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**Cochrane Nursing Care Field – Cochrane Review Summary**

**Prepared for the**

## British Journal of Community Nursing

# *TITLE: Admission avoidance hospital at home*

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**Background**: Pressures on secondary healthcare services have led to increasing interest in interventions that can avert hospital admissions. One particular area of focus is the role of community-based healthcare provision as a method of preventing the need for hospital-based care. If community interventions can avoid admissions, then they not only reduce the demands on hospital services, but also lessen the impact of adverse events associated with inpatient stays, such as hospital-acquired infection or medication errors (Wright *et al*, 2014).

This is of particular relevance to nurses, who are often at the centre of the provision of home-based care. In recent years, community nursing has increased in scale, scope and importance, with many services being provided that were historically only available in the hospital setting. However, there is recognition to that meet future healthcare demands, the provision of community services must grow further (Charles *et al*, 2018). It is therefore important to understand which community interventions are most successful at preventing hospital admissions, and in which patient groups.

**Objective:** This is the third update of a review first published in 1998 (Shepperd et al, 2016). The review sought to evaluate the most up-to-date evidence of clinical and cost effectiveness of Hospital at Home Admission Avoidance (HAHAA), compared to inpatient care.

**Intervention/Methods:** For the purposes of the review, HAHAA was defined as any service in which healthcare professionals provide home-based care - for a limited period and for a condition that would otherwise require hospital-based care - with the intention of avoiding admission. Referral to HAHAA services could come either from primary care, or outpatient care, or directly from the Emergency Department (ED).

The primary outcome measures were mortality or transfer/readmission to hospital. Additional outcomes included quality of life, patient satisfaction and cost. Outcomes in patients receiving HAHAA were compared against those receiving usual acute hospital inpatient care.

A range of databases (e.g. CINAHL; MEDLINE) were searched in March 2016 for Randomised Controlled Trials (RCTs) in which HAHAA was the intervention. The level of confidence in the evidence was established using the approach proposed by the Grades of Recommendation, Assessment, Development and Evaluation (GRADE) group (Guyatt et al, 2008), incorporating issues such as study limitations and risk of bias.

An individual patient data meta-analysis was completed for specific outcomes, using Cox regression where possible to calculate hazard ratios, with data presented using 95% confidence intervals (CI).

**Results:** A total of 16 trials were identified, six of which were new to this update of the review. Total patient population was 1814. Studies focused on HAHAA services for different clinical situations including Chronic Obstructive Pulmonary Disease (COPD) (three trials), acute medical conditions (six trials) and dementia (one trial). Five trials were carried in Italy, three each in New Zealand or the United Kingdom, two in Australia and the remainder in Romania, the United States or Spain.

Most trials (n=12) included HAHAA services in which patients were referred directly from the ED and three required primary care referral; in one trial, the service was accessed via an outpatient department. Home-based care was delivered by either a hospital outreach team, community health and social care teams, General Practitioners or a combination thereof.

There was moderate-certainty evidence that HAHAA, compared with the control group, made little or no difference to transfer/readmission to hospital at three months (Risk Ratio (RR) 0.98; 95% CI 0.77-1.23; P=0.84; seven trials; n=834, moderate-certainty evidence), or mortality at six months (RR 0.77; 95% CI 0.60-0.99; P=0.04; six trials; n=912; moderate-certainty evidence).

Other findings of note were that HAHAA reduced the likelihood of living in residential care at six months (RR 0.35; 95% CI 0.22-0.57; P<0.0001; five

trials; low-certainty evidence); there was increased satisfaction with healthcare received in those allocated to the intervention, and some evidence that HAHAA may be less expensive than admission to an acute hospital ward, when the costs of informal care were excluded (two trials; n=287; low-certainty evidence).

**Conclusions:** This updated review suggests that hospital at home admission avoidance services may be a feasible alternative to inpatient care for some patients who require hospital admission. However, whilst leading to increased patient satisfaction with healthcare and a reduced medium-term reliance on residential care, there is little or no difference on the need for transfer/readmission to hospital or on six-month mortality.

The evidence for these conclusions was of a moderate or low quality, with the selected trials often small in nature. There was also substantial heterogeneity across the trials in terms of the geographical location, healthcare system within which HAHAA operated and clinical conditions exhibited by patients. It is therefore difficult to draw firm conclusions regarding the precise contexts and conditions in which HAHAA is at its most effective.

**Implications for Practice:** The review highlights the role of community healthcare services in averting hospital admission, but also suggests that interventions may have different levels of impact for different patient groups and clinical conditions. This reinforces the importance of nurses carrying out holistic patient assessment that identifies healthcare needs and underpins the implementation of individualised, evidence-based care in the most appropriate setting.

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