The Inpatient Specialist: What Is the Difference?

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Early medical history illustrates how many of our scientific advances were made entirely by accident. From the mold in Alexander Fleming's laboratory to the photographic paper lying nearby Wilhelm Roentgen's cathode ray experiment, modern medicine has benefited greatly from these chance occurrences. Yet we must recognize the important and significant work required to translate discovery into real practice. Without this work, the difference between a breakthrough and useless observation is uncertain. Perception cannot replace real truth, and full understanding necessitates continuous examination.

As healthcare struggles with expanding technology and finite resources, the application of any new practice model that promises lower costs will be rapidly embraced by the political and business sectors. Such a fate has befallen the inpatient specialist, the physician who specializes in caring for hospitalized patients. For years, some physicians practiced only inpatient medicine for purely personal reasons. In the mid-1990s, however, the pressure of healthcare economics moved these inpatient specialists into the spotlight.[1-6] The idea that using inpatient specialists might save money was based in part on the theory of "practice makes perfect." This rationale was further strengthened by evidence from critical care and organ-specific physicians regarding the benefits of specialized care.[7-9] Yet, what works specifically does not work universally; initial enthusiasm can blind supporters to negative consequences.

Primary literature on inpatient specialists was mostly descriptive.[10-12] The inpatient specialist was officially renamed a hospitalist, and defined by specific practice parameters. The majority of the work that followed attempted to document the benefits of the hospitalist, particularly in the economic arena. A recently published review of this literature supports the assertion that hospitalists can decrease resource utilization.[13] However, finding what you are looking for does not guarantee full understanding. Most of the studies that document cost savings leave many questions as to why savings occurred. Without the "why," we cannot know what attributes make the hospitalist successful, what skill set the hospitalist should possess, what practice environments benefit most from this model of care, and what is the true difference between the hospitalist and the primary care physician who practices inpatient medicine.

In this issue of the *Journal*, Halpert and colleagues demonstrate that primary care physicians (PCPs) can also show reductions in resource utilization when focused on inpatient care.[14] In this study, primary care physicians were self-selected to participate in an inpatient physician program, which allowed the PCPs to concentrate solely on inpatient duties for 2-week periods. During the hospital rotations, other general internists within the practice group covered the participating PCPs office-based practices. Differences before and after the inpatient physician program were evaluated using multivariate analyses to adjust for case mix and secular trends. There were 2265 patients discharged from the general medical service in the year following implementation of the inpatient physician program. This program significantly reduced average length of stay by 0.3 days (P = .008) and average total hospital charges by $426 per admission ($P$ = .001). In-hospital mortality and 30-day readmission rates were unchanged.

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Whereas not stated explicitly, one possible inference of this study is that hospitalists are not much different than focused primary care physicians. In fact, given the connection to outpatient care, the PCPs who do periodically concentrate on inpatient medicine may be better suited to both the inpatient and outpatient arenas. Unfortunately, this study, like much of the hospitalist literature, leaves more questions than it answers. Halpert and colleagues suggested that the study results were a reflection of training effect ("practice makes perfect" theory) and inpatient physician involvement the entire day. However, most of the physicians in the program only had 6 weeks of hospital duty per year. This is in stark contrast to many hospitalists who practice 24 weeks a year or more.[15] This raises the important question of how much "practice" actually occurred, and whether inpatient efficiency is a time-dependent phenomenon. If time is the critical component, how much time is required to see greater efficiency remains unclear. In addition, is there a limit to the benefit once a specific amount of "practice time" occurs? Given the real issue of physician burnout, it would be helpful to determine the optimal length of inpatient duty per year necessary to maintain peak efficiency.

Nevertheless, if the "practice makes perfect" theory is valid, Halpert's results seem contradictory, although several mitigating factors may exist. First, the effect of patient volume and case variation on the "practice makes perfect" theory is not known and has not heretofore been reported in similarly designed hospitalist studies. A high patient volume with a low case-mix index should lessen the "practice time" needed to improve efficiency. Second, the physicians in Halpert's study were self-selected. Although it is still not clear which skills differentiate superior inpatient physicians, it is conceivable that the self-selected physicians already had many of the skills necessary to be good hospitalists, and that again, less "practice" was required to demonstrate improved inpatient efficiency. It would be valuable to see this study duplicated with randomly selected physicians or to examine for any significant demographic or training differences between the self-selected physicians in the inpatient program and the rest of the office-based physicians in the group practice.

If "practice makes perfect" is not a key factor for inpatient efficiency, perhaps more weight should be placed on early staff physician involvement into the admission process. The benefits of early staff physician involvement have been documented in previous studies, and the work of Halpert et al further promotes the idea that the sooner attending staff is involved, the better.[16-18] Interestingly, this explanation assumes either poorly trained or completely absent housestaff. The impact resident competence and skill has on the observed benefits of the inpatient model is yet another area not well described in the hospitalist literature. It would seem reasonable that the less skilled the residents are, the greater the potential effect seen by early staff involvement into the admission process. The implication is that the most efficient resource model requires around-the-clock, in-hospital staff physician coverage, with little or no resident participation.

Many PCPs are concerned that the hospitalist model of care will erode their ability to handle complex patient problems in the outpatient setting.[19] In a different approach, Halpert and colleagues suggest that continued outpatient care might actually improve the skill of the inpatient physician. Although this may be true, the PCP inpatient program in Halpert's study did not appear to fully examine for unintended effects. Ideally, all internists need to strike an optimal balance between inpatient and outpatient care, maximizing efficiency in both locations and maintaining perspective within each environment. Unfortunately, if this ideal were easily achieved, hospitalists would never have been thrust into the spotlight in the first place. As for Halpert et al's study, some impact of the PCP absence must be felt in the outpatient clinic, and this was either not investigated or not reported. Park Nicollet Clinic noted improvements in outpatient satisfaction when it introduced a hospitalist model of care.[19] Moreover, many hospitalist programs are created for the single purpose of increasing PCP availability. Possibly, the inpatient program studied by Halpert and colleagues, by decreasing the PCP outpatient pool by 3 physicians at a time, increased the outpatient wait times for appointments, slowed the response to messages and prescription requests, and overall negatively affected patient satisfaction. The search for and examination of unintended effects are critical to understanding the true differences between hospitalist and nonhospitalist models of care.

General indicators of health outcomes reported in the hospitalist literature include readmission and mortality rates. The inpatient program described by Halpert and colleagues led to no differences in readmission rates, in-hospital mortality, or percentage of patients discharged directly home. Yet, these health outcomes are very crude measures and a wholly inadequate judge of real quality care. Future study must shift to more sensitive criteria if researchers

want to identify differences between hospitalist and non-hospitalist systems. Better quality indicators include rates of medical mistakes; adverse drug events and dosing errors; measures of appropriate patient, family, and primary physician communication; and proper use of adequate pain control and end-of-life care. In addition, much of the hospitalist literature has gone to great lengths to demonstrate that providing care with inpatient specialists does not decrease patient satisfaction. Future study should highlight how using hospitalists and other inpatient specialists increases patient satisfaction, both in the hospital and the outpatient clinic.

On the whole, this article by Halpert and colleagues is a significant contribution to the literature. It points to new directions for study and underscores the need for a better appreciation of what really makes the hospitalist and the hospitalist model of care different. Observed fiscal benefits must be explored in enough detail to answer the question "why," and greater emphasis must be placed on differences in quality of care. Only when full understanding is achieved will we really know—what is the difference?

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