Transition of care for acute stroke and myocardial infarction patients: from hospitalization to rehabilitation, recovery, and secondary prevention


CRD summary
The authors concluded that there was insufficient evidence to enable definitive conclusions to be drawn about the effectiveness of transition of care services following stroke or myocardial infarction. Other than some potential for missing data, this was a generally well-conducted review. The authors’ conclusions reflect the limited evidence base and seem appropriate.

Authors’ objectives
To assess whether there was a beneficial role for co-ordinated transition of care services for the postacute care of patients hospitalised for first or recurrent stroke or myocardial infarction.

Searching
PubMed, CINAHL, EMBASE and Cochrane Database of Systematic Reviews were searched between 2000 and 2011 for articles in English. Search strategies were reported. Reference lists of relevant reviews, retrieved articles and other relevant sources were searched manually.

Study selection
Randomised controlled trials (RCTs) and observational studies were eligible for inclusion if they assessed the impact of co-ordinated transition of care services on adult patients (≥18 years) who had been discharged or were preparing to be discharged from hospital for first or recurrent stroke or myocardial infarction. Eligible study comparators were usual care (defined as not including transition of care services that co-ordinated care among multiple providers). Outcomes of interest were death, hospital readmission, return to pre-morbid status, functional ability, quality of life, number of hospital-free days and adverse events.

Some of the included studies were conducted in USA but most were conducted elsewhere (mainly in European countries). Included studies were of patients with acute ischaemic stroke, myocardial infarction, mixed stroke (acute ischaemic stroke, intracerebral haemorrhage and subarachnoid haemorrhage or undefined ischaemic/haemorrhagic stroke) and mixed myocardial infarction (patients with myocardial infarction or acute coronary symptoms). Caregivers were included in the review. Transition of care interventions were categorised as four types: hospital-initiated support, hospital-based or home-based patient and family education, community-based support, and chronic disease management model of care.

A wide range of outcome measures were used to evaluate the success of transitions; these included Barthel Index, Index of Activities of Daily Living and EuroQol 5 Dimensions (EQ-5D) questionnaire. Timing of interventions ranged from one to 31 months.

Two reviewers independently screened studies for inclusion. Discrepancies were resolved by a third reviewer.

Assessment of study quality
One reviewer assessed study quality according to the methods guide for effectiveness and comparative effectiveness reviews published by the Agency for Healthcare Research and Quality (AHRQ). Studies were assigned a quality rating of good, fair or poor. No further details were provided. A second reviewer checked the assessment. Discrepancies were resolved by consensus or referral to a third reviewer.

Data extraction
One reviewer extracted the number of studies that demonstrated benefit or no benefit on outcomes; this was checked by a second reviewer. Disagreements were resolved by consensus or referral to a third reviewer.

Methods of synthesis
Due to clinical and methodological heterogeneity, results were combined in a narrative synthesis grouped by similar transition of care components.

Subgroup data were undertaken to assess the differences in benefits and harms of transition of care services by varying patient and study characteristics (results not discussed here).

**Results of the review**

Sixty-two articles representing 44 studies were included in the review.

Fifty-three publications representing 40 studies (15,216 patients) assessed the effects of transition of care services on functional status, quality of life, hospital readmission, morbidity and mortality up to one year post-event. Eight articles were of good quality, 36 were fair and nine were poor.

**Hospital-initiated support:** Eight studies demonstrated benefit with early supported discharge compared to usual care on stroke patients' total length of hospital stay and patient satisfaction. Ten studies showed no benefit with early supported discharge on mortality, functional disability or quality of life compared with usual care. Integrated-care pathway interventions demonstrated no benefit in stroke patients (two studies). In patients with myocardial infarction, improvements on mortality, re-hospitalisation and length of stay, and emergency department visits were reported for guideline-based practice (two studies), disease management programme (one study) and speciality follow-up (one study); one study showed no benefit with early supported discharge.

**Hospital-based and community-based patient and family education:** Four studies in stroke patients and two studies in patients with myocardial infarction showed some reduction in depression and anxiety and improvement in patient satisfaction and confidence in recovery in the intervention versus usual care. However, these studies also showed no benefit on certain health-related and quality of life questionnaires.

**Community-based support:** No community-based support programme showed consistent improvements on either patient or family well-being.

**Chronic disease management:** No chronic disease transition of care interventions showed consistent improvement in outcomes.

**Adverse events:** Eight publications representing six studies (two good quality, five fair and one poor) reported adverse event data in stroke patients. Rates of adverse events were similar between intervention and usual-care patients.

Further results were reported in the review.

**Authors’ conclusions**

There was insufficient evidence to enable definitive conclusions to be drawn about the effectiveness of transition of care services following stroke or myocardial infarction.

**CRD commentary**

The review addressed a clearly defined question. Several sources were searched for relevant data. The search was restricted to articles in English and there was no apparent systematic search for unpublished data so relevant data may have been missed. Study quality was assessed but only overall ratings were reported. Most studies were reported to be of fair quality, but study designs and other details were not reported. Each stage of the review process was undertaken in duplicate which reduced the potential for reviewer error and bias. A narrative synthesis was appropriate given the variability between the included studies. The results were limited and it was unclear whether this due to individual studies not reporting further details (such as significance levels).

The authors acknowledged limitations in the included studies (such as small sample size, heterogeneity of outcome measures and reporting of multiple outcomes, lack of definition for the usual care group and use of multiple intervention components) which made it difficult to determine the effect of individual components on clinical outcomes. They also acknowledged the differences in health care systems across different countries.

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**Implications of the review for practice and research**

**Practice:** The authors stated that as the USA population gets older and the number of patients experiencing myocardial infarction or stroke increases, it will be imperative to identify effective transition of care interventions. Based on the findings, few studies support the adoption of any specific transition of care programme as a matter of health care policy.

**Research:** The authors stated that well-structured research performed in USA and including clear definitions for interventions and comparisons was necessary and would need to be disease focused. The authors stated that future research needed to implement a set of validated and clinically relevant outcomes. Further recommendations were reported in the review.

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**Bibliographic details**


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http://www.ahrq.gov/clinic/tp/strokecaretp.htm

**Other publications of related interest**


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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.