Review: early supported discharge may reduce length of hospital stay in patients with acute stroke, but does not reduce death

Early Supported Discharge Trialists. *Services for reducing duration of hospital care for acute stroke patients*. Cochrane Database Syst Rev 2002;(1):CD000443 (latest version 15 Mar 2001).

QUESTION: In patients admitted to hospital with acute stroke, do early supported discharge (ESD) services accelerate return to home, improve patient outcomes, and reduce resource use?

Data sources

Studies were identified by searching the Cochrane Stroke Group Specialised Register of Controlled Trials in April 2001 (which includes studies identified through searches of Medline, EMBASE/Excerpta Medica, BIOSIS, DERWENT Drug File, SCISEARCH, and other databases; and handsearches of selected journals, conference proceedings, and books) and by contacting trialists.

Study selection

Randomised controlled trials (RCTs) of patients with stroke were included if they compared conventional hospital discharge procedures with alternative services that aimed to accelerate patient discharge from hospital by providing rehabilitation and/or physical support in community settings (ie, ESD).

Data extraction

Data were extracted on methods, participants, interventions, and outcomes. Main outcomes were death, place of residence, and physical dependency. Secondary outcomes included, among others, resource outcomes such as length of hospital stay and readmissions. Methodological quality of individual trials was assessed (concealment of allocation, intention to treat analysis, and blinding of outcome assessors).

Main results

Of the 9 trials that met the selection criteria, primary outcome data were only available for 4 (n=757, mean/median age ranged from 71–75 y). 3 trials involved units with a coordinated ESD team, which both planned and provided care, whereas the fourth trial had no coordinated ESD team, with care being planned and provided by a range of community stroke services. All 4 trials had concealed allocation to groups and blinded outcome assessment; follow up ranged from 92% to 98%. Meta-analysis of these 4 trials showed that the ESD and conventional care groups did not differ for death, combined death or institutional care, or combined death or dependency (table). Patients in the ESD group had a shorter initial hospital stay than the conventional care group (4 trials, n=741, weighted mean difference –15 d, 95% CI –24 to –6), but did not differ for readmissions (2 trials, n=423, 22% v 22%).

Conclusion

In patients admitted to hospital with acute stroke, early supported discharge may reduce length of initial hospital stay, but does not reduce death, combined death or institutional care, or combined death or dependency.

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For correspondence:
Professor P Langhorne,
Stroke Unit Trialists'
Collaboration, Glasgow,
Scotland, UK.
p.langhorne@clinmed.gla.ac.uk

Early supported discharge (ESD) v conventional care for patients with acute stroke*

Outcomes at 3–12 months	Weighted event rates		RRR (95% CI)	NNT
	ESD	Conventional care		
Death	12%	14%	10% (–81 to 55)	Not significant
Death or institutional care	24%	19%	24% (–26 to 54)	Not significant
Death or dependency	51%	48%	4% (–30 to 29)	Not significant

*Abbreviations defined in glossary; RRR, NNT, and CI calculated from data in article using a random effects model.

COMMENTARY

Studies of stroke interventions can be broadly classified as clinical interventions or organisational/service interventions. The systematic review by the ESD Trialists illustrates the complexity and challenges associated with the meta-analysis of organisational/service interventions in stroke. No agreed upon definition of ESD exists; however, clear clinical criteria state that ESD should only be considered if a patient with stroke can safely transfer from bed to chair and if a specialist community stroke rehabilitation team is available.¹

In order to provide some structure for the different ESD services included in the review, the trials were divided into 3 levels of service intervention: ESD teams, which both coordinated and provided care (n=6), those that coordinated care only (n=2), and those with no ESD coordination (n=1). The authors acknowledged the diversity of these services and included a subgroup analysis (coordinated ESD team/no coordinated ESD team), while recognising that this subdivision may be oversimplistic.

Although reductions in length of initial hospital stay were achieved by ESD services across trials, only a median of 38% of hospitalised patients met the criteria for ESD. Clearly, ESD is suitable for only some stroke patients admitted to hospital, and clinicians applying these findings should be mindful of this point. It was disappointing that the results for patient and carer outcomes and preferences, and for resource use were inconclusive. The authors also noted a lack of information about the effects of ESD services on carer mood and wellbeing. Shepperd and Iliffe² noted a greater burden upon carers and little evidence of cost savings with “hospital at home” services. It would be difficult to support the widespread adoption of ESD after stroke without an understanding of the effect this may have upon carers in the community.

David Stevenson, RGN, MSc, PGCE
Lecturer in Health Sciences
University of York, York, UK

- 1 Royal College of Physicians Intercollegiate Working Party for Stroke. *National clinical guidelines for stroke*. London: Royal College of Physicians, 1999. http://www.rcplondon.ac.uk/pubs/books/stroke/ceeu_stroke_workingparty.htm
- 2 Shepperd S, Iliffe S. Hospital at home versus in-patient hospital care. *Cochrane Database Syst Rev* 2001;(3):CD000356.