

## LETTERS TO THE EDITOR

*To the Editor:*—Over the past eight years, the hospitalist movement has skyrocketed in the United States, becoming a subspecialty in its own right with a projected growth over the next decade to 20,000 hospitalist physicians.<sup>1–3</sup> A number of studies, including those by Parekh et al.<sup>4</sup> and Kulaga et al.,<sup>5</sup> have reported that the use of hospitalists results in lower inpatient costs and shorter lengths of hospital stays without compromising quality or patient satisfaction. However, one must be cautious of generalizations made about such favorable outcomes; not every hospitalist program may result in improved quality and efficiency of patient care. We recently undertook a comparison of resource utilization and clinical outcomes between resident-based teaching and nonteaching medical services at our 450-bed community teaching hospital. Admission to a medicine teaching service was not associated with a higher total cost of inpatient care or an increased length of hospitalization compared to a nonteaching service, and in-hospital mortality rates were not different. We wondered whether a sizable representation of hospitalists as attendings on both the teaching and nonteaching services (41% and 33%, respectively) might have contributed toward keeping costs, length of stay, and outcomes comparable in these settings. Thus, as a subanalysis, we examined hospitalist versus nonhospitalist care in terms of cost and duration of inpatient stay for 2,192 patients hospitalized from February to October 2002. Patients were randomly allocated to hospitalist- and nonhospitalist-headed teams based upon patient loads, in accordance with Accreditation Council for Graduate Medical Education (ACGME)- and residency program-imposed limits, rather than according to patient diagnoses. Comparison of inpatient costs included pharmacy, laboratory, radiology, and procedural costs, and numbers of consultations and procedures. Mean total patient costs and costs for the 10 most fre-

quent discharge diagnoses were not different between hospitalists and nonhospitalists, and hospital lengths of stay (overall and for each discharge diagnosis) were also comparable (Table 1).

Robert Wachter, one of the pioneers of the hospitalist movement, has stated, "Despite its growth, the hospitalist model remains somewhat controversial, with five questions dominating the current debate," including "How ironclad is the case that the hospitalist model improves quality and efficiency"?<sup>3</sup> At our academic hospital, hospitalist care on both teaching and nonteaching medical services was not associated with a lower total cost of inpatient care or a reduced length of hospital stay compared to nonhospitalist care. Perhaps our data reflect the experience of a fledgling hospitalist program at a single hospital, involving a small number of hospitalists. Larger and longer follow-up studies are needed to more accurately determine the potential short-term and sustainable benefits of hospitalist care.—**Amir A. Khaliq, MBBS, MSc, PhD**, Department of Health Administration and Policy, College of Public Health, University of Oklahoma Health Sciences Center, Oklahoma City, OK and **Apar Kishor Ganti, MD and Raymond A. Smego, Jr., MD, MPH, FACP, FRCP, DTM&H**, Department of Medicine, University of North Dakota School of Medicine and Health Sciences, Fargo, ND.

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3. Wachter RM. Hospitalists in the United States—mission accomplished or work in progress? *N Engl J Med*. 2004;350:1935–6.
4. Parekh V, Saint S, Furney S, Kaufman S, McMahon L. What effect does inpatient physician specialty and experience have on clinical outcomes and resource utilization on a general medical service? *J Gen Intern Med*. 2004;19:395–401.
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**Table 1. Comparison of Resource Utilization by Hospitalists Versus Nonhospitalists**

|                               | Hospitalists<br>(N = 5) | Nonhospitalists<br>(N = 29) | P Value |
|-------------------------------|-------------------------|-----------------------------|---------|
| Total no. of patients         | 876                     | 1,316                       | —       |
| Mean patient age, y           | 67.7                    | 66.7                        | .23     |
| Female patients               | 450                     | 703                         | .35     |
| Mean patient costs, total \$  | 5,623                   | 5,538                       | .77     |
| Mean patient costs by DRG, \$ |                         |                             |         |
| Community-acquired pneumonia  | 4,142                   | 4,470                       | .43     |
| GI bleeding                   | 5,661                   | 5,041                       | .56     |
| Congestive heart failure      | 4,550                   | 3,964                       | .31     |
| COPD                          | 3,201                   | 3,332                       | .76     |
| Metabolic disorders           | 4,323                   | 3,896                       | .46     |
| Stroke                        | 5,536                   | 5,677                       | .87     |
| Respiratory infections, other | 6,949                   | 8,319                       | .33     |
| Gastroenteritis               | 4,541                   | 3,548                       | .16     |
| Sepsis                        | 6,144                   | 6,584                       | .67     |
| Urinary tract infection       | 3,230                   | 3,592                       | .60     |
| Mean length of stay, days     | 4.9                     | 5.0                         | .77     |

DRG, diagnosis-related group; GI, gastrointestinal; COPD, chronic obstructive pulmonary disease.

*In Reply:*—Dr. Khaliq and colleagues compare hospitalist and nonhospitalist care using grouped data from two distinctly different patient care services (teaching and nonteaching) without any discussion or adjustment for important factors such as how patients or physicians were assigned to each service. Without this kind of discussion and adjustment for confounding factors it is impossible to draw any conclusions on how hospitalist and nonhospitalist care differs in their hospital. In addition, it is certainly not possible to use these data to suggest that the established literature on the beneficial impact of hospitalists is somehow brought into question.—**Vikas I. Parekh, MD**, Department of Internal Medicine, University of Michigan Health System, Ann Arbor, Mich.

*In Reply:*—Although Dr. Khaliq and his colleagues did not find an appreciable difference in resource utilization or length of stay through the use of hospitalists at an academic community hospital, the evidence continues to overwhelmingly favor the use of hospitalists at both university and community hospitals. There are several factors which may be contributing to the results reported. Hospitalist programs come in all shapes and sizes; there may be some models that are more conducive to achieving efficiency than others. Our hospitalists, for example, have been buoyed by strong support from the chairman of medicine and hospital case management. Our patients were also on average younger than those cared for by Dr. Khaliq. In addition, the residency training of individual hospitalists may influence their ability to deliver more efficient care. Our hospitalists were trained at large university-based hospitals where inpatient medicine is heavily emphasized rather than a residency with a primary care focus. Finally, the phenomenon of “getting better with age” may apply to hospitalists. Though our article demonstrated a benefit of hospitalists after only one year, Auerbach et al. reported that two years were required for hospitalists to make a difference.<sup>1</sup> Perhaps Dr. Khaliq’s group will see more of a difference over time.

The benefits of the implementation of hospitalist programs in a variety of settings were nicely summarized by Wachter and Goldman in 2002 with a 13.4% reduction in hospital costs and a 16.6% reduction in length of stay.<sup>2</sup> Our find-

ings further supported the use of hospitalists in an academic community teaching hospital by demonstrating a 20.8% reduction in length of stay and an 18.4% reduction in cost per case while providing residents with greatly improved teaching on the inpatient service.<sup>3</sup> Though our findings differ from those of Khaliq et al., we agree that more work needs to be done to evaluate the impact of hospitalists, particularly in community settings where resources are fewer. It is still unknown how well hospitalist systems hold up over time, and what the keys to success truly are. It is also unclear how hospitalists achieve their documented benefits. These and other questions must be answered as the “hospitalist express” rolls on.—**Mark Kulaga, Stephen O’Mahony**, *Yale University School of Medicine, Norwalk, Conn.*, **Pamela Charney**, *Albert Einstein College of Medicine, Norwalk, Conn.*, and **Eric Mazur**, *Yale University School of Medicine, Norwalk, Conn.*

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