



Group Visits Focusing on Education for the Management of Chronic Conditions in Adults: A Systematic Review

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PREFACE

Quality Enhancement Research Initiative's (QUERI) Evidence-based Synthesis Program (ESP) was established to provide timely and accurate syntheses of targeted healthcare topics of particular importance to Veterans Affairs (VA) managers and policymakers, as they work to improve the health and healthcare of Veterans. The ESP disseminates these reports throughout VA.

QUERI provides funding for four ESP Centers and each Center has an active VA affiliation. The ESP Centers generate evidence syntheses on important clinical practice topics, and these reports help:

- develop clinical policies informed by evidence,
- guide the implementation of effective services to improve patient outcomes and to support VA clinical practice guidelines and performance measures, and
- set the direction for future research to address gaps in clinical knowledge.

In 2009, the ESP Coordinating Center was created to expand the capacity of QUERI Central Office and the four ESP sites by developing and maintaining program processes. In addition, the Center established a Steering Committee comprised of QUERI field-based investigators, VA Patient Care Services, Office of Quality and Performance, and Veterans Integrated Service Networks (VISN) Clinical Management Officers. The Steering Committee provides program oversight, guides strategic planning, coordinates dissemination activities, and develops collaborations with VA leadership to identify new ESP topics of importance to Veterans and the VA healthcare system.

Comments on this evidence report are welcome and can be sent to Nicole Floyd, ESP Coordinating Center Program Manager, at nicole.floyd@va.gov.

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EXECUTIVE SUMMARY

BACKGROUND

The goal of group-based educational programs led by non-prescribing facilitators is to communicate information and provide training in order to improve self-management skills for the large numbers of patients coping with chronic illness. The Veterans Administration (VA) has prioritized group visit implementation as part a new primary care model that focuses on patient centeredness, The Patient Aligned Care Team (PACT), but the choice of which patient populations to target and which interventions to use is unclear. Though the group visit intervention delivery model has been widely used, there are vast differences in program structure, content, length of intervention, and follow-up time points. Moreover, there is little consensus as to whether, and for whom, group visits are an effective tool. Given the variety of interventions, the broad array of chronic conditions in which group visit interventions have been studied, and the lack of an overall understanding of effectiveness, it is useful to clarify what is known and not known about group visit interventions in patients with chronic illness. To our knowledge, no recent review has examined group visit interventions across a variety of conditions.

The objectives of this review are to: 1) summarize the characteristics of group visit interventions that have been tested in controlled trials of patients with chronic illness; 2) assess the effects of these interventions on quality of life, self-efficacy, health care utilization, and other health outcomes; 3) understand whether there are certain patient characteristics associated with intervention effectiveness; and 4) examine which components of group visit intervention structure and delivery may be associated with intervention effects.

We address three key questions in our review of the literature on group visits conducted by non-prescribing health professionals and lay facilitators:

Key Question 1. In adults with chronic medical conditions, how do group visits compared to usual care affect the following:

- (1) medication adherence, biophysical markers (e.g., HbA1c, blood pressure)
- (2) symptom status, functional status, mortality, patient satisfaction
- (3) utilization of medical resources, health care costs
- (4) adverse outcomes (e.g., patient confidentiality, participation/missed appointments)?

Key Question 2. For adults with chronic medical conditions, do the effects of group visits vary by patient characteristics? Characteristics of interest include medical diagnosis, severity of disease, and comorbidities.

Key Question 3. (Depending on the size and comparability of elements identified in the literature) Which components of group visits are associated with greater intervention effects?

METHODS

We conducted searches of multiple databases (MEDLINE® via PubMed®, Embase®, Cochrane Register of Controlled trials, CINAHL (EBSCO), PsycINFO) using terms for non-prescribing practitioners and group visit interventions, including but not limited to terms for group education, group program(me), group session(s). We obtained additional articles from systematic reviews, reference lists of pertinent studies, editorials, and by consulting experts. Reviewers trained in the critical analysis of literature assessed the titles and abstracts for relevance, and retrieved full-text articles for further review. We compiled a narrative synthesis of findings, highlighting studies that evaluated the effects of group visits, and describe the common characteristics and themes that emerged across studies and disease categories. We conducted meta-analyses of group visit trials for patients with diabetes for the mean difference in the change of HbA1c. We describe the overall quality of evidence for outcomes in each clinical subsection using a method developed by the GRADE Working Group.

RESULTS

We included 87 publications reporting on 81 group visit intervention studies focusing on education for the management of arthritis, falls prevention, asthma, chronic obstructive pulmonary disease, hypertension, congestive heart failure, diabetes mellitus, or chronic pain.

We examined findings by key question as well as by clinical area.

Findings by Key Question

Key Question 1. In adults with chronic medical conditions, how do group visits compared to usual care affect the following: (1) medication adherence, biophysical markers (e.g., HbA1c, blood pressure); (2) symptom status, functional status, mortality, patient satisfaction; (3) utilization of medical resources, health care costs; (4) adverse outcomes (e.g., patient confidentiality, participation/missed appointments)?

In general, group visit interventions in most clinical areas were associated with short- and medium-term improvements in self-efficacy; few studies examined longer-term outcomes. However, there was little evidence that interventions improved quality of life, functional status, or utilization outcomes. Group visit interventions were associated with modest short-term improvements in HbA1c, but the strength of this evidence was low because of inconsistent results across studies and methodological concerns in the studies finding the greatest benefit.

Key Question 2. For adults with chronic medical conditions, do the effects of group visits vary by patient characteristics?

Relatively few studies specifically examined how patient characteristics modified intervention effects. Overall, studies found little difference in group visit effectiveness according to patient demographic and socioeconomic characteristics. However, among studies of arthritis and history of falls, two studies found that obese patients tended to respond to aerobic exercise group visits more than participants with lower BMI on self-reported disability and falls. Among hypertension and heart failure studies, one study found patients with more years of education and better

cognitive status showed greater short-term improvements in cardiac-specific quality of life. One chronic pain study noted that group visit effectiveness was modified by agency-orientation, with high agency-oriented participants experiencing improvements in pain and pain coping resulting from group visit sessions. Various authors note that small sample sizes limit the power to detect differences in subgroup analyses. In addition, findings of group visit benefit in subgroup analyses are tempered by fair and poor quality ratings for many of these studies.

Key Question 3. Which components of group visits are associated with greater intervention effects?

Overall, in five studies, group visit interventions that focused on self-management educational strategies were more effective than sessions that were limited to didactic education; however, in four of these five studies, the intervention arms differed considerably from the comparators (e.g., having nonequivalent number of sessions), limiting the strength of this conclusion. Studies that compared group visits to individual education visits found mixed results on a variety of outcomes, with no appreciable differences found in three studies, positive effects found with group visits in four other studies, and improvements with individual education in one study. Findings across studies could not be combined because of differences in study design. Two studies compared the effects of in-person group self-management education and mailed or automated self-management programs, and found no differences in self-efficacy, pain, and functional status outcomes.

Findings by Clinical Area

Arthritis

Eighteen studies from the US, Europe, and Australia evaluated the effectiveness of educational group visit interventions that included self-management skills (11 studies), didactic (8 studies), and experiential approaches (6 studies). Studies varied widely in intervention structure, content, and duration, as well as comparison group.

Seven of ten studies found group visit interventions improved short- and medium-term self-efficacy; six of the studies found benefit for the interventions focused on self-management skills education. Only one poor-quality study assessed outcomes beyond 12 months. Despite the improvements seen in self-efficacy, only two of eleven studies found improvements in quality of life related measures such as disability and depression. One US study found a self-management education intervention was associated with reduced physician visits, but this finding was not confirmed in five other studies conducted in Europe and Australia.

Overall, there is a moderately strong body of evidence that group self-management education interventions can improve short- and medium-term self-efficacy in patients with arthritis, but they have little effect on quality of life or utilization outcomes.

History of Falls

Four studies from the US, Canada, and Australia examine effectiveness of educational group visit interventions in patients with a history of falls or at-risk for falling. Overall, didactic falls prevention training along with exercise training may improve patient self-efficacy and reduce the risk of falls, though the strength of this evidence is low because of inconsistencies among studies and the small number of studies.

Asthma, COPD

Five studies conducted in the US or Australia examined the effects of group visit interventions compared with usual care in patients with asthma. The group interventions involved didactic education in four studies and self-management education in one study. Decreased utilization was observed in two studies, and improvements in quality of life measures were noted in two studies. The studies were limited by selection bias and other methodological issues, however, and study quality was generally poor.

Five studies of group visits in COPD patients were conducted in a variety of settings: Northern Ireland, the UK, the Netherlands, France, and a VA Medical Center in the US. Three studies compared didactic education combined with exercise training to didactic education alone or to usual care. Two other studies examined the effects of self-management education compared with didactic education, usual care, or individual support. Better exercise capacity was observed in the studies that combined exercise training with didactic education, as compared with usual care or with didactic education alone.

Overall, a small body of fair-to-good quality evidence suggests that group exercise training in combination with didactic education may be associated with small improvements or less decline over time in exercise capacity and COPD symptoms, though the clinical significance of these findings is unclear. There is little methodologically sound evidence examining the impact of group visits in patients with asthma.

Hypertension, CHF, CAD

Our literature search identified three fair-quality studies of group visit interventions conducted in patients with CHF or CAD, published in four reports. Six studies examined the effects of group visits on blood pressure in patients with hypertension. The studies were conducted in a range of international settings, and study quality varied widely. Three studies used self-management education techniques and two studies used didactic education in comparison with usual care or an informational control. One trial compared self-management education directly with didactic education. Reductions in blood pressure measurements were noted in all three self-management education studies and in one didactic education study. In the trial comparing self-management education directly with didactic education, there were no significant reductions in systolic or diastolic blood pressure in either group at three months. However, significantly more self-management education patients had controlled blood pressure.

Overall, there were very few studies of group visits in CHF patients, and their findings on self-efficacy, quality of life, and biophysical measures were largely neutral. Group self-management education interventions in patients with hypertension have reported improvements in blood pressure control in short-term and long-term studies, but the overall strength of evidence is low.

Diabetes Mellitus

We included 30 publications of 29 studies of group visit interventions in patients with diabetes mellitus. We conducted meta-analyses of the 17 studies comparing the effects of a group visit intervention to usual care on HbA1c. Overall, in 14 studies, group visit interventions reduced HbA1c slightly more over six months of follow-up than usual care, though there was significant

heterogeneity which should temper confidence in these results. At least part of the heterogeneity seemed to be associated with study quality. The two good quality studies found no short-term improvements in HbA1c. Group visit interventions lasting more than three months appeared to have a more pronounced effect on HbA1c improvement than those of shorter duration, but the quality of these longer duration intervention studies was also lower. We found similar effects on HbA1c at 7 to 12 months in the 10 studies with longer-term follow-up.

Five of ten studies found improvements in self-efficacy or illness belief scores, with four of these studies finding positive effects beyond six months of follow-up. Perhaps not surprisingly, four of the five studies finding beneficial effects on self-efficacy involved interventions specifically focused on broader self-management skills training rather than didactic education. Despite finding that some interventions may improve self-efficacy, there was little evidence that group visit interventions improved quality of life over the short- or long-term. Few studies reported or were powered to evaluate utilization outcomes.

Eleven studies compared a group visit intervention to one or more active interventions. Three of these studies found that interventions focused on self-management skills training were associated with greater improvements in glycemic control than didactic educational approaches, though there were multiple other differences in the interventions being compared, making it difficult to draw firm conclusions about the effects of educational approach alone. Two studies compared group to individual education. One fair-quality study found that an automated, telephone-based, self-management intervention performed similarly to an in-person group self-management skills intervention.

Overall, we found group visit interventions in patients with diabetes may have modest effects on glycemic control over the short- and long-term, but the strength of evidence supporting this conclusion is low mostly because of inconsistencies across studies and methodological weaknesses of the studies finding the most positive effects. Interventions focused on self-management skills training were associated with improved self-efficacy and illness belief scores over the short- and long-term. However, there was no consistent evidence that group visit interventions improved quality of life.

Multiple Chronic Conditions

Four studies evaluated the Chronic Disease Self-Management Program (CDSMP) in populations with various chronic conditions not limited to a particular disease group. Overall, the peer-led, community-based CDSMP appears to be associated with medium-term improvements in self-efficacy, health status, and health care utilization; and these effects may persist long-term. These findings are based on moderately strong evidence from two large US trials, though findings were not replicated in other countries, and the findings likely apply most to patients engaged enough in care to agree to attend a multi-week course.

Chronic Pain

Four studies evaluated the effects of group-based interventions compared to usual care, educational reading materials, or individual treatment in patients with chronic pain. Though many findings from the studies were not statistically significant and did not differ from the

comparison, some results favored the group-based interventions. Overall, a very small body of literature suggests group-based, self-management education interventions may improve pain coping skills at least over the short-term, though the strength of this evidence is low because there were few studies and the methodological quality of one of the studies finding benefit was poor.

DISCUSSION

We found 79 trials examining the effects of group visit interventions across a variety of chronic illnesses. Despite the large evidence base, it is difficult to draw overall conclusions about the effectiveness of group visit interventions in patients with chronic illness, in part because of the diversity of patient populations studied, interventions tested and outcomes reported. Nevertheless, in general, many group visit interventions appear to be able to improve short- and medium-term patient self-efficacy, but there was little consistent, fair-to-good quality evidence that they improved quality of life, health outcomes, or health care utilization. We found that diabetes group visit interventions were likely associated with small short-term improvements in glycemic control. The longer-term effects of group visit interventions are largely unknown since the vast majority of studies focused on short-term effects.

CONCLUSION

Whether group visit expenditures are warranted may depend on how highly more proximate outcome measures like self-efficacy are valued by patients and the health system. On the other hand, peer-led, community-based self-management programs are a low-cost intervention which appears to improve self-efficacy and, in mixed groups of patients with various chronic illnesses, may improve health and utilization outcomes. Group visits may be as effective as individual education visits and may represent a reasonable alternative for educating patients with chronic illness, though the varied and sometimes low participation and retention rates suggest they should not be the sole alternative.