

The Rising Tide of Hospitalism: Evidence-Based or Anecdote-Based Medicine?

Barry G. Saver, MD, MPH, and Mark P. Doescher, MD, MSPH
Seattle, Washington

What does the rising tide of "hospitalism," the use of hospitalists for inpatient care by a system, mean for family physicians and their patients? Does it mean "More quality! Less expensive!"? Is there evidence supporting this shift? Does it mean more fragmentation of an already fragmented patient-provider relationship and health care system? Will family physicians lose the inpatient privileges they have spent decades fighting to obtain? Will physicians' lifestyles get easier? Will outpatient-only physicians have to prove that they provide added value over midlevel providers? The answers to these questions depend on how "hospitalist" is defined and why such a system is used.

Although a hospitalist is generally defined as a physician specializing in the delivery of inpatient care,¹ a wide spectrum of hospitalist models have been created.² Hospitalist models range from requiring attending physicians at teaching institutions to make daily rounds and to attend more than 1 month per year,³ to having physicians on call 24 hours a day exclusively for panels of inpatients,⁴ to 24-hour in-hospital coverage by physicians who see only inpatients.⁵ Many implementations involve frequent transfer of care of inpatients between providers. For example, systems with 24-hour in-hospital coverage tend to have three shifts, with handoffs between each shift; there may be different providers for weekends as well. Systems in which one physician takes 24-hour-a-day responsibility for a panel of inpatients have handoffs every week or two.

Touted advantages of hospitalist systems^{6,8} include lower costs because of shorter lengths of stay, greater physician productivity,⁵ and the potential for better patient outcomes, secondary to more readily available physicians and a purported inpatient "practice makes perfect" phenomenon. So far,

however, the little evidence supporting this is anecdotal and unpublished. In the one study published to date, hospitalists were not associated with any clinical or financial outcome differences for children hospitalized for asthma and bronchiolitis.⁹

At a conference in San Francisco in December 1997, three hospitalist systems were described and some outcome results were presented: the University of California, San Francisco (UCSF); Kaiser Permanente of Northern California; and the Park Nicollet Clinic of Minnesota. At UCSF, the hospitalist system was called a managed care service. It consisted of several modest changes to their traditional, resident-run inpatient service: (1) attending physicians were encouraged to see patients on the day of admission rather than the day after, and to be more involved in the care of patients on the team; (2) physicians were encouraged to attend for more than 1 month per year; and (3) there was an emphasis on the use of practice guidelines, formal-quality improvement activities, and cost-consciousness. In a randomized trial comparing admissions to this service with their traditional internal medicine service, length of stay was significantly reduced by approximately half a day on the managed care service, and hospital costs were lower as well. Significant differences were not found for mortality, readmission rates, patient satisfaction, or the use of consultants.³ In the second year, however, attending physicians on the traditional service began seeing patients on the day of admission, and the length-of-stay difference between the two services reportedly narrowed, suggesting that attending inpatient volume may not be the critical factor.

At Kaiser Permanente of Northern California, instituting a hospitalist system in some hospitals resulted in a reduction in length of stay of approximately half a day relative to their other hospitals. However, the nonhospitalist sites subsequently matched the shorter length of stay without using hospitalists. Three-day readmission rates before the implementation of the hospitalist system were not significantly different, but after implementation the hospitalist sites reportedly had significant-

From the Department of Family Medicine, University of Washington, Seattle. Correspondence should be addressed to Barry G. Saver, MD, MPH, Department of Family Medicine, Box 354696, University of Washington, Seattle, WA 98195-4696. E-mail: saver@u.washington.edu

ly higher 3-day and 7-day readmission rates than the nonhospitalist sites. Average costs per hospitalization were also higher at hospitalist than nonhospitalist sites. Some hospitalist sites reportedly experienced substantial decreases in the use of consultants, but the nonhospitalist sites experienced similar declines. Patient satisfaction with inpatient care was reported to be similar at both sites.⁴

Park Nicollet Medical Clinic instituted its hospitalist system in 1994 and it has been cited frequently in articles about hospitalist systems.^{6,7} In their implementation, approximately three fourths of their internists and one third of their family physicians have chosen to take part in inpatient care, and approximately 90% of these physicians felt their hospitalist system was better than the previous system of inpatient care. Three fourths of their specialists also felt the system was an improvement. Hospitalization costs and length of stay decreased after institution of the hospitalist system, but these differences were not statistically significant; analyses of cost limited to the 12 most expensive DRGs did show a significant decrease. There were also nonsignificant decreases in laboratory, radiology, and pharmacy costs. Patient satisfaction with inpatient care was reportedly unchanged.⁵

In the outpatient realm, benefits are believed to accrue because physicians who are relieved of inpatient duties can see more patients in their offices with fewer unpredictable delays. There is almost certainly some efficiency gained in having outpatient physicians available in their offices all day and eliminating the commute between the office and the hospital. Park Nicollet did report significant increases in patient perceptions of accessibility of outpatient physicians and in quality of care.⁵ Of course, in many managed care settings, having more scheduled office time will result in a larger patient panel, so more availability to outpatients might be of greater theoretical than actual benefit.

Overall, these reports suggest that hospitalist systems may lead to shorter length of stay and lower hospital costs, but the evidence is weak and there are indications that nonhospitalist systems can achieve these same gains. Readmission rates may be higher in hospitalist systems, which could counterbalance any putative savings.

With no clear proof yet that hospitalist systems

produce significant savings in hospital costs and improved health outcomes, but no clear proof of significant harms either, is there any reason to be concerned about the rapid spread of this phenomenon? We think so. Continuity of care may be disrupted by hospitalist systems. The inpatient physician may not know details of the patient's medical history or have long-term personal knowledge of the patient's life. Poor communication between inpatient and outpatient providers at the time of discharge could also lead to adverse outcomes. Although outpatient-inpatient continuity has not been studied, continuity has been shown to be beneficial in other settings.^{10,11} Even if satisfaction with inpatient care is equal to that with hospitalist care, patients may be more willing to sue an unknown hospitalist than their regular physician if something goes wrong. Patients may also become less trusting of their outpatient physicians because of the disruption of continuity. Without firsthand knowledge of a patient's daily life, hospitalists may be even less sensitive to patients' end-of-life wishes than some physicians already appear to be.¹²

Whether hospitalist systems will significantly disrupt a patient's continuity of care depends in part on their current level of continuity. Most family physicians provide inpatient care,^{13,14} but because many physicians participate in a variety of call-sharing arrangements, the change to a hospitalist model may not appreciably increase the discontinuity of care for their patients. Many forces contribute to the reduction of continuity of care, including frequent mandatory changes of health plans and providers, even without a change in employment.¹⁵

The absence of reported adverse effects of hospitalist systems does not preclude their existence. There is no incentive for organizations to report adverse effects. Systems vary widely and most have not been evaluated. The few evaluations that have been carried out may have been flawed. Estimated cost savings may be spurious, depending on accounting methods. Careful studies are needed before the widespread adoption of any new technology. The history of medicine is littered with widely adopted and subsequently abandoned innovations.

The "practice makes perfect" theory seems to hold in the case of specialized care, such as for some invasive procedures,¹⁶⁻²¹ ICU care,²²⁻²⁵ and HIV care.²⁶ Whether it is also valid for general inpatient care, however, is unknown. No volume-outcome

relationship was found for obstetric care²⁷ or for surgeons (as opposed to hospitals) for a group of common procedures.²⁸ There is evidence that, for some common conditions, the quality of care provided by generalists and specialists appears to be equivalent, with generalists providing better value.²⁹

There is also a theory that, being in the hospital throughout the day, hospitalists are more readily available to respond to changes in the status of their patients. Whether this potentially greater availability actually occurs will vary from system to system. Some aim for an inpatient panel size of 10 to 15 patients per hospitalist, which might allow for such responsiveness, while others are expecting their hospitalists to care for 25 to 30 patients at a time, leaving little time to do more than see each patient briefly once a day. In-hospital coverage 24 hours per day, 7 days per week may yield benefits that in-hospital coverage 8 to 10 hours per day, 5 days per week does not.

There will likely be unanticipated consequences of implementing hospitalist systems. Primary care providers who give up the care of sick inpatients could suffer from a perception of lessened competence. Outpatient-only physicians might, in fact, become less competent in the care of very sick outpatients, not having regular experience with the care of inpatients. In contrast, if hospitalists do not practice outpatient medicine, they may develop unrealistic expectations of what resources are available to outpatients and what outpatient drug regimens are tolerable by and affordable to patients. Increased burnout could become a problem for physicians operating exclusively in either the inpatient or the outpatient setting.

The widespread adoption of hospitalist models has serious implications for the education of primary care physicians. Because rural hospitals cannot support full-time inpatient physicians, rural family physicians will continue to need adequate inpatient training. If urban family physicians are limited to ambulatory settings, however, they will not require extensive inpatient training and should direct even more of their education toward acquiring additional skills for ambulatory medicine. Hospitalist systems are also likely to create questions for general internal medicine and pediatrics: Will these training programs divide into two groups, one training for hospital-based generalists and the other for office-based generalists? Will gen-

eral internal medicine become a much smaller specialty limited to inpatient practice?

There is no definitive evidence that the use of hospitalists results in better or worse patient outcomes, nor is there definitive evidence that the hospitalist systems save money. The outcomes of hospitalist care may well differ among the various implementations. Buoyed by nothing more than sparse anecdotal reports, a tide of hospitalism is rising rapidly through urban American hospitals. Continuity of care has already been so disrupted in many settings that the further disruption of a shift to a hospitalist system may not be noticeable. Hospitalism as the predominant mode of inpatient care, however, will require dramatic changes in the graduate medical education of primary care physicians. Unlike the movement toward and then away from gatekeepers, the movement toward hospitalism will likely be irreversible, given that most providers will be unwilling or unable to resume inpatient care after several years of strictly ambulatory care.

There is a need for greater circumspection in the adoption of hospitalist models of care and a critical need for careful studies of the systems already implemented. If most family physicians acquiesce to becoming outpatient-only providers (at least in urban and suburban areas) in return for easier, more predictable lifestyles but with no clear benefit to their patients, it could prove a Faustian bargain. We could become marginalized in the health care system and, if hospitalism is later abandoned, we could be left facing years of rebuilding.

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