Interventional Radiology and the Hospitalist: An Opportunity for Collaboration

Chad T. Whelan, M.D.¹

ABSTRACT

Since 1999, the number of hospitalists in the United States has grown from 1500 to 15,000. In addition to this 10-fold increase in individuals, hospitalists are also expanding their clinical reach through increased involvement in consultative and comanagement clinical care, quality improvement, and hospital administration. Interventional radiologists are likely to have more interaction with hospitalists. With a thorough understanding of each other's roles, hospitalists and interventional radiologists have an opportunity to build collaborative relationships of mutual benefit.

KEYWORDS: Hospitalist, interventional radiology, cost-effectiveness, referral and consultation

Objectives: Upon completion of this article, the reader should be able to define the role of a hospitalist in inpatient care and the potential future impact of this field on interventional radiology.

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INTRODUCTION TO THE HOSPITALIST MODEL OF CARE

Although difficult to measure, the expansion of the field of hospital medicine is certainly rapid. However, what remains clear is the field of hospital medicine, like emergency medicine, is a site-specific specialty in which it is not the patients who define the field but rather the location. A hospitalist (first coined by Wachter and Goldman in 1996¹) is a hospital medicine physician whose primary focus of their professional career revolves around the hospital setting.^{2,3} Although the growth of an emerging field can be hard to quantify, best estimates suggest that there are currently 15,000 hospitalists in this country.⁴ In 1999 it was estimated that there were 1000 to 2000 hospitalists in this country. In that year, Lurie and colleagues performed an estimated needs analysis for

hospitalist supply and put the estimate at 19,000 hospitalists by the year 2010, and that the number may be as high as 30,000.⁵ To put these numbers in perspective, if Lurie's projections are accurate, the number of hospitalists would be similar to that of cardiologists in this country. Current hospitalist numbers are outpacing Lurie's estimates, reaffirming that hospital medicine is clearly a growing field and one in which most hospitals in which interventional radiologists practice either already have or will likely have a hospitalist presence. Given hospitalists' reach within hospitals, it is important for interventional radiologists to understand what roles hospitalists are likely playing within their system.

Although a young field, there has been extensive attention paid to the effects of hospitalist programs. There have been many studies that suggest that hospitalist save

¹Department of Medicine, University of Chicago, Chicago, Illinois.

Address for correspondence and reprint requests: Chad T. Whelan, M.D., Department of Medicine, University of Chicago, 5841 S. Maryland Avenue, MC 2007, Chicago, IL 60637.

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money in caring for hospitalized patients.⁶⁻¹⁰ One of these studies, using a pseudorandomized study design at a single academic medical center, demonstrated that hospitalists saved approximately \$782/admission. These savings came about only in the second year of the study and were affected primarily through shortening length of stay (LOS).¹⁰ Although not published, preliminary findings from a multicenter study by the same authors found significant variation among the sites as to the cost savings seen with hospitalist programs.¹¹ Similarly, a study examining traditional care to two different systems of hospitalist programs within a single medical center found significant variation in the cost savings between the two hospitalist programs despite controlling for differences in the patient population.¹² These data suggest that not all hospital medicine programs are equally cost-effective. Although it is not clear what particular factors are most important to achieve cost reductions, it is likely that experienced well-designed hospitalist programs can save costs by reducing LOS.

CHALLENGES TO THE HOSPITALIST MODEL

Despite the rapid growth in hospitalists and the probable economic benefits of this model of care, there are real challenges to the success of hospital medicine. Major challenges include understanding how the hospitalist model of care affects the quality of inpatient care, primary care provider (PCP) satisfaction, and patient satisfaction. Clearly, if the hospitalist model saved money at the expense of quality, it would be of major concern. By design, the hospitalist model increases discontinuity and sacrifices long-term patient-specific knowledge for acute disease-specific knowledge and skill. Initially, there were concerns about how this model would affect the quality of care. However, several subsequent studies have examined the quality of care delivered by hospitalists. When evaluating the 30-day readmission rates and mortality rates, hospitalist-based care appears to be at least equivalent to that provided in the traditional model. In fact, in some studies, it appears that with increasing experience, there may actually be a mortality benefit in patients cared for by hospitalists.^{6,9,10} It is not clear as to what drives the improvements seen with hospitalists, but suggestions include: (1) improved compliance with recommended standards of care; (2) development and utilization of standardized order sets; and/or (3) disease-specific care management skill. A large multicenter study has been completed and the analysis currently underway hopes to answer some of the questions about mechanism(s) of effect.¹¹

Another initial risk for hospitalists was how this model affects PCP career satisfaction, as well as satisfaction with the care provided to their patients. PCPs who use hospitalists not only would relinquish portions

of their clinical experience that may be important to them professionally but also sacrifice the income associated with the inpatient care of their patients. In addition, they also lose autonomy over their patients' care during a most critical period in the patient's life. Although these losses are real, they may be balanced by the improved efficiency in their office-based practice as well as the improved lifestyle of no longer having to care for patients admitted to the hospital at night and over the weekend.¹³ Evidence to date suggests that PCPs may be apprehensive about transitioning to a hospitalist-based model of care for their continuity patients, but in general are satisfied with the hospitalist model after it has been implemented.¹⁴

Finally, for the hospitalist movement to be a sustainable field, the primary users of the service need to be comfortable with the model. The physician-patient relationship is fundamentally changed from the traditional model in which the physician who has come to know the patient and his or her issues over the years is also caring for the patient during the crisis that resulted in hospitalization. Instead, the patient must be confident that the trade-off of disease-specific knowledge and skills as well as the increased physical presence during the acute crisis balances the loss in continuity. In fact, studies do suggest that patients in general are satisfied with the hospitalist model and that patient satisfaction is at least as good in this model as compared with the traditional model.^{6,8-10}

EXPANDING CLINICAL ROLES FOR HOSPITALISTS

Although most hospitalists are primarily practicing clinicians for adult hospitalized medical patients, the field is evolving quickly. There are currently pediatric, obstetric/gynecologic, and even orthopedic hospitalists. Hospitalists' clinical roles are rapidly expanding and now include surgical consultation/comanagement, procedure services, subacute nursing facilities, preoperative clinic evaluation, short-term postdischarge follow-up, and palliative care. There is also a rapidly growing group of hospitalists becoming involved in quality improvement activities, administrative leadership, as well as clinical and health services research.⁴

Many of these expanded roles will affect how interventional radiologists and hospitalists interact. Clearly, the expanded clinical role means that there will simply be more interaction between these two groups of physicians. In fact, in some hospitals, there is a specific expectation that ultimately all patients will have a hospitalist as the primary attending of record. Although hospitalists are able to shorten LOS, it does not appear that they necessarily achieve this reduction through less diagnostic testing, but rather through increasing throughput. In particular, one study examined radiology testing among hospitalists and nonhospitalists

and found no significant difference between the two groups in test-ordering patterns.¹⁵ It is not likely then that having hospitalists will generally reduce interventional radiology procedures. Rather, a hospitalist group will be responsible for caring for large numbers of the inpatients responsible for interventional radiology procedures. It may be of mutual benefit for interventional radiology departments to establish mechanisms for communication with the hospitalist group to effectively and efficiently schedule, prioritize, and relay information about tests and their results.

Hospitalists are increasingly involved in consultative and comanagement. In fact, it is estimated that 99% of all hospital medicine programs responding to the 2005–2006 Society of Hospital Medicine (SHM) Survey on Hospitalist Activity have active consultation services and 85% are involved with true comanagement.⁴ This broadening of activities provides additional opportunities for hospitalists and interventional radiologists to collaborate. When a patient needs urgent consultation in the periprocedural period, hospitalists can provide a broad area of expertise. For example, if a patient develops shortness of breath, the radiologist may currently have to try to decide whether to call the cardiology or pulmonary service. However, if using a hospitalist, the consultant would have experience and comfort in working up the symptom from both perspectives.

Similarly, when a patient needs postprocedural hospitalization or observation, hospitalists may prove to be a valuable resource for the interventional radiologist. Many of these patients will have complicated medical histories and medication regimens. If, instead of the radiologist admitting the patient, the radiologist asks the hospitalist to attend on the patient, a physician whose primary professional focus is on caring for sick hospitalized patients will be responsible for the hospital care of the patient. This arrangement allows for the interventional radiologist to be freer to focus on their complex procedures while providing optimal care for these medically complex patients through the use of hospitalists. Although some hospitalist groups and referring physicians set up formal arrangements for comanagement, many are less formal. It is in everyone's best interest, though, to establish clear expectations and open lines of communication between the two physician groups.

The final clinical expansion area of potential interest to interventional radiologists is that of procedures. Recently, there has been significant interest among hospitalists in developing procedure services, and 69% of hospital medicine programs report performing procedures on other physicians' patients.⁴ These services provide procedural support for patients not cared for by hospitalists. Instead of relying on surgeons for central lines, pulmonologists for thoracenteses, and gastroenterologists for paracenteses, and so on, the hospitalist-led procedure service is able to perform all of the procedures. In addition,

a well-designed procedure service is set up so that the clinical service is not working around an operation room or clinic schedule. Instead, the physician and support team are always in the hospital and available for procedures. Although the vast majority of these procedures would have no impact on interventional radiologists, there are some areas worth considering. First, when a complication arises or a procedure (particularly a central line) is not able to be done at the bedside without visualization, the hospitalist will likely look to the interventional radiologist for assistance. Second, although currently these procedure services are not capable of placing tunneled lines, there are some institutions that have considered the possibility of using hospitalists in this role. Clearly, this is an area that may impact the business side of an interventional radiology department. In addition, management of both periprocedural and postprocedural complications of lines placed by a non-interventional radiology-based physician requiring interventional radiology assistance could require delicate negotiations between the groups. As hospitalists are encouraged to expand their procedural reach within organizations to improve efficiency, it will be increasingly important for the hospitalist programs and interventional radiology departments to have solid working relationships with the ability to voice concerns and react to issues in ways that keep the focus of patient care at the forefront of decisions.

QUALITY IMPROVEMENT AND THE HOSPITALIST

Recognizing the unique opportunity hospitalists have to play in improving the setting in which they work, SHM has suggested that hospitalists should be the physician leaders for quality and operational improvement within the hospital. In 2006, SHM published its core competencies for practicing hospitalists. One third of the core competencies were explicitly in the areas of quality improvement, systems thinking, and management.¹⁶ In addition, within each traditional clinical practice competencies such as "pneumonia," there were clearly defined systems-level competencies. It is quickly becoming the expectation that a hospitalist will in the future not only be an expert on the clinical care of individual patients within their hospital but also on how to make their hospital better, safer, and more efficient for all patients within the center.

As local experts in the areas of quality and operations improvement as well as patient safety, hospitalists will likely be involved in hospital committees in these areas. As departments of interventional radiology identify quality or safety issues of importance to them, established relationships with the hospitalists may prove helpful to facilitate and prioritize projects. However, it may also be the case that as hospitals look for ways to improve throughput, hospitalists will be the physician

leaders on projects that may affect the way interventional radiology departments carry out their workflow. Having preestablished good relations between the two programs will provide the opportunity for the interventional radiology programs to have an active voice in the discussions about decisions affecting their workplace.

In addition to administrative leadership in areas of quality and operations improvement, hospitalists are increasingly being asked to take on administrative leadership positions throughout the hospital. Commonly, hospitalists are active committee members or chairs committees such as Pharmacy and Therapeutics, Health Information Management, Electronic Medical Records, and the Institutional Review Board.⁴

RESEARCH AND THE HOSPITALIST

Currently, the research presence in hospital medicine is small but growing rapidly. To date, most of this research has focused on the areas of evaluating hospitalists themselves or in the area of health care quality among hospitalized patients.^{6–12,17} When involved in traditional clinical research, most hospitalists have played a more collaborative role than as principal investigator. However, as hospital medicine fellowships become more common and more hospitalists are trained in the area of research, it is probable that activities in all of these research areas will expand quickly. To that end, SHM launched its own journal in January 2006. It is not clear how this expanding research agenda will affect relationships between the interventional radiologist and the hospitalist; there may be interesting opportunities for collaborative work in this area. Potential areas of overlapping interest include: periprocedural anticoagulation, central line-associated infections, sedation-related delirium, and/or aspiration.

CONCLUSIONS

It is becoming clear that the hospitalist model is not a fad but a field coming into its own. In the near future, certification will likely represent formal recognition of hospital medicine as a specialty. Given that the patients cared for by interventional radiologists often have complex medical issues and are frequently hospitalized, it is important for both hospitalists and interventional radiologists to have a thorough understanding of each other's roles. As the field of hospital medicine matures, it will be critical for interventional radiologists to be aware of the changing expertise, experience, and expectations of their hospitalist colleagues. In addition, collaborative partnerships between these two groups have the potential to provide significant benefits in the areas of research, quality and safety, throughput and efficiency, and, most importantly, clinical care.

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