

Review: Hospital-at-home care for early discharge or admission avoidance does not improve health outcomes

Shepperd S, Iliffe S. Hospital at home versus in-patient hospital care. Cochrane Database Syst Rev. 2002;(2):CD000356 (latest version 15 Feb 2001).

QUESTION

In patients who are discharged early or who wish to avoid admission, is hospital-at-home care better than inpatient care for improving health outcomes?

DATA SOURCES

Studies were identified by searching 9 electronic databases, scanning reference lists, and contacting experts in the field. The review was updated by searching the Cochrane Effective Practice and Organisation of Care Group specialized register in January 2001 and by contacting experts in the field.

STUDY SELECTION

2 reviewers independently selected studies if they were randomized controlled trials (RCTs) that compared hospital-at-home care with inpatient hospital care in adults. Studies were excluded if patients had long-term care needs (unless they required admission to the hospital for an episode of care); obstetric, pediatric, or mental health hospital-at-home schemes were evaluated; or instruments for assessing subjective outcomes were not standardized and validated.

DATA EXTRACTION

Data were extracted on patient and study characteristics, methods, and outcomes (in-

cluding mortality, hospital readmission, patient-assessed outcomes, length of stay, and costs).

MAIN RESULTS

16 RCTs met the selection criteria. Length of follow-up ranged from 24 hours to 28 months. Hospital-at-home care was evaluated for the early discharge of elderly medical patients (9 RCTs) and surgical patients (4 RCTs) and for the avoidance of admission (3 RCTs); 1 RCT had a mix of surgical and medical patients. 2 RCTs recruited patients with a terminal illness. The length of hospital stay was shorter for the intervention group than for the control group in elderly medical inpatients (2 RCTs, weighted mean difference [WMD] 4.3 d, 95% CI 1.1 to 7.4 d), surgical patients (2 RCTs, WMD 1.8 d, CI 1.2 to 2.4 d), and admission avoidance studies (1 RCT, median difference 6.5 d, $P < 0.03$). Most RCTs showed no difference in patient-assessed outcomes (e.g., functional status, quality of life, and psychological well-being). Groups did not differ for mortality or readmission rates. Total days of care did not differ between groups for medical inpatients but were increased in the intervention group for early discharge after surgery (1 RCT,

mean difference 1.9 d, CI 1.2 to 2.5 d). Results for total days of care and costs were mixed in the admission avoidance studies, with 1 RCT showing an increase and the other RCT showing a decrease in the intervention group. Costs did not differ between groups for medical inpatients (1 RCT) or patients with a terminal illness (1 RCT). In surgical patients, health care costs did not differ between groups for patients with hip or knee replacements but were increased in the intervention group for women discharged early after hysterectomy.

CONCLUSIONS

Hospital-at-home care is not better than inpatient hospital care for improving health outcomes in patients who are discharged early or who wish to avoid admission. The length of hospital stay is shorter for the hospital-at-home group, but the overall length of care increases for some patients.

Source of funding: Anglia and Oxford NHS Research and Development Programme, UK.

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COMMENTARY

Some readers may be surprised by the results of the review by Shepperd and Iliffe, which do not support the widespread development of hospital-at-home care. Does this mean we should abandon the concept? Before doing so, we should be aware of the limitations of the primary studies included in this review.

First, insufficient data exist to determine whether hospital-at-home care is protective against the risks of hospitalization in those who may be most vulnerable, namely, the frail elderly. Hospitalization itself is associated with serious risks for these persons (1). In the 1 study that reported "geriatric" complication rates, an important reduction occurred in the risk for confusion and bowel and bladder dysfunction among those treated at home (2).

Second, a recent trial of early hospital discharge in highly selected stroke patients (not included in this review because the intervention did not meet the selection criteria of fully substituting for inpatient care) did indeed show a beneficial effect on the instrumental activities of daily living and on community reintegration (3). By 3 months after stroke, the home-intervention group also showed a higher score on the SF-36 Physical Health component than did the usual-care group. Thus, within some primary studies, selected elderly persons and patients with stroke may have better health outcomes that were not included in the current broadly focused review, which did a meta-analysis for the outcomes of mortality, readmission, and length of stay.

Third, the review also excluded obstetric, pediatric, or mental health hospital-at-home programs.

With regard to caregivers of elderly medical patients discharged early from the hospital, 3 trials from this review and a fourth study that was not included showed no evidence of increased burden (4).

An evidence-based clinical decision awaits further research done in the context of one's local health care setting, given that the success of any hospital-at-home program is highly sensitive to the resources available in the community.

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References

1. Gorbien MJ, Bishop J, Beers MH, et al. Iatrogenic illness in hospitalised elderly people. *J Am Geriatr Soc.* 1992;40:1031-42.
2. Caplan GA, Ward JA, Brennan NJ, et al. Hospital in the home: a randomised controlled trial. *Med J Aust.* 1999;170:156-60.
3. Mayo NE, Wood-Dauphinee S, Cote R, et al. There's no place like home: an evaluation of early supported discharge for stroke. *Stroke.* 2000;31:1016-23.
4. Gunnell D, Coast J, Richards SH, et al. How great a burden does early discharge to hospital-at-home impose on carers? A randomised controlled trial. *Age Ageing.* 2000;29:137-42.