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The efficiency of case and self-management techniques for care coordination to lower health care service utilization; Systematic review

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Abstract

Study aim: We conducted a comprehensive assessment of the effectiveness of quality improvement strategies for care coordination for patients who often use the health care system.

Method: The Preferred Reporting Items for Systematic Review and Meta-analysis Protocols (PRISMA) guideline was followed in the conduct of this investigation. MEDLINE, Cochrane, and Embase were extensively searched between 2011 and 2021. We also searched Web of Science for studies that cited the included studies, examined PubMed's top ten related citations for each included study, contacted authors to request additional studies that might be of interest, and examined trial registries, conference abstracts, the reference lists of included studies, and relevant reviews.

Result and conclusion: Coordination of care-focused quality improvement initiatives decreased ED visits among older patients and hospitalizations among patients with chronic disorders other than mental illness. Patients with mental health disorders demand new approaches. Because these strategies seem to be more successful than other quality improvement strategies in lowering health care utilization, researchers who are creating and implementing interventions aimed at frequent users should take into account particular tactics like team changes, case management, and the encouragement of self-management. To find the best care coordination tactics for certain patient subgroups and environments, more study is required.

Keywords: Efficiency; Self-management techniques; Health care service; Health care quality

1. Introduction

A disproportionately high percentage of health care use, including ED visits, hospital admissions, clinic visits, and more, is attributed to a relatively small population of people who utilize health care services often. These individuals have a high mortality rate, numerous medical, mental, and social issues, and are frequently from low socioeconomic backgrounds (1). Regular usage of the healthcare system impacts the quality of services and results in higher wait times (2,3).

In many nations, including Canada, a sector of the population's disproportionate use of health care services has been recognized as a problem (4,5). Numerous initiatives have been put in place to promote less resource-intensive treatment for regular users. For instance, some of these initiatives are expressly meant to shift health care usage from hospitals to other venues, such community-based clinics (6).

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The majority of the work has been on those who often visit emergency rooms; little attention has been paid to how they use the healthcare system overall. Numerous studies that evaluated the impact of different treatments, such as care coordination, were found by one systematic review (7). The authors came to the conclusion that interdisciplinary teams and case management were probably good ways to cut down on ER visits.

ER visits only account for a small portion of the financial strain on the healthcare system. The effects of treatments meant to lower total health care usage, including hospital admissions, must be understood. For patients who often utilize the health care system, we carried out a systematic review of the efficacy of quality improvement techniques for care coordination.

2. Method

This study was conducted according to Preferred Reporting Items for Systematic review and Meta-analysis Protocols (PRISMA) statement. From 2011 to 2021, MEDLINE, Cochrane, and Embase were thoroughly searched. Additionally, we looked through trial registries, conference abstracts, the reference lists of included studies and pertinent reviews, contacted authors to request additional studies that might be of interest, looked through PubMed's top ten related citations for each included study, and searched Web of Science for studies that cited the included studies.

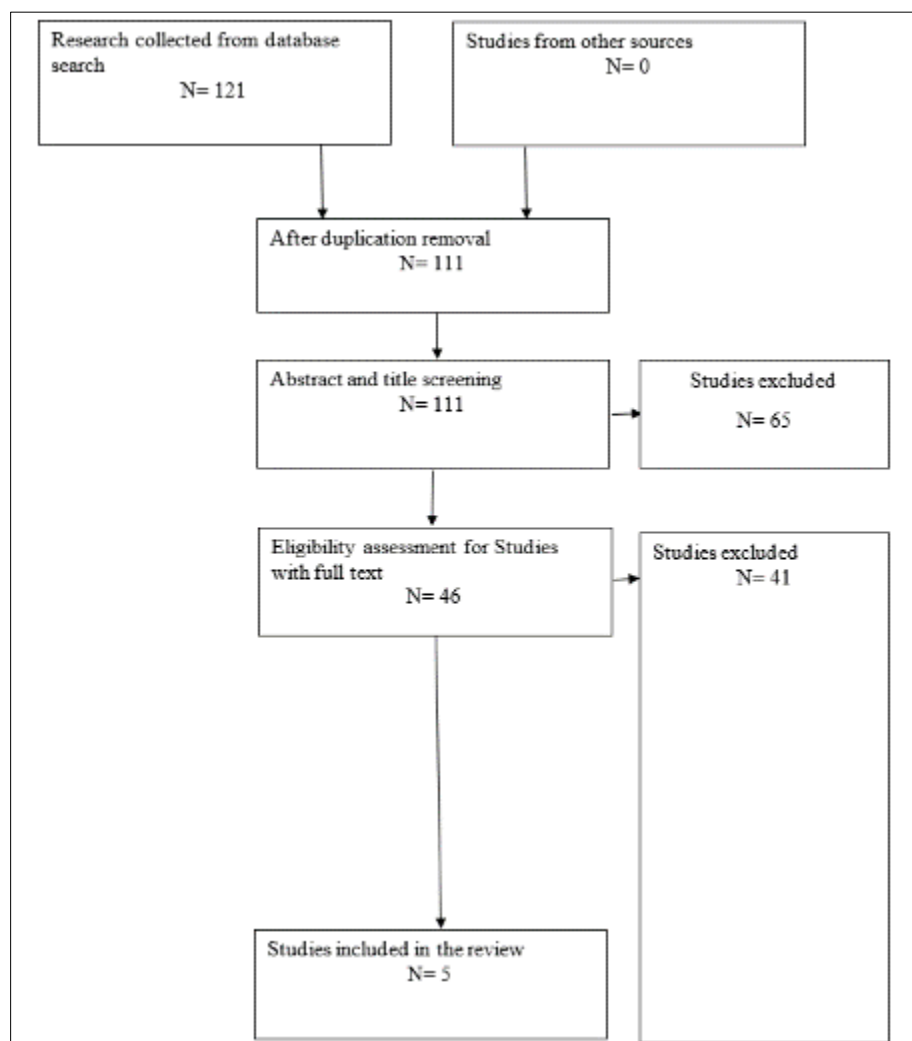


Figure 1 PRISMA consort chart of studies selection

Randomized clinical trials (RCTs) that evaluated at least one of specified quality improvement measures aimed at adult patients who often used the healthcare system qualified as eligible research. Case management, team modifications, and the encouragement of self-management are among the selected quality improvement treatments of interest.

Study characteristics, patient characteristics, quality improvement initiatives, and utilization results were among the data elements we documented. Each paper was separately examined by two reviewers, who then abstracted the pertinent information. Team discussions were used to settle disagreements over abstraction. A systematic review methodologist and a physician separately classified quality improvement initiatives since this task is frequently challenging. Discussions were used to settle disputes. An effort was made to find relevant literature. The authors of the study were emailed to request any required data clarification.

3. Result and discussion

In this systematic review we included 5 studies (8–12). We discovered that care coordination-focused quality improvement measures decreased both ED visits and hospitalizations among older patients with chronic illnesses other than mental illness. Patients with mental illness did not use health care services less frequently as a result of the interventions. This lack of impact could have resulted from the fact that a care coordination strategy—a type of case management—was a component of the control intervention in seven out of eleven trials including patients with mental illness.

A prior systematic study evaluated the impact of several treatments on frequent users and concluded that multidisciplinary teams and case management were probably useful in lowering ED visits (7). The authors didn't look at use outside of the emergency room or perform a meta-analysis. We found that older patients who received treatments including case management or team adjustments saw statistically significant decreases in ED visits.

In a safety-net health system, the Burn et al. study illustrated the potential and difficulties of employing a hospital-based CHW to lower hospital readmissions. In order to show their desire to receive CHW services, almost two-thirds of high-risk medical patients answered at least one post-discharge phone contact from the CHW. However, just 38% of patients had the CHW complete the required four weekly calls. However, it was positive, particularly for women, since CHW patients had lower 30-day readmission rates (15.4%) than UC patients (17.9%). Crucially, the insights learned from the pilot trial offer precise guidance for reworking the intervention to increase its efficacy (8).

The most pressing obstacle to the viability of such an intervention is the poor completion rate, but this seems to be overcome. Regular interaction with patients provides CHWs with social support, problem-solving skills, and service facilitation, all of which contribute to their efficacy (13). Burns et al. also noted that after establishing contact with a patient, the CHW's comparatively wide range of duties to evaluate and address patient issues suggested the need for further assistance and training. These tactics are currently being employed in a randomized, controlled study of a modified CHW intervention that is under underway. The plan calls for: CHWs to get formal training in motivational interviewing; CHWs to have access to community resources and connections; CHWs to be closely supervised and mentored; and a team of CHWs to use the patient and contact management tools mentioned above (14).

In Gellis et al. study (9), an intervention called I-TEAM was tried for older persons with complicated diseases receiving home care who were at risk of re-hospitalization. The research showed that the experimental participant group with heart failure or COPD diagnosis benefited greatly from the combination of telemonitoring for chronic illness and depression therapy. Telehealth integration in the home care context provided clinical decision assistance, a self-efficacy-reinforcing delivery system, and a physical and mental health status monitoring system for both persons and providers. Integrated care, education, and depression counseling were the responsibilities of I-TEAM nurses.

Data monitoring by nurses on a daily basis promoted therapeutic rapport and clinical status changes, which led to "just in time" contact with the patient or primary care physician for treatment plan modifications. Over the course of eight weeks, I-TEAM nurses used a manualized, evidence-based PST therapy to improve the coping abilities of the depressed persons while also understanding their requirements (9).

The first author provided clinical supervision, self-report checklists, training, and observation of treatment content and dose as part of the high-fidelity methods used to provide the intervention. Clinical results have been found to improve when skilled interventionists use evidence-based therapies with high fidelity (15). Over the course of the therapy period, telehealth participants reported to their nurses that they felt more secure, were better able to identify health problems, and felt better overall. Participants received treatment earlier than they would have with standard in-home, face-to-face care.

Although the Gellis et al. study did not look at the associated cost savings, which would have provided more proof of the effectiveness of this integrated model, it did find that I-TEAM participants had significantly fewer ED visits and a trend

toward fewer hospitalization days than those in the usual care group (16,17). The use of telehealth services should be extended to cover populations with a range of diseases, even if the intervention showed a substantial improvement in the outcomes of older persons with COPD and CHF.

Two plan options did not significantly lower total admissions, voluntary admissions, emergency admissions, or outpatient emergency visits, according to a randomized controlled experiment by Ruchlewska et al. Compared to the control group, there were more voluntary admissions and fewer involuntary admissions in the intervention circumstances, however these differences were not statistically significant. Planned court-ordered admissions were significantly impacted by crisis plans, particularly when they were created in collaboration with the clinician. Regardless of this impact, older individuals were less likely to be admitted by a court order if they had never been admitted to a mental health facility prior to the research. Authors could not uncover any evidence linking service involvement, social support, insight, and working alliance to the impact of crisis plans on court-ordered admissions (10).

Only two research on the impact of advance statements were found by a systematic review (18). A third research was just released (19). Henderson et al. (20) discovered that a collaborative crisis plan had an impact on the usage of the Mental Health Act. As with the CCP condition in Ruchlewska et al. trial, the strategy was created in collaboration with the outpatient doctor in this one. It's possible that the outpatient clinician's participation is crucial to the crisis plan's success. However, an independent psychiatrist led the intervention meeting in Henderson's trial, which could have improved the plan's quality (10). They were unable to replicate the positive impact of a joint crisis plan on the use of the Mental Health Act. The authors speculate that the lack of a significant effect may be partly due to the joint crisis plan's inadequate implementation at some study sites. Lastly, in the study by Papageorgiou et al. (21), patients wrote seven statements about their future treatment preferences while they were in the hospital, without the participation of their outpatient clinicians, which may have reduced the statement's effectiveness.

Readmission rate reductions are frequently utilized as the major outcome of aggressive treatments and are generally acknowledged to be a useful method of evaluating their effectiveness (22). One critique of this approach has been that, because of the financial consequences, managers may find this result very appealing, even though it might not always represent a favorable outcome for patients. Combining this result with duration of stay, however, gives patients the certainty that the intervention is genuinely lowering the need for admission and not only preventing them from receiving the treatment they require (8,22).

The findings of Botha et al. show that the previously shown decrease of inpatient days may, in fact, be maintained throughout time. Given that a number of variables might influence short-term results, this was seen as one of the drawbacks of the first 12-month follow-up (12). The newly formed teams may at first yield favorable results that may eventually wane, according to reports by Sytema and Killaspy (23,24).

List of abbreviations

- CHW, community health worker
- ED, emergency department
- CHF, congestive heart failure
- COPD, chronic obstructive pulmonary disease

4. Conclusion

Hospitalizations for patients with chronic conditions other than mental illness and ED visits among older patients were reduced when care-focused quality improvement programs were coordinated. People who suffer from mental illnesses want innovative methods. Researchers developing and implementing interventions targeted at frequent users should consider specific strategies such as team changes, case management, and the promotion of self-management, as these strategies appear to be more effective than other quality improvement strategies in reducing health care utilization.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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