

NIHR Signal Early discharge 'hospital-at-home' gives similar outcomes to in-patient care

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Supported early discharge, where patients receive on-going hospital-level treatment in their own home, had no effect on mortality compared with standard in-patient care. Patients had shorter hospital stays, were more likely to be satisfied and less likely to end up in residential care.

This updated Cochrane review identified 32 international trials comparing early discharge hospital-at-home with hospital in-patient care. Most evidence related to people recovering from a stroke, where NICE already recommends supported discharge if this is appropriate. Other patient groups included those recovering from orthopaedic surgery and older people with various conditions. Trials were relatively small and the overall evidence quality was moderate to low.

The review aimed to see whether early discharge has an effect on NHS costs, but found insufficient evidence. Training, staffing and equipment costs need to be measured against patient outcomes in different therapy areas. Early supported discharge needs to be driven in areas where it can make the most difference and give the greatest benefit.

► Health management, Later life, Nursing, Primary care, Acute and general medicine



Why was this study needed?

The number of hospital beds available in NHS organisations in England has fallen over the last five years, while the percentage of occupied beds has risen. One way to reduce the demand for hospital beds is to support earlier discharge of people and provide on-going health care services at home instead. This is already done for some conditions, such as stroke, chronic obstructive pulmonary disease and hip fracture.

However, it isn't clear whether patients receiving such services have better or worse health outcomes than those who stay in hospital. It is also unknown if these services bring an increase or reduction in costs to the NHS.

This was an update of a 2009 Cochrane review on the topic.

What did this study do?



The review identified 32 trials, six of which were new for this update, including 4746 adults from 12 countries. Half of the trials came from the UK.

Trials compared acute hospital inpatient care with early discharge hospital-at-home. This was defined as services that provide time-limited active treatment by healthcare professionals in the patient's home for a condition that would otherwise need acute inpatient care. Maternity, mental health and palliative care were excluded, as were people with long-term care needs.

Eleven trials included patients following stroke, eight covered elective surgery, and the remainder included older people with a mix of conditions.

Most trials had a low risk of bias. However, most had a small sample size (less than 100) and wide confidence intervals giving less certainty in the results.

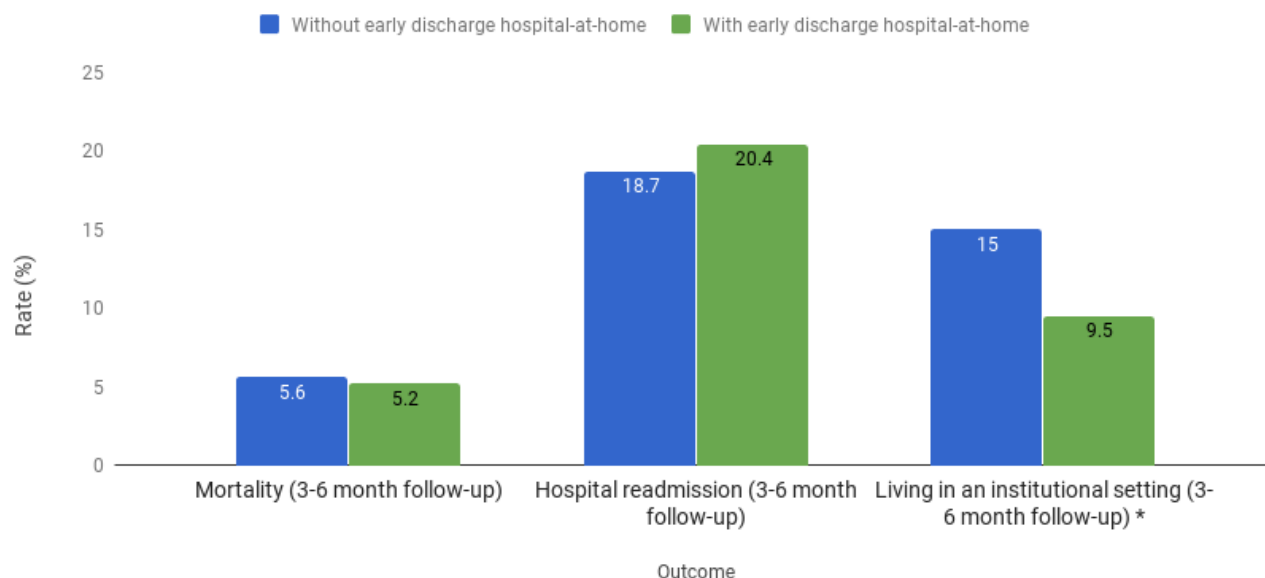
What did it find?

- Early discharge hospital-at-home made no difference to mortality at three to six months for any patient group:
 - After stroke: relative risk (RR) 0.92, 95% confidence interval (CI) 0.57 to 1.43 (moderate quality evidence from 11 trials, 1114 participants).
 - Older people with mixed conditions: RR 1.07, 95% CI 0.76 to 1.49 (moderate quality evidence, eight trials, 1247 participants).
 - Following elective surgery: no difference reported, data not pooled (evidence, three orthopaedic trials in 856 participants).
- There was a suggestion that early discharge may increase the risk of hospital readmission for older people with mixed conditions, but this just fell short of statistical significance (RR 1.25, 95% CI 0.98 to 1.58; evidence, nine trials, 1276). Early discharge made little or no difference to the of readmission following stroke (RR 1.09, 95% CI 0.71 to 1.66; evidence, five trials, 345 participants) or elective surgery (reported by five trials in 1229 participants).
- Hospital-at-home reduced the of hospital stay. Patients recovering from stroke were discharged 6.68 days earlier than those in the inpatient group (95% CI 3.17 to 10.19 days; four trials, 528 participants). Older people with mixed conditions spent 0.36 to 22 fewer days in the (eight trials, 767 participants), and patients recovering from elective orthopaedic surgery were discharged 4.4 days earlier (95% CI 6.37 to 2.51 days; four trials, 411 participants).
- Low-quality evidence suggests early discharge may reduce the risk of living in an institutional setting following stroke (RR 0.63, 95% CI 0.40 to 0.98; four trials, 574 people) and for older people with mixed conditions (RR 0.69, 95% CI 0.48 to 0.99; three trials, 484 people).
- It is uncertain whether hospital-at-home is for the NHS. Not all trials reported and those that did and valued different healthcare resources.
- Early discharge hospital at home may slightly improve satisfaction with health care received for patients recovering from a stroke (low-quality evidence)



Benefits of Hospital-at-Home

* Statistically significant difference



What does current guidance say on this issue?

There is no single piece of national guidance on early discharge hospital-at-home schemes, but they are covered in various condition-specific guidelines. The Royal College of Physicians and NICE guidelines on stroke recommend that patients who are able to transfer from bed to chair independently or with assistance are offered early supported discharge. This is where rehabilitation continues at home with the same intensity of multidisciplinary care as would be received in the hospital.

NICE's guideline on chronic obstructive pulmonary disease states that hospital-at-home and assisted-discharge schemes are safe and effective and should be used as an alternative way of caring for patients who would otherwise need to stay in the hospital.

What are the implications?

The findings suggest that supported early discharge can be safe and beneficial for patients, particularly in established therapy areas such as stroke rehabilitation. The evidence is not able to examine the factors that are likely to influence the success of hospital-at-home, such as severity of illness or availability of carers.

Reduced duration of hospital stay may be expected to free NHS beds and save resources. But the review highlights the lack of evidence on cost-effectiveness. Further research needs to examine the costs of early discharge for different patient groups from the UK perspective especially as this type of service is relatively new in the UK.

Citation and Funding

Gonçalves-Bradley DC, Iliffe S, Doll HA, et al. Early discharge hospital at home (<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD000356.pub4/full>). Cochrane Database Syst Rev. 2017;6:CD000356.

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Expert commentary

This updated Cochrane review explores an important question; do patients who are discharged from hospital early and cared for at home instead of remaining in hospital experience better outcomes and is this type of care cheaper?

Whilst there was insufficient evidence of economic benefit or improved health outcomes, this review can help decision-making in this area. It is possible certain patients would benefit from possible increased satisfaction and reduced likelihood of admission to institutional care if discharged early.

It may also change assumptions about the cost of care at home versus inpatient care, although more research is needed.

Dr Katherine Perryman, Research Fellow, University of Manchester (Patient Safety)

Expert commentary

For some hospital is a place of refuge, a safe place to weather the storm of illness - for others it's seen as detrimental to recovery. This review does little to objectively clarify the relative merits of 'early discharge hospital-at-home' and standard hospital care.

In this context, the value of these approaches should continue to be investigated. As well as looking for straightforward evidence of relative benefits, evaluators should recognise the complexity of these interventions and also consider the variety of forms that these interventions can take and the contexts in which they are provided.

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