

Reducing Care Utilisation through Self-management Interventions (RECURSIVE): a systematic review and meta-analysis

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Scientific summary

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Background

The global burden of disease is increasingly driven by the prevalence of long-term conditions, leading to increasing interest in new models of service delivery to manage the needs of this patient group in ways that are accessible, effective, efficient and patient-centred.

There is increasing agreement that an important part of future service delivery will involve improving the degree to which people become engaged in 'self-management'. Self-management refers to care taken by people to support their health and well-being, and can include adoption of a healthy lifestyle, actions taken to better manage long-term conditions, as well as meeting psychosocial needs.

The global financial crisis has meant that even greater focus is being placed on efficiency in health-care delivery. Like most health systems, the NHS is seeking ways to increase efficiency, and providing better support for self-management is seen as having a significant contribution to make to efficiency, over and above benefits in patient empowerment, quality of life (QoL) and well-being.

Self-management support has the potential to provide interventions that are less costly and at least as effective as current treatments. For example, providing improved self-management support may allow patients to achieve the same or better outcomes, while potentially reducing expensive forms of health-care utilisation (such as hospital use). Delivered on a large scale, such interventions could help NHS organisations achieve effective redistribution of services (e.g. from hospital to the community) and potentially reduce the overall costs of care, without compromising on patient outcomes.

Objective

To determine which models of self-management support are associated with significant reductions in health services utilisation (including admissions) without compromising outcomes, among patients with long-term conditions.

Methods

We used systematic review with meta-analysis. Inclusion criteria were as follows:

- population: patients with long-term conditions
- intervention: self-management support, including 'pure self-management' (without additional professional support), 'supported self-management' (< 2 hours' support), 'intensive self-management' (> 2 hours' support) and 'case management' (> 2 hours' support including input from a multidisciplinary team)
- comparison: usual care
- outcomes: service utilisation (including hospital use) and QoL
- study design: randomised controlled trials.

To identify relevant literature, we searched multiple databases in 2012 [Cochrane Central Register of Controlled Trials, Cumulative Index to Nursing and Allied Health, EconLit (the American Economic Association's electronic bibliography), EMBASE, Health Economics Evaluations Database, MEDLINE (the US National Library of Medicine's database), MEDLINE In-Process & Other Non-Indexed Citations,

NHS Economic Evaluation Database and the PsycINFO behavioural science and mental health database]. We also checked the reference lists of 52 reviews.

Data were extracted on populations, interventions, study quality and outcomes (utilisation and QoL). We also conducted a separate data extraction of the subset of full economic analyses (cost-effectiveness and cost-utility analyses).

We extracted data that allowed us to report a measure of the magnitude of effects (an 'effect size') for both health outcomes and costs, to allow us to assess the impact of the intervention on both outcomes simultaneously. We presented the results of the included studies for each condition group according to a permutation plot, plotting the effect of interventions on utilisation and outcomes simultaneously and placing them in quadrants of the cost-effectiveness plane depending on the pattern of outcomes. We also conducted conventional meta-analyses of outcomes.

Results

We found 184 studies that met the inclusion criteria for the study and provided data for analysis. Of those studies, 35% were conducted in the USA and 23% in the UK. The most common categories of long-term conditions included in the studies were cardiovascular (29%), respiratory (24%) and mental health (16%). Of the interventions, 5% were categorised as 'pure self-management' (without additional professional support), 20% as supported self-management (< 2 hours' support), 47% as 'intensive self-management' (> 2 hours' support) and 28% as 'case management' (> 2 hours' support including input from a multidisciplinary team). We analysed data across categories of long-term conditions, and also compared self-management support (combining 'pure', 'supported' and 'intense') with case management.

Generally, self-management support was associated with small but significant improvements in QoL, with the best evidence for diabetes, respiratory disorders, cardiovascular disorders and mental health. Only a minority of self-management support studies reported reductions in health-care utilisation in association with decrements in health. Evidence for significant reductions in utilisation following self-management support interventions were strongest for respiratory disorders and cardiovascular disorders.

Caution should be exercised in the interpretation of the results, as we found evidence that studies at higher risk of bias were more likely to report benefits on some outcomes. Data on hospital use outcomes were also consistent with the possibility of small-study bias.

Limitations

Self-management support is a complex area in which to undertake literature searches. Our analyses were limited by poor reporting of outcomes in the included studies, especially concerning health-care utilisation and costs.

Conclusions

Self-management support interventions rarely compromise patient outcomes. There was evidence that self-management support interventions can reduce hospital use and total costs, although effects were generally small. Evidence for significant reductions in utilisation were strongest for interventions in respiratory and cardiovascular disorders.

Reporting of data relevant to the core research question was poor. Research priorities relate to better reporting of the content of self-management support, exploration of the impact of multimorbidity and assessment of factors influencing the wider implementation of self-management support.

Study registration

This study is registered as PROSPERO CRD42012002694.

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