Effects of hospitalists on cost, outcomes, and patient satisfaction in a rural health system

Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
Treatment of patients by hospitalists in a rural hospital setting.

Type of intervention
Health care delivery.

Economic study type
Cost-effectiveness analysis.

Study population
Patients treated at a rural community hospital.

Setting
Hospital. The economic study was set in the USA.

Dates to which data relate
Effectiveness, resource use, and cost data were collected between October 1997 and October 1998. The price year was 1998.

Source of effectiveness data
Effectiveness data were derived from a single study.

Link between effectiveness and cost data
The costing was undertaken prospectively on the same patient sample as that used in the effectiveness analysis.

Study sample
Patients were cared for by 2 hospitalists, 15 Internal Medicine Association internists, and 2 affiliated internists. Hospitalists and internists treated 443 and 1,681 patients, respectively. No power calculations or exclusion criteria were reported.

Study design
This was a nonrandomised study with historical controls, carried out at a single centre. Patients were followed up until 30 days after discharge from the hospital. There appears to have been no loss to follow-up.
Analysis of effectiveness
The analysis of the clinical study was based on intention to treat. The primary health outcomes included length of stay, patient illness severity, patient satisfaction, 30-day readmission rate, inpatient mortality, and discharge status. The authors did not compare groups in terms of demographic characteristics.

Effectiveness results
The length of stay was 1.4 days shorter (95% CI: 0.9 - 1.9 days; p<0.001) for hospitalists than for internists. 30-day readmission rates and inpatient mortality were similar in the two groups. 9% of patients with pneumonia without comorbidity cared for by hospitalists died, compared to 0% of patients cared for by internists, (p<0.001). Length of stay remained lower among hospitalists’ patients after adjusting for age, sex, race, insurance status, case mix, and severity of illness. Length of stay was only statistically significant among the most severely ill patients. There were no differences between the two groups in the ability of the physician to keep patient and family informed, (p=0.67), physician courtesy and friendliness, (p=0.87), or the ability of the physician and staff to work together, (p=0.30). 83.1% of hospitalists’ patients and 80.7% of internists’ patients were discharged to their homes. 8.6% of hospitalists’ patients and 10.5% of internists’ patients were discharged to skilled nursing facilities. Both groups discharged 3.4% of their patients to rehabilitation facilities.

Clinical conclusions
Although length of stay was lower for each severity level, hospitalists appeared to be more efficient in managing the sickest patients.

Measure of benefits used in the economic analysis
The authors reported individual health outcomes and, therefore, the economic evaluation was of cost-consequences design.

Direct costs
Direct costs were not discounted due to the short time horizon of the study (less than 1 year). Quantities and costs were not reported separately. Direct costs related to the costs of treatment by hospitalists or internists. The quantity/cost boundary adopted was that of the hospital. The estimation of quantities and costs was based on actual data. Costs and quantities were determined using a hospital-based computer information system. The price year was 1998.

Statistical analysis of costs
Student’s t test was used to compare costs between groups.

Indirect Costs
Indirect costs were not included.

Currency
US dollars ($).

Sensitivity analysis
No sensitivity analysis was reported.

Estimated benefits used in the economic analysis
Not applicable. The effectiveness results are described above.
Cost results
The mean cost of care was $558 less, (95% CI: $159 - $956; p<0.01) for hospitalists than for internists. Costs remained lower among hospitalists’ patients after adjusting for age, sex, race, insurance status, case mix, and severity of illness. The difference was only statistically significant among the most severely ill patients.

Synthesis of costs and benefits
Costs and benefits were not combined into cost-effectiveness ratios.

Authors’ conclusions
Hospitalists provided cost-effective care, particularly for the sickest patients, with good outcomes and patient satisfaction.

CRD COMMENTARY - Selection of comparators
A justification was given for the comparator used, namely previous practice in the authors’ setting. You, the user of the database, should decide if these options are relevant to your own setting.

Validity of estimate of measure of benefit
The analysis was based on a non-randomised study, which is prone to biases. Furthermore the authors did not compare patient groups at analysis. However, they reported that adjusting for age, sex, race, insurance status, or casemix had little effect on the results. The authors did not derive a measure of health benefit and the analysis was therefore of cost-consequences design.

Validity of estimate of costs
All relevant direct cost categories were included, statistical analysis was conducted on costs, and the price year was also reported. However, quantities and costs were not reported separately. It was not clear if charges were used to proxy costs. No sensitivity analyses were reported on quantities or costs. Cost results might not apply to other settings or countries.

Other issues
It would have been helpful to have reported the patients’ characteristics at baseline, and also to have investigated the uncertainties in the data using sensitivity analysis. The authors did make appropriate comparisons of their findings with those from other studies but did not address the issue of generalisability to other settings. The study considered patients treated at a rural community hospital and this was reflected in the authors’ conclusions. The study involved only 2 hospitalists, which the authors considered a limitation.

Implications of the study
The authors suggested that the implementation of hospitalists has been a "win-win-win" experience for patients, physicians, and the hospital. Future studies should examine the specific effects of hospitalists on the management of complex patients.

Source of funding
None stated.

Bibliographic details