Response

Randomized Controlled Trials Involving Multidisciplinary Interventions in the Community

Marco Pahor

Department of Aging and Geriatric Research, Institute on Aging, University of Florida, Gainesville.

This article is a follow-up to the discussion started in the April issue with Beland and colleagues’ article “A System of Integrated Care for Older Persons with Disabilities in Canada: Results From a Randomized Controlled Trial” (p. 367), complemented by the Reuben guest editorial (p. 365). The Editor invites short position articles that contribute to this same argumentation.

 LIFE expectancy in the United States has continued to rise and has recently hit an all-time high of 77.6 years (1). This positive trend in life expectancy has been accompanied by a reduction in the overall prevalence rate of disability in the past two decades (2). However, because the older population in the U.S. is growing rapidly (3), in the next 30 years, the absolute number of disabled persons is expected to almost double from 6.8 million to 12 million. In addition, major disparities exist and continue to grow among socioeconomic groups. The prevalence of disability in activities of daily living has decreased for the more advantaged groups, but it has increased among the lowest income and education groups (2). Furthermore, older Americans today in worse shape in some respects than Americans born a decade earlier. In the past decade alone, the prevalence of obesity in adults older than age 65 years has doubled, and this increase has been accompanied by a higher prevalence of sedentary lifestyle and traditional cardiovascular risk factors such as hypertension, dyslipidemia, and diabetes—all of which, if this increasing trend is not reversed, will result in increased morbidity, loss of independence, and higher mortality in these high-risk populations. The traditional health care models have proven unfit to effectively address these health challenges, and there is an emerging need to identify novel approaches to more effectively deliver health care to frail elders who have multiple risk factors and morbidities.

During the past two decades, several well-designed, randomized, controlled trials in older persons have shown that a variety of multidisciplinary interventions in the community and posthospital discharge are effective in improving morbidity, mortality, and disability, as well as reducing hospital and nursing home admissions (4–11). Such interventions include comprehensive geriatric assessment (CGA), case management, discharge planning, multidisciplinary outreach teams to implement or coordinate recommendations in the community, social care, and health education. When costs were assessed, the interventions have been shown to be either cost neutral (4) or cost saving (5,6,9), and cost effective (10) when outcomes were taken into account. Despite such strong evidence, CGA and case management are not widely implemented in practice, primarily because health care systems have not universally endorsed their value and have not established a reimbursement schedule for such services. While modifying clinical practice to implement evidence-based medicine is a challenging task, modifying health care reimbursement systems to provide the resources needed for such changes is even more difficult to achieve. The scientific community has the onus of providing strong and consistent evidence to convince policymakers that it may be time to restructure health care delivery to our seniors.

In the April issue of the Journal, Beland and colleagues report the results of a randomized controlled trial designed to assess the effectiveness of a community-based multidisciplinary intervention on the health care costs and health care utilization over 22 months in a large sample of community-dwelling older adults with disabilities (12). The intervention involved community multidisciplinary teams who delivered integrated care by providing community health and social services and who coordinated hospital and nursing home services. The control group received the usual care. The study found that, compared to the control, the intervention reduced the utilization of acute hospital and nursing home services and increased the utilization of home care services. The overall health care costs were similar in both groups, with lower institutional costs and higher community costs in the intervention group, and higher institutional costs and lower community costs in the control group. The authors report that there was no difference in health outcomes between the two groups, however, no results are shown in this regard.

The latter finding is in contrast with the results of most comparable studies in which multidisciplinary interventions have been shown to improve morbidity and disability, and in some studies mortality (4–11). The lack of any effects on outcomes found by Beland and colleagues is surprising, given that this is likely the largest study of its kind (1309
randomized participants) with the longest experimentation period (22 months). So, what went wrong? Probably the large number of participants lost to follow-up is the major weakness of this study. A total of 79 participants (6%) were lost before the intervention was started, and an additional 344 participants (26%) were lost during follow-up. Therefore, a total of 32% of randomized participants were not assessed for outcomes. The majority of these losses were due to mortality.

What are the lessons learned? First, the positive effects of community-based multidisciplinary interventions on patterns of health care utilization are consistent among very diverse countries, health care systems, and social environments (4–11). The study by Beland and colleagues extends this paradigm to the Montreal community in Canada. Second, the community-based multidisciplinary intervention may reduce hospital and nursing home utilization without increasing costs. However, information on health care utilization and costs without valid results on health outcomes provides only a partial view of the story. It is difficult to fully appreciate the real impact of findings regarding costs and health care utilization if outcomes are not taken into perspective. Third, rigorous planning of the study design is critical to minimize loss to follow-up, minimize bias, and ensure the highest quality of the data. For example, better targeted screening of the participants may have reduced the early losses that occurred before the initiation of the intervention, and a more frequent follow-up schedule (semiannual or quarterly versus annual) may have reduced the loss to follow-up due to mortality. In this high risk group of disabled elders, it is expected that a sizeable proportion of persons may die before the annual follow-up visit and, therefore, it would be important to capture relevant outcome data at earlier time points. Additional relevant design features to minimize bias and random variance include utilization of assessors that are masked to the group assignment (single-blind design), appropriate concealment of the randomization sequence, and utilization of standardized training and quality control procedures for the assessments.

In conclusion, the study by Beland and colleagues provides important results regarding the impact of multidisciplinary community case management on health care resources utilization and costs. It is critically important to appropriately design studies that have the capacity to assess effects of the interventions on clinically relevant outcomes. This would be the piece of the puzzle that, in addition to services allocation and costs, would be of paramount importance in persuading the policymakers to implement changes in allocation of health care resources toward systems that are better suited to meet the needs of the growing older population.

CORRESPONDENCE

Address correspondence to Marco Pahor, MD, Department of Aging and Geriatric Research, Institute on Aging, University of Florida College of Medicine, 1329 SW 16th St, Room 5263, P.O. Box 100107, Gainesville, FL 32610-1007. E-mail: mpahor@ufl.edu

REFERENCES