

## A Self-Management Program for Patients with Chronic Disease

Lorig KR, Sobel DS, Stewart AL, Brown BW, Bandura A, Ritter P, et al. Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: a randomized trial. *Med Care* 1999;37:5-14.

### Study Overview

**Objective.** To assess the effectiveness of a self-management program for chronic disease and to assess the differential effectiveness of the program for patients with specific diseases and comorbidities.

**Design.** Randomized, controlled trial.

**Setting and participants.** 952 patients aged 40 years or older with a physician-confirmed diagnosis of either heart disease, lung disease, stroke, or arthritis and treated at any of multiple community-based sites across 4 California counties. Treatment subjects received the Chronic Disease Self-Management Program (CDSMP), a community-based patient self-management education course [1,2]. Topics covered in the course include exercise, fatigue and sleep management, nutrition, use of cognitive symptom management techniques, communication with health professionals, use of medications, use of community resources, dealing with emotions, and problem solving and decision making. Participation was voluntary, and control subjects were on the wait-list for participation in the program.

**Main outcome measures.** Health behaviors, health status, and health services utilization were measured by previously tested, self-administered questionnaires mailed to the patients. Among the measures were the self-rated health scale used in the National Health Interview Survey and a modified version of the Health Assessment Questionnaire (HAQ) disability scale [3]. Health care utilization assessed included physician visits (including emergency department visits), hospital stays, and hospital days.

**Main results.** Compared with control subjects, treatment subjects at 6 months demonstrated increased weekly minutes of exercise and use of cognitive symptoms management, improved communication with physicians, and improvements in self-reported health, health distress, fatigue, disability, and social/role activity limitations. They also had fewer hospital stays and days. No statistically sig-

nificant differences were found in pain/physical discomfort, shortness of breath, psychological well-being, and physician visits (including emergency department visits). Economic analysis revealed that the program cost approximately \$70 per patient and led to health care expenditure savings of \$750 per patient. Analysis of subgroups (eg, those with arthritis only, heart disease only, lung disease only, or comorbid conditions) was not conclusive statistically because of insufficient sample size. However, all subgroups appeared to have increased healthful behaviors, and the improvements in cognitive symptom management and communication with physicians were uniform across all subgroups.

### Conclusion

In this community-based, randomized, controlled trial, an intervention designed to meet the needs of a heterogeneous group of chronic disease patients (including those with comorbidities) was shown to be feasible and beneficial beyond usual care in improving health behaviors and health status and in reducing hospital stays and days.

### Commentary

It is noteworthy that this program was not linked at all to the patients' individual care plans. Subjects were recruited largely by word of mouth and public service announcements in the media. Although subjects' physicians confirmed their diagnoses and knew of their participation in the CDSMP, they did not change their treatment. Consequently, the benefits of the CDSMP were independent of those achieved with usual care. One limitation of the study is that all the subjects were self-selected and may have been more motivated than most patients.

It is impressive that the estimated direct savings were 10 times the cost of the intervention. These savings do not take into account the additional potential long-term savings from improvement in behaviors and health status.

### Applications for Clinical Practice

A program such as the CDSMP, with its emphasis on improving multiple patient self-management skills, should

be incorporated into the management and treatment regimens of patients with chronic disease.

### References

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2. Stanford Patient Education Research Center. Chronic disease self-management leader's manual. Palo Alto (CA): The Center; 1993.
3. Ramey D, Fries J, Singh G. The Health Assessment Questionnaire 1995: status and review. In: Spilker B, editor. Pharmacoeconomics and quality of life in clinical trials. Philadelphia: Lippincott-Raven; 1996:227.

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