Do Teaching Hospitals Provide Better Care than Nonteaching Hospitals?

Ayanian JZ, Weissman JS, Chasan-Taber S, Epstein AM. Quality of care for two common illnesses in teaching and nonteaching hospitals. Health Affairs 1998;17:194–205.

Study Overview

Objective. To assess quality of care for congestive heart failure (CHF) and pneumonia in teaching and nonteaching hospitals.

Design. Retrospective review of hospital medical records. Assessment instruments used were adapted from similar evaluation tools developed by RAND investigators [1,2].

Setting and participants. Elderly Medicare beneficiaries, discharged with a principal diagnosis of CHF (n = 883) or pneumonia (n = 884) between September 1991 and August 1992, and selected from a stratified random sample of hospital discharges in Illinois, Massachusetts, New York, and Pennsylvania. For both conditions, approximately 55% of discharges were from 328 nonteaching hospitals, and approximately 45% were from 243 teaching hospitals. About one third of the teaching facilities were classified as "major teaching hospitals" because they had a ratio of interns and residents-to-beds greater than 0.25. Teaching facilities with a lower ratio were classified as "other teaching hospitals." Random samples of between 86% and 92% of eligible patients were chosen in each state.

Main outcome measures. "Implicit quality of care" based on the ratings of physicians who reviewed the medical records and "explicit quality of care" based on hospital adherence to explicit process criteria.

Main results. Overall quality of care was rated better in major and other teaching hospitals than in nonteaching hospitals by physician reviewers. Differences in both implicit and explicit quality ratings were highly significant for both conditions when data were adjusted for severity of illness at admission.

Physicians' implicit quality ratings were highest for major teaching facilities, intermediate for other teaching hospitals, and lowest for nonteaching facilities ($P < 0.02$ for all two-way comparisons). Physicians were most likely to rate care as good to excellent in major teaching hospitals and less than adequate in nonteaching hospitals for both CHF and pneumonia. These ratings reflected differences in multiple aspects of care, such as initial diagnostic assessment and therapeutic plan, use of medications, changes in therapy in response to new information, and appropriateness of discharge plans.

Similarly, on the explicit process measures for both conditions, overall quality was significantly better in major and other teaching hospitals than in nonteaching hospitals, primarily due to higher scores on explicit measures of physician thoroughness in history taking and physical examination and appropriate use of diagnositc tests. However, nonteaching facilities performed better on explicit measures of nursing care, and no differences were found with respect to explicit measures of treatment.

Conclusion

For patients hospitalized with the two most common causes of hospitalization in the Medicare program, CHF and pneumonia [3], teaching hospitals have instituted better processes of care than nonteaching hospitals.

Commentary

In the managed care era of the late 1990s, teaching hospitals are under increasing pressure to demonstrate the value of the care they provide, which frequently costs more than care provided at nonteaching hospitals [4]. Although teaching hospitals are commonly recognized for treating rare diseases, their value in caring for more common illnesses, such as CHF and pneumonia, is not as clear. Although the evaluation conducted by Ayanian and colleagues suggests that the process of care in teaching facilities may be better than that in nonteaching facilities, future studies should evaluate whether clinical and economic outcomes differ between the two.

Applications for Clinical Practice

Physicians and administrators in nonteaching community facilities should be especially attentive to findings such as these. If such findings are confirmed, action will need to be taken to improve processes of care. Alternatively, the perceived differences in quality may partially reflect better

documentation in teaching hospitals than in nonteaching facilities. As more and more data are collected, it will be important to ensure that the data are appropriate and accurately reflect the processes and outcomes of care in the facilities being assessed.

References

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