

Cochrane reviews

Study	Shepperd 2008²²³
Study type	Systematic review of RCTs – Hospital at home admission avoidance
Number of studies (number of participants)	10 (n=1333) (2 studies included in our evidence review)
Countries and setting	Conducted in Australia, Italy, New Zealand and the United Kingdom
Duration of study	Databases were searched through to January 2008
Stratum	Overall
Subgroup analysis within study	Systematic review – pre-specified in protocol
Inclusion criteria	Patients aged 18 years and over that were included in admission avoidance hospital at home schemes
Exclusion criteria	Patients with long-term care needs were not included unless they required admission to hospital for an acute episode of care. Evaluations of obstetric, paediatric and mental health hospital at home schemes were excluded from the review since the preliminary literature searches by the authors suggested that separate reviews would be justified for each of these groups.
Recruitment/selection of patients	Randomised controlled trials recruiting patients aged 18 years and over. Studies comparing admission avoidance hospital at home with acute hospital inpatient care. The schemes may admit patients directly from the community, so avoiding physical contact with the hospital, or may admit from the emergency room.
Age, gender and ethnicity	Not stated overall
Further population details	Two trials recruited patients with chronic obstructive pulmonary disease (COPD) (Davies 2000; Nicholson 2001), 2 trials recruited patients recovering from a moderately severe stroke who were clinically stable (Kalra 2000; Ricauda 2004), and 3 trials recruited patients with an acute medical condition who were mainly elderly (Caplan 1999; Harris 2005; Wilson 1999). As noted above, there was one trial each for patients with cellulitis (Corwin 2005), patients with community acquired pneumonia (Richards 2005), and frail elderly patients with dementia (Tibaldi 2004).
Extra comments	
Indirectness of population	No indirectness
Interventions	Admission avoidance hospital at home schemes compared to acute hospital inpatient care. The schemes may admit patients directly from the community or from the emergency room. Definition used by the authors: hospital at home is a service that can avoid the need for

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	<p>hospital admission by providing active treatment by health care professionals in the patient's home for a condition that otherwise would require acute hospital in-patient care, and always for a limited time period. In particular, hospital at home has to offer a specific service to patients in their home requiring health care professionals to take an active part in the patients' care. If hospital at home were not available then the patient would be admitted to an acute hospital ward. Therefore, the following services are excluded from this review:</p> <ul style="list-style-type: none"> • services providing long term care; • services provided in outpatient settings or post discharge from hospital; and • self-care by the patient in their home such as self-administration of an intra-venous infusion.
Funding	Not stated

Study	Intervention and comparison	Population	Outcomes	Comments
Kalra 2000 ¹³⁴ RCT UK	<p>Hospital outreach admission avoidance MDT with joint care from community services.</p> <p>Three arm trial: Stroke unit care (n=148) Versus Stroke team (n=150) Versus Home care (n=149)</p>	Adults (n=457) recovering from a moderate to severe stroke	<p>Mortality, Readmission, length of stay, Ranking level of independence, Barthel</p> <p>Risk of bias (assessed in Cochrane review) Risk of bias : Selection bias - Low</p>	Admission avoidance Strata
Ricauda 2004 ¹⁹² RCT Italy	<p>Home treatment (from a geriatric home hospitalisation service)</p> <p>Team: geriatricians, nurses, dieticians, physiotherapists, psychologists and social workers dedicated to the home management of stroke.</p> <p>Versus General medical ward.</p>	Adults (n = 120) elderly patients, with a mean age of 82 years; admitted to the emergency department with first acute ischemic stroke.	<p>Quality of life, mortality, avoidable adverse events (respiratory and urinary tract infections)</p> <p>Risk of bias (assessed in Cochrane review) Risk of bias : Selection bias - high risk</p>	Admission avoidance Strata

Study	Shepperd 2009 ²²⁵
Study type	Systematic review of RCTs – Hospital at home early discharge
Number of studies (number of participants)	26 (n=3967) (10 studies included from this review)
Countries and setting	Conducted in Australia, Canada, New Zealand, Norway, Sweden, Thailand, and the UK (the majority of trials).
Duration of study	Databases were searched through to January/February 2008
Stratum	Overall
Subgroup analysis within study	Sys review – pre-specified in protocol
Inclusion criteria	The review includes evaluations of early discharge hospital at home schemes that include patients aged 18 years and over. Patients were either recovering from a stroke, following elective surgery, or were older people with a mix of conditions.
Exclusion criteria	Patients with long-term care needs were not included unless they required admission to hospital for an acute episode of care. Evaluations of obstetric, paediatric and mental health hospital at home schemes were excluded from the review since the authors' preliminary literature searches suggested that separate reviews would be justified for each of these groups due to the different types of patient group and volume of literature. The following services were excluded from this review: services providing long term care, services provided in out-patient settings or post discharge from hospital, and self-care by the patient in their home such as self-administration of an intravenous infusion.
Recruitment/selection of patients	The review includes evaluations of early discharge hospital at home schemes that include patients aged 18 years and over. Patients were either recovering from a stroke, following elective surgery, or were older people with a mix of conditions.
Age, gender and ethnicity	Not stated overall
Further population details	-
Extra comments	-
Indirectness of population	No indirectness – we excluded the papers with patients recovering from elective surgery for our analysis
Interventions	Studies comparing early discharge hospital at home with acute hospital in-patient care. The authors used the following definition to determine if studies should be included in the review: hospital at home is a service that provides active treatment by health care professionals in the patient's home for a condition that otherwise would require acute hospital in-patient care, and always for a limited time period. In particular, hospital at home has to offer a specific service to patients in their home requiring health care professionals to take an active part in the patients' care. If hospital at home were not available then the patient would not be discharged early from hospital and would remain on an acute hospital ward. Therefore, the following services were excluded from this review: services providing long term care, services provided in out-patient settings or post discharge from hospital, and self-care by the patient in their

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Funding	Not stated

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Askim, 2004 ¹⁵ RCT Norway	Extended service consisting of stroke unit treatment combined with a home based programme of follow-up care co-ordinated by a mobile stroke team that offers early supported discharge and works in close co-operation with the primary health care system during the first 4 weeks after discharge. The mobile team consisted of a nurse, a physiotherapist, an occupational therapist and the consulting physician. versus Ordinary service defined as the stroke unit treatment of choice according to evidence-based recommendations.	Acute stroke patients with a Scandinavian Stroke Scale (SSS) score greater than 2 points and less than 58 points. I score such as this indicates that patients were moderately disabled	Mortality; Length of stay in hospital or programme; Caregiver Strain index Risk of bias (assessed in Cochrane review) Risk of bias : Selection bias – Low risk	-
Bautz-Holter, 2002 ¹⁹ RCT Norway	Early supported discharge with a multidisciplinary team for each stroke patient was offered and support and supervision was provided from the project team whenever needed. Four weeks after discharge, the patients in the ESD group were seen at the	Acute stroke patients; not severely disabled prior to stroke; had no other medical condition likely to preclude rehabilitation and were medically stable. Patients included were moderately to mildly disabled	Mortality; Admissions to hospital; Length of hospital stay; Admissions to hospital; Risk of bias (assessed in Cochrane review) Risk of bias : Selection bias – Low risk	-

Study	Intervention and comparison	Population	Outcomes	Comments
	outpatient clinic versus Conventional procedures for discharge and continued rehabilitation, which were anticipated to be less well organised			
Rudd, 1997 ²⁰⁸ RCT UK	Early discharge with a planned course of domiciliary physiotherapy, occupational therapy, and speech therapy, with visits as frequently as considered appropriate (maximum one day visit from each therapist) for up to 3 months after randomization. versus Usual care with no augmentation of social services resources	Stroke patients able to perform functional independent transfer or able to perform transfer with assistance	Mortality; Length of stay in hospital; Admissions to hospital; patient satisfaction with therapy/recovery; Caregiver strain index; Carer satisfaction Risk of bias (assessed in Cochrane review) Risk of bias : Selection - Low	-
B: Early discharge				
Comparison 2: Community rehabilitation versus routine hospital services (similar amount in each setting)				
Anderson, 2000 ⁷ ; Hackett 2002 ¹¹³ RCT Australia	Early hospital discharge and individually tailored home-based/community rehabilitation (median duration: 5 weeks) by a full time occupational therapist, a consultant in rehabilitation, physiotherapists, occupational therapists, social workers, speech therapists, and	Acute stroke patients that were medically stable and suitable to be discharged early from hospital to a community rehabilitation scheme and had sufficient physical and cognitive function. Patients included in this study were mildly disabled	Mortality; SF-36 physical and mental component summary scores; patient satisfaction with therapy/recovery; Falls; Caregiver strain index; Readmission to hospital at 6 months; Length of hospital stay Risk of bias (assessed in Cochrane review) Risk of bias : Selection - Low	-

Study	Intervention and comparison	Population	Outcomes	Comments
	rehabilitation nurses. Efforts were made so that discharge from hospital could occur within 48 hours of randomisation. versus Conventional care and rehabilitation in hospital, either on an acute-care medical geriatric ward or in a multidisciplinary stroke rehabilitation unit run by specialists in rehabilitation or geriatric medicine			
Caplan 2006 ³⁸ RCT Australia	Early discharge hospital based outreach Type of service: nurses, physiotherapy, occupational therapy, physician Versus Control group: in-patient hospital care	Elderly patients whose length of hospital stay exceeded 6 days, who were referred for geriatric rehabilitation and expected to return home and live reasonably independently Mean age: treatment = 83.86 (7.8); control = 84.0 (7.02)	Mortality; Functional and cognitive status; Psychological well-being; patient and carer satisfaction; Readmission at 6 months; Length of stay Risk of bias (assessed in Cochrane review) Risk of bias : Selection - Low	-
Cunliffe 2004 ⁶⁴ RCT UK	Hospital at home (early discharge) Type of service: provided by community services, GP had clinical responsibility, physiotherapy, occupational therapy, 3 dedicated nurses plus 7 rehabilitation assistants,	3 most common conditions were fractures (105/370, 28%), neurological conditions, mainly stroke (97/370, 26%), cardio-respiratory illnesses (50/370,14%). 247/370 (66%) lived alone Median age: 80 years	Mortality; Readmission by 3 months; Quality of life; GP visits; length of stay in hospital Risk of bias (assessed in Cochrane review) Risk of bias : Selection - Low	-

Study	Intervention and comparison	Population	Outcomes	Comments
	provided care up to 4 weeks. Community care officer liaised with social services Versus Control group: in-patient hospital care			
Donnelly, 2004 ⁷⁶ RCT UK	Earlier hospital discharge combined with community-based multidisciplinary stroke team rehabilitation comprising 0.33 coordinator, 1 occupational therapist, 1.5 physiotherapists, 1 speech and language therapist, and 2 rehabilitation assistants. On average the number of home visits over a 3-month period was 2.5 per week each lasting 45 minutes. Patients in the CST group were to be discharged as soon as their home was assessed versus Usual hospital rehabilitation comprising inpatient rehabilitation in a stroke unit and follow-up rehabilitation in a day hospital	Acute stroke patients with no pre-existing physical or mental disability that was judged to make further rehabilitation inappropriate. Patients included were moderately (10-14) to mildly disabled (15-19)	Mortality; SF-36 physical and mental component; Quality of life (EuroQoL); patient satisfaction; Caregiver Strain index; Length of stay; Admissions to hospital at 12 months Risk of bias (assessed in Cochrane review) Risk of bias : Selection - Low	-
Indredavik 2000 ¹²⁶ RCT Norway	Hospital at home (early discharge)	Patients recovering from a stroke Mean age: treatment = 74; control = 73.8	Mortality, length of stay Risk of bias (assessed in Cochrane review)	

Study	Intervention and comparison	Population	Outcomes	Comments
	<p>Type of service: mobile team based in a stroke unit and worked with primary care team</p> <p>Skill mix: nurse, physiotherapist, occupational therapist, stroke physician</p> <p>Control group: combined active and rehabilitation stroke unit and further follow-up organised by rehabilitation clinic and/or primary health care system</p>	<p>Treatment = 160 Control = 160</p>	<p>Risk of bias : Selection – unclear risk</p>	
<p>Mayo, 2000¹⁶⁴ RCT Canada</p>	<p>Rehabilitation at home after prompt discharge from hospital with the immediate provision of follow-up services by a multidisciplinary team offering nursing, physical therapy (PT), occupational therapy (OT), speech therapy (ST), and dietary consultation. Duration of intervention was 4 weeks for all participants.</p> <p>Versus</p> <p>Usual care practices for discharge planning and referral for follow-up services. These included physiotherapy, occupational therapy and speech therapy, as requested</p>	<p>Acute stroke patients with motor deficits after stroke who had caregivers willing and able to provide live-in care for the subject over a 4-week period after discharge from the hospital.</p> <p>Patients included were mildly disabled</p>	<p>Mortality; SF-36 Mental summary component and SF-36 physical summary component; Length of stay (hospital); Length of stay (hospital + rehabilitation) Risk of bias (assessed in Cochrane review) Risk of bias : Selection - Low</p>	<p>-</p>

Study	Intervention and comparison	Population	Outcomes	Comments
	by the patient's care provider and offered through extended acute-care hospital stay; inpatient or outpatient rehabilitation; or home care via local community health clinics			
Rodgers, 1997 ¹⁹⁹	<p>Early Supported Discharge with home care from the Stroke Discharge Team (community based). The team consisted of an occupational therapist, physiotherapist, speech and language therapist, social worker and occupational therapy technician. The stroke discharge rehabilitation service was available five days per week but the home care component of the service was available 24 hours per day and 7 days per week if required. The stroke discharge service was withdrawn gradually and a contact name and number was provided to patients in case of subsequent queries or problems</p> <p>Versus</p> <p>Inpatient and outpatient care was provided for the control group by conventional hospital and community services.</p>	<p>Acute stroke patients that were not severely handicapped prior to the incident stroke with no other condition likely to preclude rehabilitation. Patients included were moderately disabled</p>	<p>Mortality; Length of hospital stay; Readmission to hospital; Quality of life; Carer strain Risk of bias (assessed in Cochrane review) Risk of bias : Selection - Low</p>	-

Study	Intervention and comparison	Population	Outcomes	Comments
	Discharge planning and services post discharge for patients randomised to conventional care were arranged and provided according to the usual practice of each participating ward or unit.			