Low-Income Seniors May Benefit from a Home-Based Primary Care Program

Counsell SR, Callahan CM, Clark DO, et al. Geriatric care management for low-income seniors: a randomized controlled trial. JAMA 2007;298:2623–33.

Study Overview

Objective. To determine whether an outpatient intervention based on the geriatric care management model improves quality of care for low-income seniors.

Design. Randomized controlled trial.

Setting and participants. 951 adults aged ≥ 65 years with annual incomes < 200% of the federal poverty level were enrolled. All patients resided at home and were receiving primary care from 6 university-affiliated, community-based health centers. Primary care practices were randomized to participate in the intervention or to provide usual care. The intervention, provided in collaboration with the patient's primary care physician, consisted of 2 years of protocol-driven care management by an interdisciplinary geriatrics team including home visits by a nurse practitioner and a social worker.

Main outcome measures. The Medical Outcomes 36-item Short-Form (SF-36) scale scores, instrumental and basic activities of daily living (ADLs), emergency department (ED) visits, hospitalizations, and death.

Main results. 474 patients received care at intervention practices, and 477 patients received usual care. At 2 years, intervention patients had statistically significant improvements on 4 of 8 SF-36 scales (general health, vitality, social functioning, and mental health) compared with usual care patients. Patients receiving intervention care also had lower 2-year rates of ED visits (1445 visits/1000 patients vs. 1748 visits/1000 patients for usual care; $P = 0.03$). There were no significant differences between intervention and usual care groups for the 4 remaining SF-36 scales (physical functioning, role-physical, bodily pain, role-emotional), instrumental or basic ADLs, hospitalizations, or deaths. In subgroup analysis, a predefined group of intervention patients at high risk for hospitalization had significantly lower ED visit and hospitalization rates for year 2 (848 visits vs. 1314 visits for usual care; $P = 0.03$ and 396 vs. 705 for usual care; $P = 0.03$, respectively).

Conclusion. A protocol-driven, home-based care management intervention provided by an interdisciplinary team can improve some aspects of general health and reduce ED visit rates among low-income elderly patients. Hospitalizations were also reduced among patients at the highest risk for hospitalization. However, the intervention did not have detectable effects on physical function, hospitalizations, or mortality for the general population of low-income elderly patients.

Commentary

Home-dwelling, low-income geriatric patients carry heavy burdens of chronic disease, receive chronic care of suboptimal quality, and account for a disproportionate share of health care resource use [1,2]. Prior analyses have suggested that integrated case management interventions can improve clinical outcomes and have mixed effects on overall resource use for frail elderly patients in the community setting [3,4]. However, no randomized trial of a protocol-driven, home-based care management intervention for low-income geriatric patients had previously been conducted.

The current investigation by Counsell and colleagues describes the effects of a care management intervention on several health outcomes for low-income elderly patients. The Geriatric Resources for Assessment and Care of Elders (GRACE) intervention studied in this trial included multiple integrated components: initial in-home comprehensive geriatric assessments by dedicated advanced care nurses and social workers, development of individualized care plans for each patient by multidisciplinary primary care teams, activation of specific protocols (eg, advanced care planning, medication management), monthly telephone contacts or home visits, home visits after each ED visit or hospitalization, and an annual comprehensive home reassessment as well as additional patient contacts when indicated by the care plan or patient condition [5]. This array of services was associated with improvements in some aspects of health, reduced ED visit rates, and reduced hospitalizations (in a subgroup at highest risk for hospitalization); however, physical function and death were unaffected.

This study provides important information to planners

seeking to improve community-based primary care for low-income geriatric patients, but some important limitations should be noted. First, patients in the "usual care" arm received elements of primary care that may not be widely available (eg, physician house calls, geriatric clinical support including elements of the GRACE intervention). The availability of these services to the usual care group may have reduced the apparent effectiveness of the intervention. Second, the study did not specifically target patients with impaired physical function or ADLs, which reduces the power to detect effects on outcomes in these domains. Third, the 2-year trial duration may have been too short to detect important effects on chronic condition outcomes. Because the components comprising the intervention did not vary between patients in the intervention arm, it is impossible to differentiate the relative effectiveness of each component. Finally, the costs of the intervention were not assessed. Whether the apparent reduction in acute care resource use would offset these costs remains unknown.

Applications for Clinical Practice

A protocol-driven, home-based care management intervention working within an established primary care framework can improve nonphysical health outcomes for low-income geriatric patients and reduce their ED visit rates. Similar interventions should be considered for patients in this vulnerable demographic group, especially those who are at heightened risk of hospital admission.

—Review by Mark W. Friedberg, MD, MPP

References

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