatient care delivery, Wachter cited the growth of managed care and its emphasis on efficiency as an important driver of the hospital medicine movement. According to Wachter, hospital-based care would flourish because of favorable effects on lowering cost and enhancing quality. These effects would beneficially affect the delivery of both hospital and outpatient care, and would thus maximize value in all health care systems.³ Other drivers of the remarkable growth of hospital medicine are presented in Table 1. These drivers have been stimulated by a number of factors that have altered the current landscape of hospital care. A change in surgical practice leading to more outpatient procedures has decreased the number of surgical admissions.⁴ This, combined with an increasing number of emergency department (ED) medical admissions resulting from a rise in ED use by uninsured patients,^{4,5} has shifted the inpatient majority from surgical to medical patients thus creating the need for more inpatient medical services. Advances in technology and the aging of the population have led to an increasing complexity of acute illness among hospitalized patients that has challenged physicians' clinical expertise and hospital availability. In addition, trainee education considerations, a desire to remedy hospital system flaws, and a sincere interest in the provision of acute care among physicians

Table 1. Drivers of Change Toward Hospitalist-Based Care Delivery

Pressure to contain health care costs

Pressure to improve health care quality

Physician dissatisfaction with traditional delivery of hospital care

After-hours call

Wasted travel time from office to hospital

Interruptions of office practice

Lack of interest in acute care

Shift of the inpatient majority from surgical to medical patients

Increasing complexity of medical illnesses

Desire to improve hospital systems

Delays in emergency department

Delays in hospital discharge

Unnecessary admissions

Unassigned patient care

Poor clinic access when in hospital

Poor communication with hospital support staff

Variable quality of resident and medical student education

Practice makes perfect philosophy

Satisfaction with restricting scope of practice to acute care

choosing hospital medicine careers have stimulated the hospital medicine movement.

Defining the Hospitalist

The hospitalist was initially defined as "a physician who spends at least 25% of his or her professional time serving as the physician of record for inpatients, during which time he or she accepts 'hand-offs' of hospitalized patients from primary care providers, returning the patients to their primary care providers at the time of hospital discharge."⁶ Others have more simplistically defined hospitalists as physicians who devote much of their professional time and focus to the care of hospitalized patients.^{7,8} While a minimum time commitment may be difficult to quantify, the concept of a "hand-off" is an essential element defining the practice of hospital medicine. It is the referral or patient care "hand-off" from the primary care physician that distinguishes a hospitalist from the historical "house doctor" who is available for emergencies when the physician of record is not on sight, yet does not participate in decisions regarding the overall hospital management plan.

Relevant to defining today's hospitalist is an analysis of

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Questions & Comments

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Table 2. Defining the Hospitalist: Core Competencies for the Inpatient Physician

Illness Specific Competencies (including but not limited to):

- Venous thromboembolism prevention and treatment
- Acute coronary syndromes
- Congestive heart failure
- Stroke
- Delirium

Procedural specific competencies:

- Central line placement
- Lumbar puncture
- Throcentesis
- Paracentesis
- Advanced cardiac life support

Consultative medicine:

- Perisurgical care
- Obstetrical medicine
- Rehabilitation care

End-of-life care:

- Symptom palliation
- Communication about death and dying
- Provision of psychosocial support

Geriatric hospital medicine

Ethics:

- Advanced directives
- Informed consent
- Confidentiality

Coordination of care between settings:

- Communication with primary care providers
- Communication with consultants
- Communication with hospital support staff
- Communication with patients and families

Patient safety

Hospital system leadership skills:

- Quality improvement
- Outcome measurement
- Multidisciplinary team building
- Cost effective decision making
- Use of acute and nonacute care services

the core competencies necessary to provide efficient, high-quality hospital care (*see Table 2*).⁹ This skill set may be learned by physicians of many training backgrounds. General internal medicine practitioners, who make up 83% of the workforce,¹⁰ dominate current hospital medicine practice. Other physicians working as hospitalists include general pediatricians, family practitioners, pulmonary and critical care specialists, and infectious disease specialists. Among the skills necessary to practice hospital medicine, communication is of key importance. The potential for “information drop” sacrificing quality patient care is significant and may occur on multiple levels. Hospitalists must be proactive in seeking information of historical importance at the time of patient admission from primary care physicians, families, and outside medical institutions. Hospitalists must communicate timely with consultants, primary care providers, nurses, case managers, social workers, and family members regarding patient progress and changes in status. Special skill in discussing end-of-life issues and communication of emotionally sensitive information is mandatory. Finally, hospitalists must succinctly summarize and detail the course and outcomes of a patient’s hospitalization, and timely transmit this information to primary care providers, nursing home and rehabilitation facility physicians, and subspecialty consultants to ensure a seamless transition of care from the hospital.

Finally, consideration of the typical roles assumed by

Table 3. Defining the Hospitalist: Roles of the Inpatient Physician

Primary inpatient physician of record

Inpatient medical consultation

Outpatient medical consultation (ie, preoperative evaluation and preparation)

Co-primary physician of record for surgical patients

Physician of record at subacute nursing facility

Management of intensive care unit patients

Triage of emergency department patients

Coordination of hospital transfers

Participation in hospital quality improvement:

- Pathway and guideline development
- Policy and procedure development
- Information systems development
- Utilization management
- Credentialing
- Committee membership

Participation in hospital administration

Research

hospitalists (*see Table 3*) is useful in defining hospital medicine practice. Patient care responsibilities generally include more than serving as physician of record on primary general medical service admissions. Most hospitalists also perform medical consultations, and many comanage postsurgical patients, provide medical intensive care, staff observation or clinical decision units, and supervise rehabilitation in post-acute care facilities. Beyond patient care, hospitalists perform important administrative and hospital support functions. Survey data from the Society of Hospital Medicine indicate that 73% of hospitalists spend an average of 299 hours annually performing nonpatient care work.⁴ These activities combined with the various clinical settings in which they practice, mandate that hospitalists be skilled in the art of multitasking. Wilson and Kislingbury have commented “after mastering multitasking, efficiency demands that hospitalists go the next step beyond to simul-tasking, the ability to coordinate and complete multiple tasks simultaneously. Admits, discharges, continuity visits, consults, procedures, and ER evaluations, often needing to be done at the same time, creates the conundrum of competing, congruent, contemporaneous care processes.”⁴ Figure 1 presents a typical day in the life of a hospitalist illustrating the need to multi- and simul-task.

Benefits of Hospital Medicine

Initial growth of American hospital medicine was founded only on the promise of benefits. However, the past decade has witnessed the publication of several investigations presenting evidence suggesting a number of positive outcomes directly related to the implementation of hospitalist systems of care (*see Table 4*).^{8,11-13} Wachter recently reviewed 19 published studies regarding the effect of hospitalist programs on financial and clinical outcomes.⁸ An average 13.4% decrease in hospital costs and 16.6% decrease in hospital length of stay were reported, with significant benefits in these 2 measures noted by 15 of the 19 studies. Additional beneficial outcomes were only variably reported, with these data being interpreted by Wachter as “insufficient to support an unqualified statement that hospitalists improve quality.” Most of the investigations reviewed found no significant change (positive or negative) in quality measures directly attributable to hospitalist systems. Wachter’s conclusion was that the hospitalist model “appears to have achieved its minimum goal of improving efficiency without adverse effects on quality, teaching, or patient satisfaction.” The potential savings to be had by this improved efficiency could result in a reduction in inpatient costs by approximately \$2.4 billion per year.⁸

Current and Future Challenges

The future of hospital medicine is promising. The field has grown rapidly with an estimated current workforce of 7000-8000¹⁴ and a projected future workforce of 10,000-30,000 physicians,¹ which is comparable in size with the field of cardiology.¹⁵ In Massachusetts, 39 hospitalist programs now manage 42% of the 1.8 million medical inpatient days in the state.¹⁶ Hospitalists are represented by their own professional organization, the Society of Hospital Medicine

Figure 1. A Day in the Life of a Hospitalist

- 0730:** Meet night hospitalist to receive patient status reports, and sign-out on new admissions.
- 0745:** Round on patients and begin daily work.
- 0930:** Call in consultations, and ensure orders for needed daily diagnostics are placed.
- 1000:** Meet with case manager regarding patient disposition planning.
- 1015:** Meet with nurses regarding patient treatment plans.
- 1030:** Admit new patient from Emergency Department.
- 1115:** Contact primary care providers regarding new admissions in past 24 hours.
- 1130:** Write progress notes and complete billing.
- 1300:** Perform preoperative consultation for surgeon.
- 1340:** Meet with patient family members.
- 1400:** Assist Emergency Department with admission decision making, and admit new patients.
- 1515:** Evaluate patient with acute chest pain and hypotension.
- 1545:** Place central line in patient with lack of peripheral access.
- 1615:** Round on patients, and prepare discharge paperwork for next day’s discharges.
- 1700:** Contact primary care providers about important changes in patients’ status, today’s discharges, and today’s new admissions.
- 1730:** Attend CPR Committee meeting.
- 1830:** Review new data generated over course of the day.
- 1900:** Complete daily paperwork and dictations.
- 1930:** Meet with night hospitalist to sign-out service.

(SHM), formerly known as the National Association of Inpatient Physicians. SHM has witnessed an explosion in membership, growing from approximately 450 members after its first year of existence in 1999 to 4000 members today (A. Musial, written communication, June 2003). This is larger than many other medical organizations, including the Society of General Internal Medicine. Recent survey data indicate hospitalists find their jobs appealing, intellectually stimulating, well paying, and conducive to a balanced lifestyle.^{17,18}

But the work is not yet done. As hospital medicine appears here to stay, it is no longer necessary for hospitalists to justify their existence. Questions to address now pertain to organizational, financial, ethical, educational, and clinical issues that arise from a major change in the organization of health care delivery.⁸ Current and future challenges to hospital medicine and the health care system embracing it include the following:

Table 4. Evidence Documented Benefits of Hospitalist Systems of Care

- Cost savings
- Decreased hospital length of stay
- Decreased hospital readmission rates
- Decreased inpatient and short-term mortality
- Improved patient satisfaction
- Improved physician satisfaction (hospitalist and primary provider)
- Improved housestaff satisfaction
- Improved trainee education

More proof of improvement

Hospital medicine must continue to improve upon realized successes. Although the existing data appear robust, further studies on cost savings are indicated. Such studies might focus on issues such as the shifting of cost from the hospital to other settings (ie, extended care facilities or the outpatient arena), the cost of care to health insurers, the cost of hiring hospitalists, the effect of hospitalists on institutional budgets, and monetary and other costs to patients' families.¹⁹ Additional and ongoing trials should confirm preliminary data and observations suggesting quality improvement. Further decreases in length of stay may yet be recognized,⁴ and better studies regarding the effect of hospitalists on patient and physician satisfaction are needed. Satisfaction assessment should also be expanded to the direct study of inpatient subspecialists, nurses, ancillary staff, trainees, and families.

The increasing presence of hospitalists at academic medical centers will assist in defining a new research agenda that expands beyond the study of the hospitalist model itself. Academic hospitalists are now investigating critical inpatient issues such as patient safety, preventing nosocomial infections, end-of-life care, and hospital quality measurement.⁸ It is expected that in the future, hospitalists will devote increasing time to clinical trials, patient-centered research, and genetic epidemiology.⁸

Maturation of individual hospitalist groups

Major current and future challenges to individual groups of hospital medicine physicians include creating sustainable job descriptions and ensuring financial viability. Much has been written about the potential for the hospitalist to burn out. This is clearly a legitimate concern given the acuity of patient illnesses, need to provide 24-hour-a-day care, and the multi- and simul-tasking demanded by restricting one's scope of practice to the hospital. Recent reports suggest that 13% of hospitalists consider themselves burned out, with an additional 25% indicating levels of physical, emotional, and mental exhaustion placing them at risk for burn out.¹⁷ A common approach to maintaining job sustainability is to create job descriptions that provide the opportunity to intermittently escape from the high-pressure hospital atmosphere. Many hospitalists, for example,

regularly engage in limited out-patient care activities, provide out-patient preoperative medical consultations, supervise residents in out-patient clinics, provide rehabilitative care in subacute nursing facilities, and staff emergency department clinical decision units.

Another challenge to hospitalist groups is addressing the fact that hospital medicine is not a lucrative business. Individual programs must devise creative methods to maintain financial viability. A hospitalist group consisting of 3 physicians, 1 case manager, and 1 administrative assistant will have a typical annual operating cost in excess of \$500,000.⁴ Revenues collected from inpatient care activities alone generally equal only 60-80% of a hospitalist's salary.²⁰ The reasons for this are multifactorial, and not unique to the United States. Canadian officials for example have stated "at our hospital we charge more for parking than physicians can make caring for (unassigned) patients."²¹ One logical solution is to expect those components of a system benefiting from a hospital model of care to "subsidize" the budget deficit.²⁰ This seems reasonable if hospitalists save inpatient costs, create the ability to maximize outpatient productivity, and perform critical hospital administrative and institutional support duties that historically have not been financially rewarded.

Education

Training emphasizing the core competencies outlined in Table 2 is essential to developing a competent hospital medicine work force. Existing traditional training programs may be inadequate. A survey of members of the National Association of Inpatient Physicians found that practicing hospitalists believe their residency training experiences were deficient in a number of core competencies including perioperative consultation, geriatrics, communication skills, end-of-life care, continuum of care, and systems issues.²² To augment education in these areas, existing training programs will need to be restructured or additional training opportunities offered. To this end, special residency tracks and fellowships in hospital medicine have been established at a number of training facilities in the United States.²³ The SHM is also actively developing continuing medical education mate-

Continued on page 81

Table 5. Requirements for Certification as a Medical Specialty

- Distinct and unique body of knowledge
- Sufficient clinical applicability to support a distinct clinical practice
- Generation of new information and research
- Necessary minimum training period of 1 year
- Substantial number of national training programs and trainees
- Must not have a negative effect on other specialties

Case Study. Drs. Traditional and Progressive, on the Virtues of Hospital Medicine

Dr. Traditional

Mrs. Jones has been a patient of Dr. Traditional for the last 10 years. She began feeling unwell last night with symptoms of nausea and weakness. After breakfast today, she developed chest pain and calls Dr. Traditional's office. He tells her to take an aspirin and call 911 immediately. When Mrs. Jones arrives at the emergency room her chest pain has resolved. The ER physician calls Dr. Traditional for admission to "rule out MI [myocardial infarction]." Admission orders are given over the phone, and Mrs. Jones is moved to a monitored bed. Mrs. Jones' daughter arrives and asks to see her doctor. She is shocked that Dr. Traditional is not there.

It is now 10:30 am, and Dr. Traditional has a booked schedule. He has 7 patients to see before the lunch hour, and another 12 expected this afternoon. He knows he needs to get to the hospital. He tells his secretary Carol to cancel some of his afternoon appointments. Carol looks at the schedule, which includes several patient requested urgent visits. She calls Mrs. Deedy who is coming in for follow-up of her osteoarthritis. Mrs. Deedy is not very happy about rescheduling. "I arranged transportation today, and my son already took off work this afternoon to come with me. I want to talk with Dr. Traditional now."

Meanwhile, nurse Sarah Steele is taking care of Mrs. Jones, who has lost IV access, is having chest pain again, and has had no urine output in the past 2 hours. Sarah tries to replace the IV, but Mrs. Jones is confused and becoming uncooperative. Sarah calls Dr. Traditional's office for assistance. After waiting on hold for 5 minutes, she receives a verbal order from Dr. Traditional for a STAT ECG and cardiology consultation, as well as urgent urology and neurology referrals.

It is now 12:45 pm and Dr. Traditional is speeding toward the hospital. He is weaving in traffic as he tries to eat his lunch in the car. He arrives at the same time as Dr. Heart, the cardiology consultant. Mrs. Jones' daughter is relieved to see Dr. Traditional, but very concerned that her mother's condition has gotten worse. Dr. Traditional receives a page from his office that his afternoon patients are waiting for him.

Dr. Heart recognizes that Mrs. Jones is having acute ischemia with progressive congestive heart failure. He begins anticoagulation, diuresis, and calls Dr. Lung for consultation regarding possible intubation and transfer to the ICU. Dr. Traditional talks with Mrs. Jones' daughter and Dr. Heart, then rushes back to his office. It is now 2 pm, and he is 4 patients behind. Shortly thereafter, Mrs. Jones is placed on the ventilator.

At 4:30 pm, more of Mrs. Jones' family arrives, and have multiple questions that the nurse cannot adequately answer. Dr. Heart is contacted, yet he is unavailable due to an emergency in the catheterization lab, and he advises that Dr. Traditional be paged. Meanwhile, Carol has Mrs. Traditional on the line. "I just want to remind him that my auction dinner is tonight and he needs to be home by 5:30 pm." Dr. Traditional calls the hospital to talk with the family over the phone, who plead "we need to see you...our mother needs you here." Dr. Traditional assures the family he will be there first thing in the morning, and ensures that Dr. Heart will be available to personally discuss the treatment plan with them tonight. He arrives home at 6:00 pm to find his wife has already left for dinner.

Comment:

Dr. Traditional cannot be in 2, the net effect is less than optimal care for all. Mrs. Jones had a delay in initiation of therapy, and she progressed to a state that needed urgent intervention. The "shot-gun" consultation approach applied by Dr. Traditional did not replace him being available, supporting the nurses, and responding to family concerns. In addition, Dr. Traditional may have alienated several of his outpatients by canceling appointments, and he certainly upset his wife. Ultimately, Dr. Traditional needed a partner such as Dr. Hospitalist.

Dr. Progressive

Mrs. Smith has been a patient of Dr. Progressive for the last 10 years. She began feeling unwell last night with symptoms of nausea and weakness. After breakfast today, she developed chest pain and calls Dr. Progressive's office. He tells her to take an aspirin and call 911 immediately. When Mrs. Smith arrives at the emergency room, her chest pain has resolved. The ER physician calls Dr. Progressive for admission to "rule out MI." Dr. Progressive contacts Dr. Hospitalist for a patient referral. Dr. Progressive updates Dr. Hospitalist on Mrs. Smith's past medical history and current situation. Dr. Hospitalist evaluates Mrs. Smith in the ED and admits her to a monitored bed. Mrs. Smith's daughter arrives and asks to see her doctor. Dr. Hospitalist introduces himself and updates the daughter on Mrs. Smith's condition.

It is now 10:30 am, and Dr. Progressive has a booked schedule. He has 7 patients to see before 12 pm, and another 12 expected this afternoon. Dr. Hospitalist's admission note arrives to the office via fax. Dr. Progressive asks his secretary Jane to pull Mrs. Smith's chart, and look-up the family contact numbers so that he can call them over the lunch hour.

Meanwhile, nurse Mary Simmons is taking care of Mrs. Smith. She has developed chest pain again, and she has lost IV access. Mary pages Dr. Hospitalist who immediately comes to the bedside. Dr. Hospitalist re-evaluates Mrs. Smith, and together he and Mary are able to place a small peripheral IV while obtaining a STAT ECG that demonstrates acute inferior ischemia. Dr. Hospitalist initiates anticoagulation therapy and notifies the ICU to prepare a bed for Mrs. Smith. Mary is concerned that the IV won't hold for long, and therefore Dr. Hospitalist inserts a central venous line after Mrs. Smith's chest pain subsides. Dr. Hospitalist calls Dr. Heart for an urgent con-

Case Study continued. Drs. Traditional and Progressive, on the Virtues of Hospital Medicine

sultation. Dr. Heart requests an echocardiogram and states he will be at the hospital within the hour. Dr. Hospitalist then calls Dr. Progressive's office regarding the change in Mrs. Smith's status.

It is now 12:45 pm and Dr. Progressive has finished his morning schedule. He goes to his office to eat lunch. Jane has left Mrs. Smith's chart and family phone numbers on his desk. With Dr. Hospitalist's admission note in hand, he calls Mrs. Smith's daughter to provide reassurance.

Dr. Heart reviews the echocardiogram along with the serial ECGs and concludes "she seems to be doing well. She will need a catheterization in the future. For now just continue your current therapy. She should be able to go to the regular nursing floor tomorrow." Dr. Hospitalist invites Mrs. Smith's daughter into the ICU, and together with Mrs. Smith and the ICU nurse Linda Jackson, explains her condition, treatment plan, and prognosis.

At 4:30 pm, more of Mrs. Smith's family arrives and Mrs. Smith's daughter gives them an update. Nurse Jackson answers their additional questions. Meanwhile, Dr. Hospitalist is on his way to a Pharmacy and Therapeutics Committee Meeting. He runs into the ICU Director who inquires about Mrs. Smith. "We are scheduled to have an open heart patient tomorrow—should I call the surgeons and delay, or will Mrs. Smith be discharged from the unit by mid-morning?"

Dr. Progressive is wrapping up the day in his office returning phone calls. It is 5:00 pm, and he knows he must be home by 5:30 pm to pick up his wife to attend her auction dinner. As he pulls out of his office parking lot, he calls home to let his wife know he is on his way. Back at the hospital, Dr. Hospitalist's meeting is finished. He stops at the ICU to check with Linda before he signs out to his night coverage colleague. He is pleased to hear that Mrs. Jones is doing fine.

Comment:

Dr. Progressive has partnered with Dr. Hospitalist. Dr. Progressive is available to his outpatients, and with good communication, he is also available to his patients requiring hospitalization. Dr. Hospitalist can be immediately available if patient conditions change. Furthermore, he can work closely with the nurses, provide families and patients with immediate clinical updates, and facilitate efficient institution-wide care (such as assisting with the decision to postpone the pending open heart surgery in the example above). Finally, Dr. Hospitalist further aides the hospital by providing much needed physician involvement on hospital-based committees.

Continued from page 79

rials for hospitalists currently in practice, and sponsors an annual national meeting and 4 annual regional meetings. Many local SHM chapters also sponsor regular educational activities.²⁴ A future challenge to medical training will be to incorporate hospital-focused curriculum that does not compromise the ambulatory education necessary for maintaining hospitalists' competencies in understanding the scope of outpatient practice.

Specialty designation

Whether hospital medicine constitutes a new specialty is an important question. Specialty designation would almost certainly lead to separate board certification and could result in greater system changes such as requirements for added credentials to obtain privileges to practice in the hospital. Traditional medical specialties have been organized according to organ system (ie, cardiology, gastroenterology, dermatology), patient population (ie, pediatrics, geriatrics, obstetrics), and procedural/technological competencies (ie, anesthesiology, radiology, surgery). Recent precedent for organizing a specialty based on practice location, such as that seen in hospital medicine, has been set by critical care and emergency medicine.²⁵ Criteria required by the American Board of Internal Medicine for a discipline to receive specialty certification are presented in Table 5.²⁵ While developments such as the recent publication of a hospital medicine text book,²⁶ a growing original literature founda-

tion, and the establishment of fellowship training programs would meet many of these criteria, hospital medicine has yet to completely satisfy all of the requirements for medical specialty certification.

Declining popularity of primary care

Interest among medical students in pursuing primary care careers is declining.²⁷ Since 1998, 17% fewer American medical school graduates have matched to categorical, primary care, and medicine-pediatrics internal medicine training programs.²⁸ In 2003, primary care internal medicine residencies saw a 6% decrease in enrollment, while family practice experienced a 12% drop resulting in a 6-year loss of 44%.²⁸ The reasons for this are likely multifactorial, but the potential effect of hospital medicine on the training of future generalist physicians should be considered.

Some claim that the "playing field and the opportunity to influence medical trainees toward primary care fields is far from level," citing that the majority of residency education occurs in the hospital where the clinic experience is often resented because it is "wedged into a ward month wherever it can fit."²⁷ Addressing this concern as it relates to the training of hospitalists is necessary, but unfortunately there are no simple answers. Separate tracks for residents interested in hospital or primary care internal medicine is a potential solution, yet could also be detrimental to the goal of recruiting internal medicine trainees. Weissler, for example, has commented that the splitting of internal medicine training

into ambulatory or hospitalist tracks could drive trainees interested in stressing continuity of care to family practice.²⁹ Whatever the solution, internal medicine must seemingly find one, as Weissler further cautions that other specialties might assume the role of formal hospitalist training if internal medicine does not.²⁹

However, to advocate that internal medicine be the sole provider of hospitalist training opportunities is controversial. Collaboration on the training of hospitalists by internal medicine and family practice has been suggested³⁰ and may serve as a means to ensure that family practitioners have access to hospital medicine careers. Observation of the increasingly common stipulation that applicants for hospitalist jobs be board certified in internal medicine has led to a concern that family practice trained physicians will not be allowed to compete for these positions.³⁰ Ensuring access to the provision of hospital care by family practitioners may be essential to recruiting new family practice trainees. An inability to follow care into the hospital has been viewed as a significant interruption in patient contact that may lead to the deterioration of the family practice paradigm of comprehensive, life-long continuity of care.³¹

Conclusion

Hospital medicine is currently revolutionizing the delivery of health care in the United States. Initial fears of adverse outcomes related to the rapid adoption of hospitalist-based care appear to be unfounded. Research has seemingly justified hospital medicine as a rational means of enhancing health care value. Ongoing research will explore recent literature suggesting that hospital medicine systems decrease morbidity and mortality, improve satisfaction, and enhance the education of medical students and residents. The initial concern that “the presumed brave new world of the hospitalist may be another case of the emperor’s new clothes”⁷ seems irrelevant today, for even initial skeptics of the hospital medicine movement have since truly seen the cloth on its loom.

References

1. Lurie J, et al. The potential size of the hospitalist workforce in the United States. *Am J Med.* 1999;106:441-445.
2. Freeses R. The Park Nicollet experience in establishing a Hospitalist system. *Ann Intern Med.* 1999;130(4S):350-354.
3. Wachter R, Goldman L. The emerging role of “Hospitalists” in the American health care system. *N Engl J Med.* 1996;335: 514-517.
4. Clinical Advisory Board. Second generation hospitalist programs. Strategies for securing program returns. 2002, The Advisory Board Company, Washington, DC.
5. McCaig L, Burt C. National hospital ambulatory medical care survey: 2001 emergency department summary. Available at: <http://www.cdc.gov/nchs/data/ad/ad335.pdf>. Accessed June 9, 2003.
6. Wachter R. An introduction to the hospitalist model. *Ann Intern Med.* 1999;130:338-342.
7. Goldmann D. The hospitalist movement in the United States: What does it mean for internists? *Ann Intern Med.* 1999;130:

- 326-327.
8. Wachter R, Goldman L. The hospitalist movement 5 years later. *JAMA.* 2002;287:487-494.
9. Whitcomb W, Nelson J. The role of hospitalists in medical education. *Am J Med.* 1999;107:305-309.
10. National Association of Inpatient Physicians 2002 Hospitalist Productivity and Compensation Survey, Available at: <http://www.hospitalmedicine.org/presentation/default.asp>. Accessed June 9, 2003.
11. Auerbach, et al. Implementation of a voluntary hospitalist service at a community teaching hospital: Improved clinical efficiency and patient outcomes. *Ann Intern Med.* 2002;137:859-865.
12. Meltzer D, et al. Effects of physician experience on costs and outcomes on an academic general medicine service: Results of a trial of hospitalists. *Ann Intern Med.* 2002;137:866-874.
13. Tenner, et al. Improved survival with hospitalists in a pediatric intensive care unit. *Crit Care Med.* 2003;31:847-852.
14. Society of Hospital Medicine. Available at: <http://www.hospitalmedicine.org/presentation/default.asp>. Accessed June 9, 2003.
15. Wachter R. Debunking the myths about the hospitalist movement. *Am J Med.* 2000;108:672-673.
16. Miller J. The hospitalist movement: The quiet revolution in healthcare. *Health Leaders News.* Jan. 8, 2003.
17. Hoff, et al. Characteristics and work experiences of hospitalists in the United States. *Arch Intern Med.* 2001;161:851-858.
18. Lindenaer P, et al. Hospitalists and the practice of inpatient medicine: results of a survey of the National Association of Inpatient Physicians. *Ann Intern Med.* 1999;130:343-349.
19. Showstack J, et al. Evaluating the impact of hospitalists. *Ann Intern Med.* 1999;130(4Pt 2):376-381.
20. Bellet P, Wachter R. The hospitalist movement and the implications for the care of hospitalized children. *Pediatrics.* 1999;103: 473-477.
21. Sullivan P. Enter the hospitalist: New type of patient creating a new type of specialist. *CMAJ.* 2000;162:1345-1346.
22. Plauth W, et al. Hospitalist’s perceptions of their residency training needs: results of a national survey. *Am J Med.* 2001;111: 247-254.
23. Kripalani S. Hospitalist fellowships on the rise. *The Hospitalist.* 2001;5(6):9.
24. Kettering L. Evolution of a local NAIP chapter: Organizational pearls from grassroots hospitalists. *The Hospitalist.* 2002;6(3): 15-17.
25. Kelley, M. The hospitalist: A new medical specialty? *Ann Intern Med.* 1999;130(4S):373-375.
26. *Hospital Medicine.* Wachter R, Goldman L, Hollander H, eds. Philadelphia, Pa: Lippincott Williams & Wilkins; 2000.
27. O’Connell P, Wright S. Declining interest in primary care careers. *J Gen Intern Med.* 2003;18:230-231.
28. Maguire P. In this year’s match, internal medicine continues to lose U.S. graduates. *ACP Observer.* 2003;23:1-4.
29. Weissler J. The hospitalist movement: caution lights flashing at the crossroads. *Am J Med.* 1999;107:409-413.
30. Jimbo, M. Advantages and limitations of the hospitalist movement. *JAMA.* 2002;287:2073-2076.
31. McConaghy J. The emerging role of hospitalists—Will family physicians continue to practice hospital medicine? *J Am Board Fam Pract.* 1998;11:324-326.

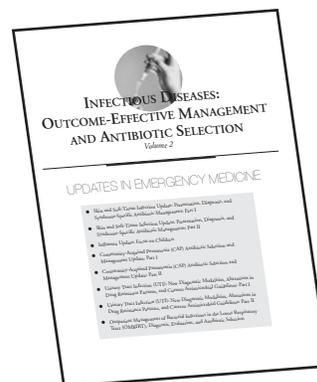
CME Questions

6. Which of the following is an essential element defining the practice of hospital medicine?
 - a. 25% minimum total time commitment to hospital related care
 - b. The "hand-off" of care responsibilities from primary care provider to hospitalist
 - c. 24-hour-a-day availability
 - d. Competency in managing intensive care unit patients
 - e. Participation in hospital quality improvement projects
7. Which of the following reflect the estimated current and projected numbers of physicians practicing hospital medicine in the United States?
 - a. 4000 current hospitalists and 10,000 projected hospitalists
 - b. 1000 current hospitalists and 20,000 projected hospitalists
 - c. 8000 current hospitalists and 50,000 projected hospitalists
 - d. 8000 current hospitalists and 20,000 projected hospitalists
 - e. 20,000 current hospitalists, and 50,000 projected hospitalists
8. Which of the following is a research proven benefit of the hospitalist model of care?
 - a. Hospital cost savings
 - b. Improved family satisfaction
 - c. Standardization of hospital delivered care
 - d. Decreased medical errors
 - e. Increased use of advanced directives
9. The national physician organization representing hospitalists is called:
 - a. the National Association of Hospital Medicine.
 - b. the North American Society of Inpatient Physicians.
 - c. the American College of Hospital Medicine.
 - d. the Hospitalist Society of America.
 - e. the Society of Hospital Medicine.
10. Which of the following is a criterion to be met for recognition as a new medical specialty by the American Board of Internal Medicine?
 - a. Must have a positive effect on other specialties
 - b. Must support a substantial number of national training programs and trainees
 - c. Practitioners must be board certified in internal medicine
 - d. Must require a minimum training period of 2 years
 - e. Practitioners of the specialty must be represented by a national organization
11. Around what year did the first hospital medicine programs appear in the United States?
 - a. 1980
 - b. 1985
 - c. 1990
 - d. 1995
 - e. 2000

12. Which of the following statements is *false*?
 - a. Hospitalists save money.
 - b. Hospitalists decrease length-of-hospital stay.
 - c. Revenues collected from patient care activities are equivalent to the typical hospitalist's salary.
 - d. General internists make up approximately 80% of the hospitalist work force.
 - e. Hospitalists must succinctly summarize and detail the course and outcomes of a patient's hospitalization for timely correspondence with the patient's primary care provider.

Answers: 6.)b; 7.)d; 8.)a; 9.)e; 10.)b; 11.)d; 12.)c

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