

Program of All-Inclusive Care (PACE): Past, Present, and Future

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From modest beginnings in 1973 to over 60 programs nationwide, the PACE concept has proven the value of integrated, interdisciplinary-based care for frail older adults. The evolution of PACE and its regulatory and reimbursement model have changed over time, but the principals of care have remained unchanged. Nationally PACE programs are dealing with some of the same challenges they had 30 years ago and yet PACE programs continue to expand and provide care to an ever wider distribution of populations. The looming issue of ever-growing health care expenditures represents another opportunity for PACE to demonstrate its value while providing a level of quality beyond what could normally be provided by typical Medicare and Medicaid payments for similar

conditions and patient characteristics. The future for PACE includes a number of possibilities including flexibility in financing and reimbursement, design changes to work with community-based physicians, potential eligibility adjustments, and growth of rural PACE. The PACE model has clearly demonstrated that in a debilitated, frail population in whom health care expenses would be expected to be high, a combination of team care, managed health care services, and care coordination can lead to both improved health outcomes and reduced expenses over time. (*J Am Med Dir Assoc* 2009; 10: 155–160)

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The population of older Americans is expected to increase from 35 million in 2000 to 69.4 million in 2030. The health care needs of this age group are disproportionately high, accounting for 40% of hospital stays and 49% of all days of care in hospitals in 1995. It is expected that more elderly will require long-term care assistance and services because of chronic illness or disabling conditions that limit their ability to perform basic activities.¹ Costs for long-term care are somewhat more difficult to estimate, but in 1995 approximately \$106.5 billion was spent on long-term care—57% from public resources. The largest part of public funds, 39%, came from Medicaid (21%) and Medicare (18%). Private insurance accounted for only 5.5% of the expenditures, with 1 of 3 of those dollars attributable to out-of-pocket expenses.² In 2005, national spending on long-term care totaled \$207 billion with most spending for nursing home care.³

Clearly, some action is and has been needed to address these alarming figures—action that is cost effective and yet protects quality of care. As a response to these economic concerns and

to address the desire of most people to age in place, the Program of All-inclusive Care for the Elderly (PACE) was first founded.

BACKGROUND AND HISTORY

PACE programs are comprehensive community-based care models for frail, chronically ill older adults whose significant functional and cognitive impairments make them nursing home eligible. The first PACE program had an auspicious start in the Chinatown section of San Francisco in 1971. Based on consultant work by Marie-Louise Ansak and a \$2000 federal grant, On-Lok was founded.⁴ The vision of the program was to develop an alternative to nursing home care in the Chinese community, where institutionalization was a culturally unacceptable option. As the name indicates, On Lok, Cantonese for “peaceful happy abode,” has become an epitome of care in San Francisco for elders seeking a level of independence and function in their own homes at the end of life, so PACE has become the epitome of quality care for elderly through the country.

The first On Lok Center offered adult day care with comprehensive medical services, rehabilitation services, respite, and social services. This model of adult day care quickly became successful because of the flexibility of the model to meet the needs of a wide variety of older adults. By 1979, the On Lok program was receiving Medicaid reimbursement for adult day health services, and was further funded by a 4-year Department of Health and Human Services demonstration grant to develop a consolidated model of delivering

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care to persons with long-term care needs, which also included home-delivered meals and housing assistance. Four years later, On Lok was considered a success, with cost of care for its participants 15% less than traditional fee-for-service care. On Lok was granted waivers from Medicare and Medicaid to test a new financing system that allowed them to provide full medical services for a fixed payment each month for every person in the program.⁵ Despite the assumption of full risk for cost coverage, the On Lok program continued to grow and remain financially solvent.

By 1986, the federal government enacted legislation for additional Medicaid and Medicare waivers to allow up to 10 organizations nationwide to apply to participate in the On Lok replication and expansion to other locations in the country. Soon after, the Robert Wood Johnson Foundation, the John A. Hartford Foundation, and the Retirement Research Foundation funded the On Lok site and technical support for 5 replication sites. The original 5 PACE sites were the Elder Service Plan of the East Boston Neighborhood Health Center; Providence ElderPlace in Portland, Oregon; Palmetto SeniorCare in Columbia, South Carolina; Community Care in Milwaukee, Wisconsin; and Total Long-Term Care in Denver, Colorado.⁶

The PACE concept of care continued to be so successful that legislation was passed in 1997 as part of the Balanced Budget Act recognizing PACE as a permanent provider type under both Medicare and Medicaid. In 2005, legislation was passed to create funding to expand PACE to rural markets. The Deficit Reduction Act of 2005 provided \$7.5 million to be awarded in competitive grants to 15 rural health care provider organizations to support development of PACE in rural America. Of those 15 awarded, 14 sites are now operational in rural areas from Vermont to Hawaii. They are the following:

- AllCARE for Seniors, Cedar Bluff, VA
- Billings Clinic, Billings, MT
- LIFE Geisinger, Kulpmont, PA
- LIFE Lutheran Services, Inc., Chambersburg, PA
- Maui PACE, Kahului, HI
- Mountain Empire PACE, Big Stone Gap, VA
- Northland PACE, Bismarck, ND
- PACE Vermont, Inc., Colchester, VT
- Piedmont Health SeniorCare, Carrboro, NC
- Senior CommUnity Care, Montrose, CO
- Siouxland PACE, Sioux City, IA
- The Methodist Oaks, Orangeburg, SC
- Total Life Health Care, Jonesboro, AR
- Total Senior Care, Inc., Olean, NY

PACE TODAY

PACE Programs

The population served by PACE includes impaired and frail elders who, while living at home, are nursing home eligible and likely to require on-going care. According to the National PACE Association, the philosophy of the PACE model is centered around the belief that it is better for the

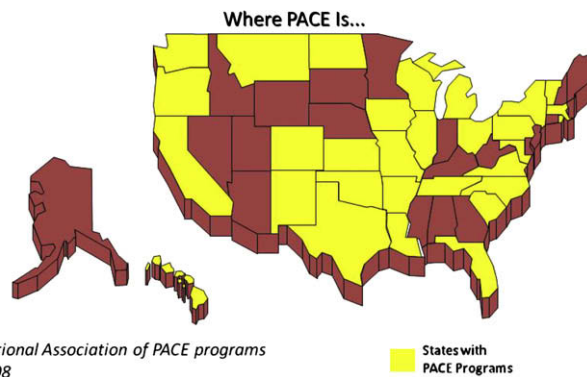


Fig 1. PACE care and services. Source: National PACE Association.

well-being of seniors with chronic care needs and their families to be served in the community whenever possible. Practice innovations in PACE include the use of an interdisciplinary team, consisting of many professionals, including physicians, nurse practitioners, social workers, nutritionists, and therapists, as well as health and transportation workers. This team collaborates for coordinated medical and social services across the acute and long-term settings, including priority access to primary care.⁷ Typical services provided in PACE programs are noted in Figure 1.

As of October 2008, 61 PACE programs were operational in 30 states and several in various phases of development.⁸

PACE Participants

The typical PACE participant is older than 80 years and has an average of 8 acute and chronic medical problems such as heart disease, respiratory disease, and diabetes and has 3.0 ADL (activities of daily living) dependencies such as walking, bathing, dressing, and toileting.⁹ To be eligible for PACE an individual must be 55 or older, certified by the state in which they reside as eligible for nursing home level

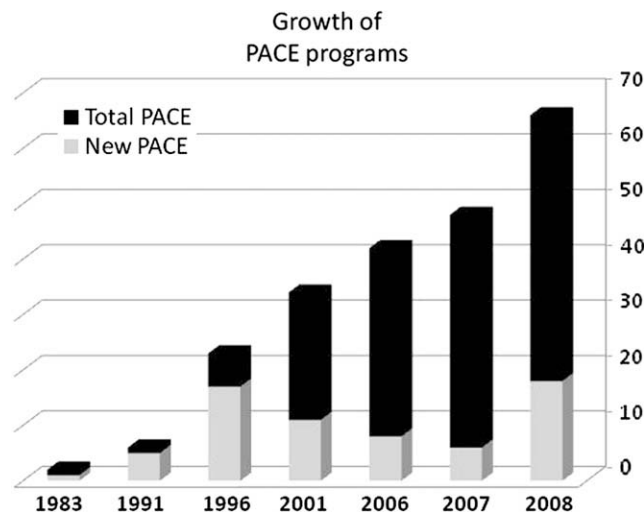


Fig 2. PACE programs. Over Time Source: National PACE Association.

of care, live in the PACE service area, and at the point of enrollment can be safely cared for in a community setting. The PACE program then becomes the sole source of services for Medicare- and Medicaid-eligible enrollees.

Why PACE Works

PACE is a very logical approach to health care, offering all Medicare and Medicaid services through a single point of delivery targeted to frail elderly with a host of chronic care needs. As a provider-based model of care, participants are at the center of the plan of care developed by an interdisciplinary team of health care providers. This model offers access to the full continuum of preventive, primary, acute, rehabilitative, and long-term care services. PACE programs take many familiar elements of the traditional health care system and reorganize them in a way that provides comprehensive care in a fiscally responsible manner for families, health care providers, government programs, and others that pay for care.

As the only current model of care that integrates Medicare and Medicaid funding at the point of care, PACE programs have the opportunity to truly integrate these funding streams in the most cost-effective way possible, unlike special needs plans and other managed care models that maintain “silos” between both funding and services. For families caring for an elderly individual needing long-term care services, the PACE model offers caregivers a program that assesses each participant and develops an individualized plan of care as well as the option to live in the community as long as possible while receiving one-stop shopping for all necessary health care services including medications.

For those who pay for care, PACE provides cost savings and predictable expenditures, a comprehensive service package emphasizing preventive care, and a model that allows numerous choices for older individuals focused on keeping them at home and out of institutional settings.

For health care providers, PACE offers a capitated funding arrangement that allows providers to be flexible and creative in providing care, the ability to coordinate care for individuals across settings and medical disciplines, as well as the ability to meet increasing consumer demands for individualized care and supportive services arrangements. Once persons are enrolled as PACE participants, their care and services are coordinated by the PACE Interdisciplinary Team (IDT) through a plan of care. The IDT establishes the plan of care at enrollment and reassessments are conducted at least twice a year (reassessments may occur more often based on changes in a participant’s health condition or anticipated needs). The plan of care is developed by the IDT based on the individual discipline-specific assessment of each IDT member.^{10,11}

Funding

Funding for PACE is based on capitated payments from Medicare and Medicaid.¹² Most enrollees in PACE are dually eligible, ie, have both Medicare and Medicaid, although many PACE programs would not exclude participants who were able to pay the monthly premium privately.

Medicare. The previous Medicare rate setting methodology used for all PACE sites was a modified version of the Adjusted Average per Capita Cost (AAPCC) methodology. Rather than using individual participant’s age, sex, welfare, and institutional status to adjust an average county payment rate, a single frailty adjuster of 2.39 was used for all PACE programs and beneficiaries enrolled in PACE. Transition to the Centers for Medicare and Medicaid Services (CMS)-Hierarchical Condition Categories risk adjustment model began in 2004 for PACE and was implemented fully in 2008. This methodology generates individual payment amounts for each program participant based on a combination of their demographic and diagnostic characteristics. Diagnostic data are drawn from prior year claims. In addition, for PACE enrollees who reside in the community, an additional adjustment is made to reflect the program enrollees’ average level of functional impairment.

Community-based frail, risk adjustment scores are based on both the current diagnosis and recent acute care use (diagnostic score) of each individual enrollee and the functional “plan” score (frailty score). The frailty adjuster, or plan score, is intended to account for Medicare expenditures that may not be accounted for in the diagnostic risk adjustment for individuals who are functionally dependent for activities of daily living. Each risk adjustment score (diagnostic and frailty) is added together to provide the total risk adjustment calculation for each individual enrollee. The plan score requires survey data to be collected from PACE enrollees via the Health Outcome Survey- Modified (HOS-M). Beginning in 2008, all PACE programs are paid under the risk adjustment methodology. If implemented as CMS has indicated, the changes result in an average reduction of the Medicare-capitated payment of approximately 17% to PACE programs.

Medicare Part D. In addition to frailty adjustment, Medicare and Medicaid reimbursement was significantly affected by Medicare Part D implementation in January 2006. Medicare Part D implementation shifts the payer source for the pharmacy benefit from Medicaid to Medicare. Although PACE by statutory requirement already provided a full drug benefit in its simplest form, CMS required all PACE programs to transition to Part D regulatory requirements except in certain areas that were waived by CMS as being duplicative of PACE’s current regulatory requirements. Currently, PACE programs function as the Prescription Drug Plan (PDP) for all PACE enrollees. As part of the PACE provider application process, a Medicare Part D premium bid proposal is developed and submitted annually to CMS for approval.

Medicaid. The Medicaid rate is determined by each state based on a mix of total costs between Medicaid expenditures for individuals residing in nursing homes and those in home- and community-based waiver programs. While rates have to be actuarially sound, they do not require actuarial certification as Medicaid Managed Care organizations do. The Medicaid rate directly determines the cost effectiveness of PACE compared with other long-term care options in the state. Based on data provided by the National PACE Association, the mean rate for dually eligible PACE participants is \$2968.76 per member per month (2007). Rates range from

\$4250 per member per month in New York City to \$1690 per member per month in Miami.

OUTCOMES

In general, PACE programs improve the quality of care and access to services based on need. Significant outcomes that are across all PACE programs include greater adult day health care use, lower skilled home health visits, fewer hospitalizations, fewer nursing home admissions, higher contact with primary care, longer survival rates, an increased number of days in the community, better health, better quality of life, greater satisfaction with overall care arrangements, and better functional status.^{13–18} The PACE enrollees with the most severely limiting conditions at baseline tend to experience the largest gains. For these individuals, gain is measured in maintaining rather than dramatically improving functional status. Some findings suggest that the very old (80 to 90 years), those living alone, those with ambulation aids, the cognitively disoriented, and those requiring assistance to perform instrumental ADLs (IADLs) may benefit more from a noninstitutional long-term care approach such as PACE.¹⁹

There are a number of other specific outcomes of interest tied to PACE programs. In a time of health disparities, black PACE participants were found to have a survival advantage over white patients a year after enrollment.²⁰ Acute hospital admissions tied to unmet ADL needs was reduced.²¹ PACE participants who lack an informal caregiver have not been found to be at higher risk for nursing home admission.²² There is no surprise then that PACE program participants are twice as likely to die at home.¹⁴

Even though most findings have been positive, there is a need to do better. There has been considerable variation, among the many PACE programs, in health outcomes, particularly for mortality, functional status change, and self-assessed health at 3 months. Additionally, there has been a correlation identified between patient outcome and the functioning of IDT care teams. This may indicate a need for more successful programs to serve as best practice models for others.^{16,23,24}

PACE: THE FUTURE

Why Is PACE So Hard To Do?

Thirty-five years after the humble beginnings of On Lok, the model still struggles with efforts to serve more of the nursing home–certifiable population nationally. Many have asked, why aren't there more PACE programs serving more elderly? Why is the model not in every state? Why aren't providers flocking to the table to pursue the concept?

There is no one answer to these questions but rather a host of reasons that vary dramatically by state and even the actual location of the PACE program. One factor that is the very nature of the model—PACE is not completely a health care provider or completely a health plan; it is a combination of both. The inter-relationship of these components is challenging for many health care providers who have neither the knowledge nor the expertise to develop or maintain the infrastructure required to operate what is essentially a very

small health plan. The back office tasks of claims processing, data submission requirements established by CMS for both Medicare Part A and B reimbursement, coupled with the Medicare Part D reporting requirements, have become a challenge to both operating sites and those under development. For PACE, increasing overhead costs to support these requirements results in fewer dollars available for patient care.

As with all health care providers, finding qualified staff is a greater challenge now than ever. In many PACE programs this is a particular challenge during the start-up process. Especially difficult is the primary care and executive leadership. Geriatricians are rare and although internal medicine and family practice resources may exist in a community, they are not necessarily willing to abandon their existing practice commitments to care for an exclusively frail population. Nor may they fully appreciate the change in practice style from a typical Medicare visit in a physician office to the more comprehensive role of primary care in PACE where the physician is key in managing primary care needs across multiple locations.

Other issues, such as the duplicity of regulatory oversight in many states, the lack of sufficient numbers of eligible enrollees in a market, the perception that PACE is only another day care program, and the challenge of having to change primary care physicians from the community to the PACE program, all represent barriers that may or may not be easily overcome. These issues coupled with the challenges Medicaid faces in every state in meeting the needs of an aging population all impact PACE viability and availability.

So years later, there is still a struggle to implement PACE as a service delivery model that addresses deficiencies in the health care system. Is there a role for PACE to care for people with chronic disease to manage care over a host of settings in a holistic way? Yes, emphatically, there is. The problems faced at local, state, and national levels cannot fix the issues of the health and long-term care delivery system if all it does is process claims with out making any true impact on the delivery of health care for this segment of the population.

The Future of PACE Programs

Speculation of the future of PACE programs provides a number of intriguing issues and directions. The first issue that must be addressed involves large-scale growth and development. PACE growth has consistently been less than expected. As has been indicated previously, there are a number of programmatic reasons that have contributed to this slow development. One of the greatest issues to be dealt with in the future involves financing and reimbursement. Expansion of PACE is currently difficult to the non-Medicaid population because of the high out-of-pocket costs, even when these costs are less than monthly nursing home costs.^{7,25,26} Long-term care insurance and the opening of this payment option to PACE program is beginning to be explored—even to the point where some companies have allowed PACE as an option. There are, however, several other proposals that may impact financing for long-term care and impact PACE. The CMS and several demonstration states have developed “Money Follows the Person” initiatives.

This program is a system of flexible financing for long-term services and supports that enables available funds to move with the individual to preferred settings, with the goal of adaptation to individual needs. This approach has 2 major components including a financial system that allows Medicaid funds budgeted for institutional services to be spent on home and community services (HBCS) when individuals move to the community and a nursing facility transition (NFT) program that identifies patients in institutions who wish to transition to the community and helps them do so.²⁷ Whether this legislation will increase interest in PACE or bolster competition remains to be seen.

Another future consideration for PACE may include an exploration of its design issues. PACE has had difficulty in enrollment because of the limited service choices for participants and the reliance on day care.^{25,26,28} Perhaps a future consideration to be explored is the use of community-based physicians. Some work in this area is already under way. The Wisconsin Partnership Program (WPP) compared a typical PACE site to one that allowed participants to continue with their community physicians. Early data indicated that the PACE comparison was more effective in controlling hospital and emergency room (ER) use than WPP, but more work is required.²⁹ It does appear that some PACE programs may be ready to explore this option including several of the rural PACE programs that are contracting with community physicians to provide primary care.³⁰ Perhaps the future involves a hybrid model that maintains the design elements that give the program its strength with liberalization of elements that some find difficult to embrace.

Rural PACE programs offer another opportunity for PACE growth. Although most PACE programs operate in urban settings, the need for coordinated, comprehensive, community-based care is just as great in rural America as it is in urban America. Efforts began in 2002 to provide technical assistance to health care provider organizations interested in developing a PACE program in rural communities.³¹ In 2006, as part of the Deficit Reduction Act of 2005, CMS provided \$7.5 million in competitive grants in 2006 for 15 rural health care provider organizations to support development of PACE across rural America. The nature of the rural environment has required adaptation in the PACE model. Critical issues that need to be addressed in Rural PACE include staffing issues, financing and risk management, developing the necessary infrastructure, and use of information technologies.³¹

Last, future growth for PACE may be tied to its service population. The commonalities in providing care for frail elders and young disabled participants is apparent. Should PACE sites consider extending their services to the young disabled—could PACE be a more attractive option for this population?

PACE programs have made tremendous progress from a very modest start in San Francisco to a nationwide presence in most states over the past 30 years. In addition, PACE is now extending its reach from predominately urban settings to rural as well. Controlling health care costs while maintaining or improving quality will continue to be at the forefront of both state and federal legislatures as expenses continue to rise. The PACE model has clearly demonstrated that in a debilitated, frail pop-

ulation in whom health care expenses would be expected to be high, a combination of team care, managed health care services, and care coordination can lead to both improved health outcomes and reduced expenses over time. Clearly, health care models like PACE, which allow health care to be organized and delivered in a novel but effective way while saving costs will be in higher demand in this new century.

REFERENCES

1. Rogers S, Komisar H. Who Needs Long-Term Care? Fact sheet. Washington, DC: Georgetown University, 2003.
2. Stone R. Long-Term Care for the Elderly with Disabilities: Current Policy, Emerging Trends, and Implications for the Twenty-First Century. New York: Milbank Memorial Fund, 2000.
3. Georgetown University Long-Term Care Financing Project Factsheet. National Spending for Long-Term Care. Washington, DC: Georgetown University, 2007.
4. Ansak M, Zawadzki R. On Lok CCODA: A consolidated model. *Home Health Care Serv Q* 1983;4:147–170.
5. Eng C, Pedulla J, Eleazer GP, McCann R, Fox N. Program of All-inclusive Care for the Elderly (PACE): An innovative model of integrated geriatric care and financing. *J Am Geriatr Soc* 1997;45:223–232.
6. Doste T. On Lok: replicating a capitated LTC program. *Hospitals* 1987; 5:112.
7. Trice L. PACE: A model for providing comprehensive healthcare for frail elders. *Generations* 2006;30:90–92.
8. National PACE Association. PACE and Pre-PACE Providers. Available at: www.npaonline.org. Accessed November 1, 2008.
9. Mukamel D, Temkin-Greener H, Clark M. Stability of disability among PACE enrollee: Financial and programmatic implications. *Health Care Financ Rev* 1998;19:83–100.
10. Eng C. The On Lok/PACE model of geriatric managed care: Interdisciplinary approach to care of frail elderly. *Current Concepts in Geriatric Managed Care* 1996;2:3–24.
11. Eng C. Multidisciplinary approach to medical care: the On Lok model. *Clinical Report on Aging* 1987;1(5):10–11.
12. Greenwood R. The PACE model. *Center for Medical Education Brief* 2001;2:1–7.
13. Weiland D, Lamb V, Wang H, Sutton S, et al. Hospitalization in the program of all-inclusive care for the elderly (PACE): Rates, concomitants, and predictors. *J Am Geriatr Soc* 2000;48:1373–1380.
14. Temkin-Greener H, Mukamel D. Predicting place of death in the program of all-inclusive care for the elderly (PACE): Participant versus program characteristics. *J Am Geriatr Soc* 2002;50:125–135.
15. Sands L, Yaffe K, Lui L. The effects of illness on ADL decline over one year in frail older adults with and without cognitive impairment. *J Gerontol A Biol Sci Med Sci* 2002;57:M449–454.
16. Mukamel D, Temkin-Greener H, Delavan R, Peterson DR, et al. Team Performance and risk adjusted health outcomes in the program of the all-inclusive care for the elderly (PACE). *Gerontologist* 2006;46: 227–237.
17. Grabowski DC. The cost-effectiveness of noninstitutional long-term care services: Review and synthesis of the most recent evidence. *Med Care Res Rev* 2006;63:3–28.
18. Friedman SM, Steinwachs DM, Rathouz PJ, Burton LC, et al. Characteristics predicting nursing home admission in the program of all-inclusive care for elderly people. *Gerontologist* 2005;45:157–166.
19. Branch LG, Coulam RF, Zimmerman YA. The PACE evaluation: Initial findings. *Gerontologist* 1995;35:349–359.
20. Tan EJ, Lui LY, Eng C, Jha AK, et al. Differences in mortality of black and white patients enrolled in the program of all-inclusive care for the elderly. *J Am Geriatr Soc* 2003;51:246–251.
21. Sands LP, Wang Y, McCabe GP, Jennings K, et al. Rates of acute care admissions for frail older people living with met versus unmet activity of daily living needs. *J Am Geriatr Soc* 2006;54:339–344.

22. Friedman SM, Steinwachs DM, Temkin-Greener H, Mukamel DB. Informal caregivers and the risk of nursing home admission among individuals enrolled in the program of all-inclusive care for the elderly. *Gerontologist* 2006;46:456–463.
23. Mukamel DB, Peterson DR, Bajorska A, Temkin-Greener H, et al. Variations in risk-adjusted outcomes in a managed acute/long-term care program for frail elderly individuals. *Int J Qual Health Care* 2004; 16:293–301.
24. Temkin-Greener H, Bajorska A, Mukamel DB. Variations in service use in the Program of All-Inclusive Care for the Elderly (PACE): Is more better? *J Gerontol A Biol Sci Med Sci* 2008;63:731–738.
25. Gross DL, Temkin-Greener H, Kunitz S, Mukamel DB. The growing pains of integrated health care for the elderly: Lessons from the expansion of PACE. *Milbank Q* 2004;82:257–282.
26. Bodenheimer T. Long-term care for frail elderly people—the On Lok model. *N Engl J Med* 1999;341:1324–1328.
27. Anderson W, Wiener J, O’Keefe J. Money follows the person initiatives of the systems change grantees. Final Report: U.S. Department of Health and Human Services, Centers for Medicare & Medicaid Services, 2006:1–18.
28. Kane RL, Homyak P, Bershady B, Flood S. Variations on a theme called PACE. *J Gerontol A Biol Sci Med Sci* 2006;61: 689–693.
29. Kane RL, Homyak P, Bershady B, Flood S. The effects of a variant of the program for all-inclusive care of the elderly on hospital utilization and outcomes. *J Am Geriatr Soc* 2006;54:276–283.
30. Reardon G, McNabney M, Bloom S, Eng C. Should programs of all-inclusive care for the elderly use community-based primary care physicians? *J Am Med Dir Assoc* 2008;9:275–278.
31. National PACE Association. Setting the PACE for Rural Elder Care: A Framework for Action, 2002. Available at: www.npaonline.org. Accessed November 1, 2008.