

Program of All-Inclusive Care for the Elderly (PACE): Providing Integrated Community Care for the Frail Elderly

Lori Moore, PhD

As the over age 65 population continues to grow in the U.S. the question becomes, how do we provide care to those who need it? Elders and their families prefer community based care because it allows seniors to age in place. The Program of All-Inclusive Care for the Elderly (PACE) provides community-based services for those who are eligible for nursing home care, 55 years or older, deemed to be able to live safely in the community, and who are living in a PACE service area (National Pace Association, 2013). PACE began in the 1970s in California and has since grown to serve eligible seniors in 31 states (National Pace Association, 2013). This paper summarizes what we know about PACE and the program's ability to provide quality care to elders wanting to remain the community.

Overview of PACE

In 1973 the Chinatown community of San Francisco, California, opened On Lok, the nation's first PACE adult day care center. The program was designed to provide social day care in the center and in-home care and meals to the frail elderly in the community (National PACE Association, 2013). On Lok primarily served the immigrant population in the area which consisted largely of Chinese Americans and their families. This population culturally valued community care and believed that nursing homes were unacceptable places for their loved ones to age (Greenwood, 2001). On Lok, therefore, provided a natural fit between the care that the elderly required and the cultural belief that care should be delivered in the home or in the community.

Today PACE operates 94 programs in 31 states, guided by the belief that "it is better for the well-being of seniors with chronic care needs and their families to be served in the community whenever possible" (National PACE Association, 2013). The typical PACE enrollee is 80 years old, has 7.9 medical conditions and is limited in about 3 activities of daily living and 49 percent have been diagnosed

with dementia, yet 90 percent of participants live in the community (National PACE Association, 2013). Interdisciplinary teams (ex: primary care physicians, nutritionists, nurses, and social workers) meet with the elder and their families to assess the services that are needed to provide comprehensive care that will allow the elder to remain in the community. These non-profit organizations primarily provide services (largely via contracts with providers) through adult day care centers. When, for example, an enrollee comes to the center, the elder might receive medication, counseling, dialysis, a hot meal and/or a flu shot. The elder is also encouraged to socialize with other enrollees and PACE staff, and so they might do things like play games or watch movies. Families of enrollees also receive services through the PACE program. These might include things like counseling or instruction for how to care for their loved one.

PACE accepts capitated payments (a specified amount paid periodically per person) as opposed to fee-for-service payments, and the burden of costs incurred above and beyond the capitated payments falls on PACE. Enrollees are assessed and a payment amount is determined. In 1997 the Balanced Budget Act made PACE a permanently recognized Medicaid and Medicare provider. Most PACE enrollees are dual eligible meaning that they qualify for Medicare and Medicaid. PACE receives one capitated payment periodically for these enrollees. PACE also accepts Medicare only beneficiaries who must pay the remainder of the capitated payment out of pocket and private pay individuals.

The next section reviews the research literature on PACE.

PACE Outcomes in Research Literature

In general, the research literature shows that PACE has been successful in meeting its primary goal of providing comprehensive care for frail elders in the community. The most common outcomes researchers examined were nursing home admissions, quality of care, hospital and ambulatory usage, mortality, quality of life and cost savings. The research literature also revealed a lack of consensus on the appropriate comparison group for PACE programs and enrollees. For example, some studies

compared PACE enrollees to Home Based Community Services (HBCS) recipients while others compared nursing home residents to PACE enrollees. Yet other studies compared outcomes between PACE programs. The following section summarizes these findings.

Remaining within the Community

The primary goal of PACE is to allow seniors to remain in their homes or communities despite having several medical conditions that make them nursing home eligible. This perspective is shared by the frail elderly and their families. Aging in an institution reduces freedom, choice, autonomy and flexibility (Kane et al., 1998). When asked about their preference between death and being placed in a nursing home, most frail elders said that they would rather die (Mui & Burnette, 1994). In another study, 50 to 70% of very ill patients said that they preferred to die at home, although only about 20% actually ended up do so (Temkin-Greener and Mukamel, 2002). If PACE is allowing frail elders to age in the community then the research literature should show, after enrollment, lower nursing home admissions and more deaths occurring in the community rather than in institutions.

The research findings on nursing home placements demonstrate PACE's ability to allow enrollees to remain in the community. One study that compared PACE enrollees and similar non-enrollees who received HBCS, found that PACE enrollees were less likely over time to be admitted to a nursing home for long term care (Chatterji et al., 1998). Another study that compared the Washington Partnership Program (a variation of the PACE program that allows enrollees to keep their pre-enrollment primary care physician) to fee-for-service Medicare and Medicaid HBCS found no significant differences in the risk of nursing home admission which indicates that WPP is just as effective as fee-for-service in keeping elders in the community (Kane et al., 2006). A study of Florida's PACE program found that a large percentage of participants were not married or partnered and that few had a primary caregiver, indicating that PACE helps participants remain in the community (Florida Department of Elder Affairs and the Agency for Health Care Administration, 2014). Most compelling was a study that found that

only 24 percent of PACE enrollees died in hospitals compared to 53 percent of Medicare beneficiaries. The study also found that PACE enrollees were almost twice as likely to die at home compared to Medicare beneficiaries (Tempkin-Greener & Mukamel, 2002). In sum, the evidence indicates that PACE lets elders remain in the community.

Quality of Care

PACE uses an integrated, coordinated model of care as opposed to the cafeteria style fee-for-service model of care. The services that are provided are determined by an interdisciplinary team in conjunction with the elder and their families. These services are delivered primarily in the adult day care center and also in the community or home. The PACE model could lead to better quality of care because it focuses on the holistic needs of the frail elderly (ex: social needs, not just medical) and it necessitates that the care providers are all aware of the treatments/services that each person is receiving. For example, one case study (Boult and Weiland, 2010) showed that a patient who was receiving fee-for-service care through Medicare and Medicaid had a number of chronic health problems including peripheral vascular disease that required the amputation of one of her legs. Although she was fitted with a prosthetic leg, she was not able to walk on it because it was so painful. After her enrollment in the PACE program, care professionals were able to take her off of a number of unnecessary medications, diagnosed her with depression and began managing it, gave her a proper fitting prosthetic, and managed her other health conditions. The patient began walking again, started volunteering at the PACE center and engaging in other social activities, and had no hospitalizations (among other positive outcomes). In sum, the integrated approach led to a better management of the patient's multiple health problems and social well-being.

Enrollees have favorable views of the quality of care that PACE provides. Compared to those who were PACE eligible but not enrolled, when asked, PACE enrollees reported higher satisfaction with the care they were receiving (Chatterji et al., 1998). In a comparison of PACE vs. non-PACE groups,

Athlery and colleagues (2004) found that PACE participants and their families were more satisfied with their interactions with healthcare providers, level of service, and decision making ability. Likewise a survey of PACE participants and their families found very high levels of satisfaction with the program on almost every measure of quality of care (ex: level of services, feeling safe and secure, being treated with respect, decision making, etc.; Mitchell, II, Polivka and Wang, 2008). PACE participants are also more likely to receive preventative care (ex: flu shots and health screenings) than those in HBCS (Beauchamp et al., 2008). The same study found that PACE participants had a 30 percent lower likelihood of hospitalization which could be attributed in part to their higher levels of preventative care (Beauchamp et al., 2008). PACE enrollees also report more contact with care providers (Kane et al., 2006), and little effort in obtaining care (Beauchamp et al., 2008). PACE participants did report some negative views on the quality of care that they were receiving, for example, being less satisfied with information about their conditions and a lack of concern for their input into their own care (Beauchamp et al., 2008). Overall, however, the research findings indicate that PACE is providing quality care.

Hospital and Emergency Room Visits and Nursing Home Admissions

Other important healthcare outcomes to consider when evaluating a program's ability to provide quality care for the frail elderly in the community are things like hospital or emergency room visits, and nursing home admissions. Not only are these outcomes costly, but they might indicate the inability for the program to provide adequate care. A recent multi state study, for example, found that dual eligibles who transitioned to HBCS after 90 days faced a greater risk of being hospitalized than those who remained in nursing homes (Wysocki et al., 2013). This finding implies that community care programs are ineffective in preventing costly hospitalizations. The following describes the findings in the research literature on PACE enrollment and hospital admissions, emergency room visits and nursing home admissions.

Studies that have compared PACE participants' hospital admissions, emergency room visits and nursing home admissions have found, for the most part, that PACE enrollees have better outcomes than other groups. One study that compared PACE participants to those receiving HBCS found that PACE participants had lower rates of nursing home utilization and lower rates of hospitalization (Chatterji et al., 1998). The same study, however, did find that the PACE group were more likely to have used ambulatory services (Chatterji et al., 1998). Another study that compared PACE enrollees to those receiving HBCS found that PACE enrollees were 30 percent less likely to be hospitalized (Beauchamp et al., 2008). In a similar comparison, PACE participants and those receiving HBCS were not significantly different in their hospital utilization, emergency room visits and their risk of entering a nursing home (Kane et al., 2006). A study that compared the PACE population to the fee-for-service Medicare population found that although the PACE group had higher levels of morbidity and disability, they had hospital bed day rates that were similar to the Medicare group (Weiland et al., 2000). A Florida study found that PACE participants' average length of stay in a hospital was 4.1 days compared to Aged & Disabled Adult Waiver and ALE Waiver participants' 6.48 days (Mitchell, II, Polivka, and Wang, 2008). The same study also found that nursing home utilization was lower among PACE participants (Mitchell, II, Polivka, and Wang, 2008). Finally, a study that examined those who had unmet Activities of Daily Living (ADLs) before PACE admission, found that hospitalization rates were high before PACE enrollment, after the first six weeks, but not after the first six weeks which could indicate that PACE reduced the risk of hospitalization by addressing unmet ADLs (Sands et al., 2006). In sum, in all but one finding of one study, PACE participants either had fewer or similar hospital admissions, emergency room visits and nursing home visits.

Mortality

The risk of mortality is high among frail elders, but with integrated, home and community based care, can that risk be mitigated? In the next paragraph, we describe the research literature that examined PACE enrollment and mortality.

Findings generally suggest that PACE participants have less of a risk of mortality or no more risk than other groups. A study that followed PACE participants and similar HBCS enrollees over time found that the risk of death for PACE participants declined over time (Chatterji et al., 1998). Using a similar comparison group, Foster and colleagues did not find a PACE advantage, but did, however, find that PACE enrollees and HBCS were not significantly different in their risk of mortality (2007). A study that compared PACE, HBCS and nursing home care found that PACE participants and nursing home residents had similar risks but that PACE participants had higher risks of mortality than those in HBCS care. However, once researchers controlled for PACE participants' higher risk (older age, more impairment and intermediate ADLs compared to the other two groups) , their survival, on average, was 4.2 years versus 3.5 for HBCS and 2.3 years for nursing home residents (Weiland et al., 2010). These studies show that PACE participants fair similarly or better in terms of mortality risk to their HBCS and nursing home counterparts.

Quality of Life and Mental Health

A goal of PACE is to provide comprehensive care which includes attention to the social aspects of care. The adult day care center provides entertainment, an opportunity to interact with other participants and with PACE staff and other social opportunities. Ideally the attention to the social life of the elder would lead to more contentment with life and less loneliness or depression. One study found that PACE participants reported a better quality of life than their HBCS counterparts and regular attendance at social functions (Chatterji et al., 1998). Another study found that PACE participants were less likely to feel depressed after enrollment (although the effect declined over time) and later to

experience a decline in feeling worried (Beauchamp et al., 2008). These findings shed some light on how PACE's inclusion of social activities can improve participants' quality of life.

Cost

Although cost savings is not an explicit goal of PACE (recall that the primary goal is to provide care to frail elders that will allow them to remain in the community for as long as possible and that PACE is run by non-profit organizations), it is worth a discussion given the for-profit climate surrounding healthcare. Findings from studies examining the cost of PACE programs relative to other programs are discussed below.

Some research finds mixed results when analyzing the cost savings of PACE. In a study of 11 PACE programs, White and colleagues (2000) found that PACE participants and PACE applicants who ultimately received care in another setting had similar estimates for combined Medicare and Medicaid capitation payments. However, when the researchers examined the Medicare capitation payments and the Medicaid capitation payments separately, they found that the PACE group's *Medicare* payments were lower, but that the PACE group's *Medicaid* payments were higher (White et al., 2000). White and colleagues caution that their study should not be used to evaluate the cost effectiveness of PACE because: 1) they did not take into consideration when calculating estimated payments how much was saved by avoiding hospitalization, nursing homes, etc. and 2) that the margin of error was very large which reduces confidence in their results (White et al., 2000). A Washington state study, when comparing the per member per month expenses of PACE participants and those receiving HCBS, found that in the first follow-up year, PACE participants had a per member per month expense that was \$1,442 higher. The researchers found that this gap declined over time. The same study also found that PACE participants' expenses and nursing home residents' expenses were similar (Mancuso et al., 2005). Foster and colleagues (2007) compared estimated Medicare and Medicaid expenditures for PACE enrollees and non-enrollees who were in PACE market areas using quasi-experimental methods to

obtain similar samples. They found that while monthly Medicare expenditures for their PACE sample were similar to their non-PACE sample, that Medicaid expenditures for PACE were higher than non-PACE enrollees (although this difference declined over time; Foster et al., 2007). A comparison of Florida’s PACE program to the Statewide Medicaid Managed Care Long-term Care Program (SMMC LTC) found that the Medicaid cost to serve PACE participants in the SMMC LTC in three regions would be slightly lower than if participants remained in PACE (Florida Department of Elder Affairs and Agency for Health Care Administration, 2014). The study attributed the decreased costs to an increase in enrollment (PACE participants moving to the SMMC LTC) and thus, a decrease in rates. Table 1 below shows the monthly SMMC LTC rates before and after adding PACE enrollees:

Table 1: Monthly SMMC LTC Rates Before and After Adding PACE Enrollees

Region	Latest SMMC LTC Monthly Blended Rate	New Blended Rate With PACE Enrollees Included	Rate Change
5	\$3,687	\$3,663	-\$24
8	\$3,921	\$3,834	-\$86
11	\$2,487	\$2,465	-\$22

Source: SMMC LTC Blended Rate: AHCA

Finally, a 2008 report prepared for Florida Medicaid found that compared to long-term nursing home care, PACE saved Medicaid over \$26,000 per year (Mitchell, II, Polivka, and Wang). The same study compared PACE to HCBS waivers and found that PACE was less cost effective in the first year, a finding that the researchers attributed to the wider range of services that PACE offers (Mitchell, II, Polivka, and Wang, 2008).

Other research suggests that PACE provides quality care for frail elders for less. Two state assessments, one in Tennessee and the other in Texas, found that PACE provides significant cost savings (Damons, 2001; Rylander, 2000). Another study (White, 1998) compared PACE participants to PACE enrollees who ended up in fee-for-service care and found that (net of demographics, pre-Medicare reimbursements, medical conditions, and functional abilities) the PACE group had lower projected

Medicare capitation rates. A more recent, peer-reviewed study predicted that PACE participants' Medicaid capitated payment was 28 percent lower than comparable Medicaid fee-for-service participants' costs in South Carolina, net of sociodemographics, ADLs, disability, etc. (Weiland et al., 2013). These studies suggest that PACE could provide care at a lower cost than fee-for-service plans.

Comparing Outcomes between PACE Programs

The research described in the previous sections compared PACE participants to non-pace participants. This section describes findings from studies that examine one PACE program or studies that compared PACE participants to PACE participants. The latter comparison allows researchers to identify variations between PACE programs and evaluate their effects on participants. The following summarizes both types of studies.

Studies that have looked at participants in one PACE site have examined admission to the program. Often elders have some type of event (e.g., a fall and subsequent threat of long term nursing home placement) before PACE placement (Beeber, 2008). Using qualitative methods, one study showed that PACE enrollment often takes too long for families who need to obtain immediate placement for their frail elder (Cheh and Foster, 2008). Another barrier to PACE admission was a lack of knowledge about the program. Most enrollees and their families in one study found out about PACE through friends or other persons who just happened to know about the program (Beeber, 2008).

Other studies have examined outcomes between PACE programs and have identified factors that make the different programs successful. One study compared the Washington Partnership Program, which differs from traditional PACE in that it allows the retention of enrollees' current primary care physicians, to PACE. The study found that PACE participants had fewer emergency room visits, preventable and other hospital admissions and days spent in the hospital (Kane et al. 2006). Another study looked at the functional status of participants in 29 PACE programs and found that greater use of the day center is associated with greater use of restorative care, that programs that are more reliant on

care given in the day centers experiences less hospitalizations, and that programs using a higher intensity of hospital care had worse participant functioning (Temkin-Greener et al., 2008). Mukamel and colleagues (2007) examined a number of outcomes in their study of 23 PACE programs. Similar to one of the findings of the study just described, they found that higher use of hospital care was associated with poor patient functioning. They also found that in programs where there were trained geriatrician medical directors and in programs with a large aide staff (but not professional staff) that were ethnically similar to residents, that participants had better functioning. Diversity was also important in self-assessed health-- participants in programs that had a more ethnically diverse and larger staff reported better self-assessed health. PACE enrollees who were living alone had the worst self-assessed health. In terms of mortality, programs that had more professionals than nonprofessionals fared better as did programs that had a higher concentration of services (Mukamel et al., 2007). Another study that examined disenrollment rates from 30 PACE programs found that there was no selective disenrollment (as is suspected sometimes in other types of managed care) of those who were older, cognitively or functionally impaired, those who were Medicaid eligible or who had unfavorable health diagnoses. Disenrollment was found more frequently for Hispanics, those who assessed their health as being poor, and those with behavioral problems. The study found, however, that the greatest risk for disenrollment from PACE was private pay, which is an important finding given current discussions about targeting private pay individuals for PACE enrollment (Temkin-Greener et al., 2006). Finally, one study suggests that the association between race, access to healthcare and risk of mortality can be reduced. The study found that although black PACE enrollees were more disabled than their white counterparts, their risk of mortality one year after enrollment declined to match that of whites', which indicates that PACE increased access to care for this group (Tan et al., 2003).

In sum, researchers have examined one site or compared PACE programs to other PACE programs. These studies provide clues as to what currently works and what programs might improve upon in the future.

Discussion

The research on PACE shows that it provides quality care to frail elders in the community. To date, PACE operates 94 programs in 31 states, serving approximately 28,442 participants (National PACE Association, 2013). Given its effectiveness, the focus should be on expanding enrollment and access for those frail elders who wish to receive care in their homes or in the community. Expanding enrollment would help alleviate a problem that tends to plague capitated payment structures—balancing high cost needs enrollees with low cost needs enrollees. Although expanding enrollment into the PACE program would help to sustain the program itself and help provide to provide quality care in the community for our most vulnerable elderly, there are some substantial barriers to expansion.

Public knowledge about PACE and the time that it takes to enroll people in the program are two barriers. Our review of the literature revealed that enrollment is typically followed by an acute event (for example, a fall) and families have a limited time span to figure out which care would be best for their loved one. If the enrollment process for PACE is longer than that of nursing homes, then families will naturally opt for nursing home care. Given that PACE is operated as a non-profit organization, there may be little capital for advertising and raising public awareness about the program as an option.

Other barriers to PACE expansion include geographical location and, perhaps, the requirement to give up one's own primary care physician. Frail elders, who often live in rural locals, might find it difficult to travel the many miles that it would take to get to the adult day care center several times per week (Gross et al., 2004). PACE expansion should take this into consideration and begin opening centers in rural locations. Some might also find the requirement to use PACE's physician as their primary physician a reason for not participating in the program (Gross et al., 2004). States are developing

modified PACE programs that don't require elders to give up their primary care physician. One example is the Washington Partnership Program which is similar to traditional PACE programs in every way except that they allow participants to retain their physician. As mentioned earlier, one study (Kane et al., 2006) compared the Washington Partnership Program to PACE and found that the PACE program had fewer hospitalizations, hospital days, preventable hospitalizations, emergency room visits, etc. If PACE, which requires the use of their primary care physician, outperforms a program that does allow participants to retain their own physician on health indicators, then it would be important to inform potential enrollees about this finding and perhaps conduct interviews to find out if there are other concerns associated with giving up their primary care physician.

Out of pocket cost to private payers or Medicare only beneficiaries is another barrier to PACE expansion. Dual eligibles make up most of the PACE population. As we noted in our literature review, private pay individuals were the most likely of any group to disenroll in the PACE program. Medicare only beneficiaries may have to spend down their assets before they become eligible for Medicaid. The Affordable Care Act (ACA) may help middle class elders enroll in PACE. Under the ACA is an optional long term care insurance plan called the "Community Living Assistance for Services and Supports Plan." This plan could be used to pay for community care, including PACE (Bloom et al., 2011) and increase enrollment.

In sum, these barriers will need to be addressed if PACE programs are to increase their enrollment which should be a goal of policy makers. PACE allows the most vulnerable in our society, the low-income frail elderly to avoid nursing home institutionalization. It enables people to receive quality care while they live where they want to live and die where they want to die. PACE alleviates participants' family caregivers who struggle to manage multiple roles. In a long term care market driven by profit making perhaps we sometimes forget the real goals of long term care- to provide elders with healthcare while maintaining their dignity, autonomy and freedom for as long as possible. We believe

that PACE accomplishes these goals in a relatively cost effective manner. We still need more extensive evaluative research, however, before we definitively conclude that PACE is more cost effective than other forms of integrated, person-centered care for the frail elderly.

Conclusion

The goal of this paper was to provide a summary of the research findings on PACE, a program designed to provide comprehensive care for the frail elderly which will allow them to remain in their homes and communities for as long as possible. Our review of the literature indicates that PACE is living up to its goal. We examined a number of studies and outcomes including elders' ability to remain in the community, quality of care, hospital and emergency room visits, nursing home admissions, mortality, quality of life, and cost. The literature showed that on almost every measure, PACE outperformed other models of care.

We offer several suggestions for future research. Although taken together, the body of research on PACE outcomes tends to be consistent, we would like to see more consensus about exactly what is the appropriate comparison group for PACE participants. For example, is it appropriate to compare PACE to nursing home residents because PACE participants are nursing home eligible? Or is it more appropriate to use quasi-experimental methodology to select a sample that matches most of the PACE population? Can we compare the Medicare eligible population to the dual eligible population, given that the Medicare populations' assets are too great to qualify for Medicaid? Are we able to compare PACE outcomes across states (particularly with regard to cost) given that states have different Medicaid funding formulas? Although these are methodological questions that we would like to see addressed in the future, we do not think that this critique undermines the findings of the body of research because findings were consistent across studies and methodologies.

Another suggestion for future research would be to begin untangling the factors that make PACE successful in providing care in the community to frail elders. Is it the specific services that are provided

to elders (ex: social activities) that lead to a specific outcome (ex: improvement in quality of life) or is it the holistic nature of services that PACE provides that leads to the positive outcomes we saw in the literature? This question is important in that if it is the former, then perhaps the factors that improve outcomes in PACE could be applied to other types of care (ex: Medicare could allow a waiver for social activities or functioning). If the latter is true then, perhaps, more long term care plans should be managed/coordinated care plans. In other words, there is no reason to think that what works with the PACE population cannot be applied to other long term care populations.

A final suggestion is to examine the role of PACE in alleviating the burden of caregiving on families. Caregivers tend to be women who are often juggling a full-time job and child care responsibilities as well as elder caregiving responsibilities. This can lead to stress and role overload which in turn could make institutionalization of their loved one in a nursing home an attractive option (Hansen 2008). This is perhaps even more salient for lower-income families. As mentioned earlier, this last resort option goes against the wishes of the frail elderly who would prefer to stay in the community. Researchers could examine how PACE lessens the burden of caregiving on the family, given that unlike other long term care, PACE provides support not just for the elder, but their family caregiver as well (see Hansen 2008 for a discussion).

REFERENCES

- Atherly, Adam, Robert L. Kane, and Maureen A. Smith. 2004. "Older Adults' Satisfaction with Integrated Capitated Health and Long-Term Care." *The Gerontologist*. 44:3. 348-357.
- Beauchamp, Jody, Valerie Cheh, Robert Schmitz, Peter Kemper, John Hall. 2008. "The Effect of the Program of All-Inclusive Care for the Elderly (PACE) on Quality." Mathematica Policy Research, Inc. Princeton, NJ.
- Beeber, Anna Song. 2008. "Luck and Happenstance: How Older Adults Enroll in a Program of All-Inclusive Care for the Elderly." *Professional Case Management*. 13:5, 277-283.
- Bloom, Shawn, Brenda Sulick and Jennie Chin Hansen. 2011. "Picking up the PACE: The Affordable Care Act Can Grow and Expand a Proven Model of Care." *Journal of the American Society on Aging*. 35:1, 53-55.
- Boult, Chad and G. Darryl Weiland. 2010. "Comprehensive Primary Care for Older Patients with Multiple Chronic Conditions." *Journal of the American Medical Association*. 304:17.
- Chatterji P, Burstein NR, Kidder D, White AJ. *The Impact of PACE on Participant Outcomes*. Cambridge, Mass: Abt Associates, 1998.
- Cheh, Valerie and Leslie Foster. 2008. "The Transition to Permanent PACE." Mathematica Policy Research, Inc.
- Damons, Joanna. 2001. "Program of All-Inclusive Care for the Elderly (PACE) Year 2 Overview." Bureau of TennCare.
- Florida Department of Elder Affairs and the Agency for Health Care Administration. 2014. "Program of All-Inclusive Care for the Elderly & Statewide Medicaid Managed Care Long-Term Care Program Comparison Report."
- Foster, Leslie, Robert Schmitz and Peter Kemper. 2007. "The Effects of PACE on Medicare and Medicaid Expenditures." Mathematica Policy Research, Inc.
- Greenwood, Robert. "The PACE Model," Center for Medicare Education Issue Brief Vol. 2, No. 10, 2001.
- 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". *The Milbank Quarterly*. 2004; 82(2): 257-82.
- Hansen, Jennie Chin. 2008. "Community and In-Home Models." *Journal of Social Work Education*, 44:3, 83-87.
- Kane, Robert L., Patricia Homyak, Boris Bershadsky, and Shannon Flood. 2006. "Variations on a Theme Called PACE." *Journal of Gerontology*. 61A, 7, 689-693.

Kane, Robert L., Patricia Homyak, Boris Bershadsky, and Shannon Flood. 2006. "The Effects of a Variant of the Program for All-inclusive Care of the Elderly on Hospital Utilization and Outcomes." *Journal of the American Geriatric Society*. 54: 276-283.

Kane, R. A., Kane, R. L. & Ladd, R. C. (1998). *The Heart of Long-Term Care*. New York: Oxford University Press.

Mancuso, David, Greg Yamashiro, and Barbara Felver. 2005. "PACE: An Evaluation." Department of Social and Health Services. Olympia, WA.

Mitchell, Glenn E. II, Larry Polivka, and Su Wang. 2008. "Florida Program of All-Inclusive Care for the Elderly (PACE): A Preliminary Evaluation. Prepared for Florida Medicaid.

Mui, A. C., & Burnette, D. 1994. "Long-term Care Service Use by Frail Elders: Is Ethnicity a Factor? *The Gerontologist*. 34:2. 190-198.

Mukamel, Dana B., Derick Peterson, Helena Temkin-Greener, Rachel Delavan, Diane Gross, Stephen J. Kunitz, and T. Franklin Williams. 2007. "Program Characteristics and Enrollees' Outcomes in the Program of All-Inclusive Care for the Elderly (PACE). *The Milbank Quarterly*, 85:3. 499-531.

National PACE Association.

<http://www.npaonline.org/website/article.asp?id=12&title=Who, What and Where is PACE?>
Accessed 10/2013.

Rylander, Carole Keeton. 2000. "Recommendations of the Texas Comptroller: Chapter 8: Health and Human Services "Expand the Use of an Effective Long-term Care Program." Texas.

Sands, Laura P., Yun Wang, George P. McCabe, Kristofer Jennings, Catherine Eng, and Kenneth E. Covinsky. (2006). "Rates of Acute Care Admissions for Frail Older People Living with Met Versus Unmet Activity of Daily Living Needs." *Journal of the American Geriatrics Society*. 54, 2. 339-344.

Tan EJ, Lui LY, Eng C, Jha AK, Covinsky KE. Differences in mortality of black and white patients enrolled in the program of all-inclusive care for the elderly. *J Am Geriatr Soc*. 2003 Feb; 51(2):246-51.

Temkin-Greener H., and Mukamel D.B. 2002. "Predicting Place of Death in the Program of All-Inclusive Care for the Elderly (PACE): Participant versus Program Characteristics." *Journal of the American Geriatrics Society*. 50: 125-135.

Temkin-Greener H, Bajorska A, Mukamel DB. "Disenrollment from an acute/long-term managed care program (PACE)". *Medical Care*. 2006; 44(1): 31-8.

Temkin-Greener H, Bajorska A, Mukamel DB. "Variations in Service Use in the Program of All-Inclusive Care for the Elderly (PACE)". *Journals of Gerontology: Medical Sciences*. 2008; 63A(7): 731-738.

Weiland, Darryl, Vicki L. Lamb, Shae R. Sutton, Rebecca Boland, Marleen Clark, and Susan Friedman. 2000. "Hospitalization in the Program of All-Inclusive Care for the Elderly (PACE): Rates, Concomitants, and Predictors. *Journal of the American Geriatrics Society*. 48, 11.

Weiland, Darryl, Rebecca Boland, Judith Baskins, and Bruce Kinoshian. 2010. "Five-year Survival in a Program of All-Inclusive Care for Elderly Compared with Alternative Institutional and Home- and Community-Based Care." *Journal of Gerontology*. 65, 7. 721-726.

Weiland, Darryl, Bruce Kinoshian, Eric Stallard, and Rebecca Boland. 2013. "Does Medicaid Pay More to a Program of All-Inclusive Care for the Elderly (PACE) Than for Fee-for-Service Long-term Care?" *Journal of Gerontology*. 68:1. 47-55.

White, Alan J. 1998. "Evaluation of the Program of All-Inclusive Care for the Elderly (PACE) Demonstration. The Effect of PACE on Costs to Medicare: A Comparison of Medicare Capitation Rates to Projected Costs in the Absence of PACE." Health Care Financing Administration. Baltimore, MD.

White, Alan J., Yvonne Abel, and David Kidder. 2000. "Evaluation of the Program of All-Inclusive Care for the Elderly Demonstration: A Comparison of the PACE Capitation Rates to Projected Costs in the First year of Enrollment." Abt Associates, Inc. Prepared for Health Care Financing Administration. Baltimore, MD.

Wysocki, Andrea, Robert L. Kane, Bryan Dowd, Ezra Golberstein, Terry Lum, and Tetyana Shippee. 2013. "Hospitalization of Elderly Medicaid Long-Term Care Users Who Transition from Nursing Homes." *Journal of the American Geriatric Society*. 61:12. 2065-2270.