

## Generalists and Specialists: A Comparative Study

Harrold LR, Field TS, Gurwitz JH. Knowledge, patterns of care, and outcomes of care for generalists and specialists. *J Gen Intern Med* 1999;14:499-511.

### Study Overview

**Objective.** To examine the differences between generalist and specialist physicians with respect to knowledge, patterns of care, and clinical outcomes of care.

**Design.** Systematic review of the medical literature.

**Methods.** English-language articles published between January 1981 and January 1998 were identified through a MEDLINE search and by examination of the bibliographies of the identified articles. Articles relevant to adult medicine that directly compared generalist and specialist physicians were systematically reviewed. Generalist physicians were defined to include general internists, family practitioners, general practitioners, and geriatricians. Specialist physicians included internal medicine subspecialists, obstetricians and gynecologists, neurologists, general and orthopedic surgeons, and psychiatrists (among others).

**Main outcome measures.** Knowledge about widely accepted standards of care, patterns of care, and outcomes of care. Knowledge was measured relative to well-defined, widely accepted standards of care, such as clinical guidelines published by national organizations and federal agencies. Comparisons of patterns of care were based on observational studies and self-reports that included parameters such as use of medications, ancillary services, procedures, and other resources (assessed by hospitalization rates, length of stay, and number of office and emergency department visits). Clinical outcomes comparisons involved rates of mortality and morbidity and surrogate endpoints (eg, blood pressure and glycosylated hemoglobin levels).

**Main results.** Forty-two articles directly compared generalists with specialists in the following clinical areas: acute myocardial infarction and other cardiovascular diseases; dermatologic, endocrine, gastrointestinal, infectious, neurologic, oncologic, psychiatric, pulmonary, rheumatologic, and orthopedic diseases; and preventive care.

Specialists seemed to be more knowledgeable about conditions within their area of expertise. In regard to overall practice patterns, specialists practicing in their area of expertise were more likely to use medications associated with

improved survival and to comply with routine health maintenance screening guidelines. Specialists also used more resources, including diagnostic tests and procedures, and their patients had longer hospital stays. In the limited number of studies examining the care of patients with acute myocardial infarction, acute nonhemorrhagic stroke, and asthma, specialists had superior outcomes compared with generalists [1-3]. However, such differences in clinical outcomes were not observed in other therapeutic areas.

### Conclusion

Published studies suggest that specialists are more knowledgeable about specific medical conditions, use more health care resources, adopt new and effective therapies more quickly, and may achieve better clinical outcomes, at least in the short term.

### Commentary

The recent growth of managed care has resulted in efforts to increase the use of primary care physicians and decrease the use of specialists [4]. Harrold and colleagues' study comparing these physician groups is well done, but its findings are limited by the source literature. The small number of articles reviewed across the spectrum of clinical areas prevents more generalizable conclusions. Also, because only observational studies were reviewed, the risk of bias and confounding is a concern. Nevertheless, the study provides evidence that can be used to oppose further restrictions of access to specialist physicians.

### Applications for Clinical Practice

Much needs to be done by generalists and specialists to improve the delivery of health care. Future research should explore how both groups can contribute to better patient outcomes rather than seeking to promote one group over the other. Efforts to improve the means by which these 2 groups share knowledge about patients or the value of specific interventions would be welcome.

### References

1. Jollis JG, DeLong ER, Peterson ED, Muhlbaier LH, Fortin DR, Califf RM, Mark DB. Outcome of acute myocardial infarction according to the specialty of the admitting physician. *N Engl J Med* 1996;335:1880-7.

2. Mitchell JB, Ballard DJ, Whisnant JP, Ammering CJ, Samsa GP, Matchar DB. What role do neurologists play in determining the costs and outcomes of stroke patients? *Stroke* 1996;27:1937-43.
3. Vollmer WM, O'Hollaren M, Ettinger KM, Stibolt T, Wilkins J, Buist AS, et al. Specialty differences in the management of asthma. A cross-sectional assessment of allergists' patients and generalists' patients in a large HMO. *Arch Intern Med* 1997;157:1201-8.
4. Weiner JP. Forecasting the effects of health reform on U.S. physician workforce requirement. Evidence from HMO staffing patterns. *JAMA* 1994;272:222-30.

Copyright 1999 by Turner White Communications Inc., Wayne, PA. All rights reserved.