

RESEARCH HIGHLIGHTS IN THE DEMOGRAPHY AND ECONOMICS OF AGING

NO. 13

MAY 2013

HELPING AMERICANS AGE IN PLACE

Older Americans today are living longer and functioning at a higher level than they were in 1965 when Congress passed the Older Americans Act (OAA). The law was designed to address a lack of community-based social services for older people and to enable older people to live as independently as possible (see Box 1).

The approach of the 50th anniversary of the OAA is an appropriate time to review some recent research on topics relevant to OAA services. Research centers focused on the demography and economics of aging and supported by the National Institute on Aging (NIA) are an important mechanism for carrying out such research. This brief draws on findings from researchers affiliated with these centers as well as other related research on the health, economic circumstances, and social well-being of older Americans that might inform OAA community programs in the following areas:

- Disability
- Elder abuse
- Caregiving
- Long-term care
- Cognitive impairment
- Civic engagement

This publication provides a sample of key research on these topics and highlights implications for better understanding the aging process, shaping effective interventions, and improving quality of life.

Tracking Disability Trends, Maximizing Independence

The level of disability among older Americans declined steadily between the mid-1980s and 1999. This decline—hailed as one of the most significant advances in the health and well-being of Americans in the past 25 years—reflects both decreases in the incidence of disability and increases in the chance of recovery from a disabling condition, according to Eileen Crimmins and her colleagues.¹

But that trend has leveled off since 2000, and new patterns have emerged by age group. While disability among the oldest Americans (ages 85+) continued to decline between 2000 and

BOX 1 The Older Americans Act

The Older Americans Act (OAA) established the National Aging Network, which is made up of more than 20,000 local service providers overseen by the Administration on Aging on the federal level (now part of the Administration for Community Living), State Units on Aging at the state level, and Area Agencies on Aging and tribal organizations at the community level. The OAA legislation continues to set policy for and direct funds to social service and nutrition programs, elder rights protection, and disease prevention and health promotion activities for older people and their caregivers.

2008, disability trends have held steady among the elderly (ages 65 to 84) and have increased for those approaching late life (ages 55 to 64), reported Vicki Freedman and her colleagues.² These findings are based on an analysis that synthesizes the results of five independent national surveys of more than 40,000 Americans and represents the most comprehensive evaluation to date of how independently older Americans are able to carry out daily living tasks.

Among the limitations assessed in the analysis were everyday tasks crucial to independence, such as shopping, preparing meals, managing money, making phone calls, bathing, dressing, and walking. The researchers note that the disability level among the preretirement age group was still low compared to that of older Americans, but it was a full percentage point higher-5 percent instead of 4 percentthan it had been for people of that same age 10 years before. The 1-percent increase represents about 365,000 more people who are having difficulty or who are unable to perform basic personal care and activities central to living independently. Increased disability could have far-reaching negative consequences, such as sharply increasing the need for long-term care. These patterns underscore the need for early intervention to prevent and treat potentially disabling chronic diseases and injuries.

Health conditions related to rising rates of obesity appear to contribute to disability trends. Linda Martin and Robert Schoeni identified a statistical link between trends in obesity and trends in disability and mobility-related difficulties among middle-age Americans (ages 40 to 64) between 1997 and 2010.³ They also documented a rise in mobilityrelated difficulties (such as kneeling, standing for two hours, walking one-quarter mile, or climbing 10 steps without resting) among those ages 65 and older. The top 10 causes of physical limitations named by both age groups included arthritis, rheumatism, back and neck problems, and diabetes, suggesting a link to obesity-related conditions.

Martin and Schoeni pointed out that the rise in disability also could reflect that improved medical care has extended the lives of people whose disabilities began early in life and who might not have survived to age 50 in earlier decades. Indeed, about 10 percent of Medicare enrollees ages 65 and older experienced the onset of their mobility or self-care limitations before they reached age 65 or began receiving Medicare earlier in life because of their disabilities, according to preliminary estimates by Brenda Spillman from the National Health and Aging Trends Study (NHATS).⁴ This NIAsupported study is following more than 8,000 older Medicare enrollees annually to track disability levels and to assess how older people adapt to changes in functioning. Participants who developed disabilities before age 65 (referred to as those "aging with a disability") were more likely than those who developed disabilities in later life to be male, black or Hispanic, and to have low socioeconomic status. Those aging with a disability were also more likely to rely on other people for help with daily activities and to report adverse consequences (such as skipping meals or falling), reflecting their unmet need for assistance.

Among U.S. adults ages 65 and older living outside of institutions, more than one in four report having difficulty with at least one daily activity and receiving no assistance, according to the nationally representative Health and Retirement Study.⁵ Specifically, 20 percent have difficulty with personal care activities (such as bathing, dressing, eating, or getting in and out of bed) and 16 percent have difficulty with household tasks (preparing meals, shopping, managing money, or using a telephone). The share of older Americans who experience such difficulties increases with age (see Figure 1). Those performing daily activities with difficulty could benefit from accommodations in order to continue living independently. For example, home modifications or the use of assistive devices such as grab bars in the shower may allow individuals to continue to live alone or to remain in a noninstitutional setting. Social services such as home-delivered meals can also make a difference in whether or not someone can continue living in the community.

Disabilities tend to be more prevalent among elderly in socioeconomically disadvantaged and minority groups than others. While research suggests that lifestyle-related diseases,

biological risk factors, and access to and use of medical care may largely explain these differences, the quality of the physical environment also plays a role. The condition of neighborhood streets and sidewalks can make a big difference in the mobility of adults who have difficulty walking, according to Philippa Clarke and colleagues.⁶ Adults with severe impairments were four times more likely to report a mobility disability if they lived in neighborhoods with numerous cracks, potholes, or broken curbs in streets and sidewalks. The researchers suggest that if street quality could be improved, adults at greatest risk for disability could remain mobile and function independently for a longer period of time.

Less-advantaged groups also often live in poorer-quality older housing and face more environmental obstacles, while more advantaged groups are more likely to live in settings conducive to mobility (such as retirement communities with wide hallways and accessible bathrooms), reported Freedman and colleagues.⁷ They found disparities in the use of assistive technology and devices (walkers, scooters) and environmental changes (grab bars, bath seats, or ramps)

FIGURE 1

PERCENT OF U.S. OLDER ADULTS REPORTING DIFFICULTY PERFORMING ANY DAILY ACTIVITY INDEPENDENTLY, RECEIVING NO ASSISTANCE, 2008



Note: Personal care activities include bathing, dressing, eating, using the toilet, walking from room to room indoors, or getting in and out of bed. Household tasks include preparing meals, shopping, managing money, or using a telephone. Does not include respondents who reported that they were unable to perform an activity or who received assistance.

Source: Health and Retirement Study.

that allow people to function independently. Use of assistive technology is more widespread among non-Hispanic whites and those with higher incomes and education levels. Minorities and those with lower socioeconomic levels were more likely to rely on someone else for help. The researchers suggest that public information campaigns and increased access could increase minority and low-income groups' use of assistive technology, narrowing this gap.

Preventing Elder Mistreatment and Financial Fraud

Understanding the nature and scope of elder abuse is a necessary first step in preventing victimization. Two nationally representative surveys suggest that more than one in 10 older Americans living outside of institutions are mistreated in some way, most commonly by someone who neglects, verbally abuses, or takes financial advantage of them.

Edward Laumann, Sara Leitsch, and Linda Waite analyzed results of the NIA-supported National Social Life, Health, and Aging Project (NSHAP) to provide the first nationally representative estimates of the prevalence of abuse among older adults (ages 57 to 85) living outside of nursing homes and other institutions.⁸ They found that 9 percent of adults reported verbal mistreatment, 3.5 percent reported financial mistreatment, and 0.2 percent reported physical mistreatment.

Using a different study design and somewhat different categories of abuse, Ron Acierno and colleagues found similar overall levels of abuse, but lower total levels of emotional abuse (4.6 percent) and higher levels of both financial exploitation (5.2 percent) and physical abuse (1.6 percent).⁹ This nationally representative survey of adults ages 60 and older also examined the prevalence of potential neglect (5.1 percent), defined as an unaddressed need (such as help obtaining food and medicine).

For More Information

Disability TRENDS Network: Supported by the NIA, this research group is working to accelerate scientific understanding of old-age disability and health trends through cross-institutional collaboration. http://trends.psc.isr.umich.edu

National Health and Aging Trends Study: Supported by the NIA, this new study is tracking 8,000 older Americans annually to explore how their daily lives change as they age. It is designed to produce new information on disability trends and a better understanding of how people and their families adapt. www.nhats.org Certain people appear more vulnerable to abuse than others, according to the study findings from the NSHAP data. Women and people with a disability were more likely to experience verbal abuse. Blacks and people in poor health were more likely to say they were financially exploited. Latinos were less likely than blacks or whites to report either type of mistreatment. The odds of financial mistreatment were lower among those with a spouse or romantic partner than those without partners. Similarly, Acierno's team found that older people with low levels of social support were more likely to experience nearly all forms of abuse studied, even after controlling for other factors.

Both studies support the perspective that older adults who are disabled, in ill health, have cognitive deficits, or lack a partner are at greater risk of mistreatment because they are less able to seek help or protect themselves. Increasing social support—by connecting older people with community resources, changing housing designs to promote social interaction, and providing affordable public transportation could have "significant public health implications," Acierno's team writes. The NSHAP research team pointed to the need for medical personnel and social service providers to be alert to the possibility that their older patients may have experienced physical mistreatment.

Researchers also used NSHAP data to examine the complex interpersonal context in which mistreatment takes place. Of the people reporting verbal mistreatment, 26 percent identified their spouse or romantic partner as being responsible, 15 percent said their children mistreated them verbally, while the remainder said that a friend, neighbor, co-worker, or boss was responsible. Among people who reported financial mistreatment, 57 percent reported someone other than a spouse, parent, or child—usually another relative, such as a sibling—was taking advantage of them.

Older people referred to social service agencies for abuse were more likely to die than those without a known history of abuse, according to other studies. Mark Lachs and colleagues compared people with a history of mistreatment to those who had no such history.¹⁰ They found that over a period of 10 years, there were no direct, injury-related deaths in the mistreated group. Instead, they identified a more general association between abuse and increased risk of death. Even when chronic diseases and other factors affecting mortality were taken into account, older adults who had been referred for abuse were three times more likely to die than those who were not mistreated. In a similarly designed study, XinQi Dong and his colleagues demonstrated that the increased risk of death following mistreatment affects all groups, not just people with the lowest levels of cognitive or physical function, with the least social support and social engagement, or with the highest levels of depressive symptoms.¹¹ These findings underscore the insidious nature of abuse and the importance of prevention efforts.

Supporting Caregivers

Research has decisively shown that caregiving is stressful and that caregivers are at a greater risk of depression than noncaregivers. Quality of life suffers as a consequence of caregiving: Illnesses tend to be more prevalent, self-care is poorer, and self-rated health is lower among caregivers than noncaregivers.

The interdependent relationship between caregivers and their spouses contributes to documented stress and depression, according to Nicholas Christakis and Paul Allison.¹² They examined the extent to which illness in one spouse may affect the health and risk of death for the other. To have a partner hospitalized with a serious disease may be roughly as damaging to a caregiver's health as it is for that partner to die, they found. Diagnoses vary in the extent of their impact: Dementia places the heaviest burden on a caregiver and poses the highest risk to the caregiver's life, but other diseases or conditions-such as hip fractures, congestive heart failure, and psychiatric conditions-appear to be nearly as detrimental. They also noted that illness in or death of one spouse deprives the remaining spouse of social support previously offered that partner. Caregivers faced the greatest risks soon after the onset of their spouse's illness or condition, suggesting that caregivers would benefit most from training and support programs immediately after they begin caregiving.

The effects of stress, not the burden of caregiving itself, may increase the risk of health decline among older caregivers, according to Lisa Fredman and her colleagues.¹³ Among caregivers, those with the highest levels of stress had higher odds of death than caregivers with the least stress. While caregivers who had heavy caregiving responsibilities (caring for someone who needed help dressing, eating, or using the toilet, for example) experienced more stress than noncaregivers, they also were healthier, physically stronger, and functioning mentally at higher levels. One explanation, called the "healthy caregiver hypothesis," suggests that those who take on caregiving responsibilities may be healthier to begin with than noncaregivers. But the physical demands and mental challenges of caregiving may also strengthen both the body and brain.

Researchers are gaining a better understanding of how the stress of caregiving weakens the immune system and increases disease risk by examining telomeres — a structure found on the ends of chromosomes that protects against DNA damage. Over the past decade, a growing body of research has identified links between shorter telomeres and increased risks for depression and for a number of chronic diseases, including cardiovascular disease, some cancers, and diabetes. Researchers have documented that caregivers have shorter telomeres and less telomere repair activity than noncaregivers, providing evidence that chronic stress affects caregivers' bodies at the genetic and molecular level.¹⁴ The chronic stress that spouses and children experience while caring for Alzheimer's disease patients may shorten the caregivers' lives by as much as four to eight years. Several studies offer some clues on how to buffer the damage: Vigorous exercise or daily meditation appears to protect people under high stress from telomere loss.¹⁵ These findings offer support for examining the benefits of exercise programs and meditation training for caregivers.

Research has identified promising approaches to improving the health and quality of life of those caring for dementia patients by reducing caregiver depression and stress. The Resources for Enhancing Alzheimer's Caregiver Health (REACH II) is a program developed with funding by the NIA and the National Institute of Nursing Research. Participants received information, social support, training in skills to manage dementia-related behavior, information about cognitive strategies for reframing negative emotional responses, and guidance for practicing healthy behaviors and managing stress. In a randomized controlled trial, staff provided participants with 12 individual training sessions (nine at home and three by telephone) and five supportgroup sessions via telephone. Participants received resource notebooks of educational materials and telephones with visual display screens to accommodate the phone-based support.

Amanda Elliott, Louis Burgio, and Jamie DeCoster concluded that the intervention improved the caregiver's quality of life (measured by indicators of depression, burden, social support, self-care, and patient problem behaviors) regardless of race.¹⁶ Steven Belle and colleagues found that the quality of life improved more for caregivers who participated in the entire program than for similar caregivers who received only educational materials and two brief phone calls.¹⁷ They also found that a smaller share of caregivers participating in the entire program experienced clinical depression (13 percent) than of caregivers who received only the educational materials and two phone calls (23 percent). In addition, caregivers who actively engaged in skills training had significantly reduced levels of depression, Belle found.

A version of the REACH II program (called REACH VA) was adapted for use through Veterans Affairs Medical Centers (VA). Caregivers received 12 in-home and telephone counseling sessions; five telephone-based group support sessions; a caregiver guide covering 48 behavioral and stress topics; education on safety and patient behavior management; and training for their individual health and well-being.

Linda Nichols and colleagues examined caregivers before and after they participated in the REACH VA program.¹⁸ Following the program, the caregivers reported a reduced sense of feeling burdened; declines in depressive symptoms; fewer frustrations, including those that have potential for abuse; and decreases in the care recipients' dementia-related behaviors. Caregivers also said they were able to devote fewer hours per day to caregiving. The VA has expanded REACH VA nationwide as part of its support programs for caregivers.

FIGURE 2



AVERAGE EXPENDITURES ON HOME-DELIVERED MEALS PER PERSON AGES 65 AND OLDER BY STATE, 2009

An abbreviated version of the REACH II program was adapted for widespread use in community settings. Called REACH OUT, the program provides caregivers of dementia patients with four home visits, three phone calls, and educational materials over a four-month period. Louis Burgio and a team of researchers found significant improvement in the caregiver's levels of social support, frustration, depression, and health, as well as in the care-recipient's behavior and mood.¹⁹ The researchers concluded that the REACH II intervention can be modified and used effectively in programs run by local Area Agencies on Aging.

Community-Based Services Help Avert Long-Term Care in Nursing Homes

Spending on community-based services for certain groups of older adults appears to prevent or postpone more costly nursing home care. Kali Thomas and Vincent Mor compared state-level expenditures on a variety of Older Americans Act (OAA) programs with the "low-care" nursing home population (those who do not need 24-hour skilled nursing care) ages 65 and older.²⁰ Based on their analysis of 10 years of data, the proportion of adult nursing home residents with low-care needs is smaller in states that invest more in home-delivered meals for older adults. State spending on home-delivered meals varies widely (see Figure 2). The researchers found that for every \$25 above the national average that states spend on home-delivered meals per year per older adult, the share of low-care nursing home residents is reduced by 1 percentage point.

The percentage of low-care nursing home residents also varies by state: Between 5 percent and 30 percent of nursing home residents have the functional capacity to live in the community with support, reported Thomas and Mor. Investing in home-delivered meals could keep people in their homes longer and avert public and private spending on nursing homes.

Using a slightly different analysis, Naoko Muramatsu and colleagues examined nursing home residents and state spending on a broad range of community services for older people, including programs supported by Medicare, Medicaid, and OAA.²¹ They found that in states with higher spending on community services for older adults, childless elderly people had a lower risk of being admitted to a nursing

home than did childless elderly people in other states. The same did not hold true for elderly with living children. This analysis suggests that doubling state community-based service expenditures per person age 65 or older would cut the risk of nursing home admission among childless elderly people by 35 percent.

Understanding, Promoting "Brain Health"

As many as one in seven Americans ages 71 and older has some type of dementia, according to the first estimates ever made using a nationally representative sample of older adults.²² Analysis by Brenda Plassman and her colleagues suggests that about 14 percent of Americans ages 71 and older have dementia. Alzheimer's disease (AD) is the most common form of dementia and accounts for about 70 percent of all cases.

In a related study, Plassman's team showed an even larger share of older adults (more than one in five ages 72 and older) has a milder form of cognitive impairment, known as "cognitive impairment, not dementia"(CIND).²³ And, more than 10 percent of the people they tracked who had CIND went on to develop dementia each year. Given that CIND is more prevalent than dementia and that those with CIND are at a high risk of developing dementia, the researchers argue that people with CIND should be targeted with treatments that slow cognitive decline.

These two studies were based on the Aging, Demographics, and Memory Study (ADAMS), which evaluated a nationally representative sample of older adults for cognitive impairment using a comprehensive in-home assessment. As in other studies, they found that the likelihood of having dementia increases with age. People who had fewer years of education also had higher odds of developing dementia.

Other trends may adversely affect the brain health of Americans. Kenneth Langa and his colleagues suggest that rising obesity rates and a consequent increase in diabetes, which also is associated with declining cognitive function among older adults, may contribute to increased levels of cognitive impairment.²⁴

A number of studies suggest that education "protects" the cognitive ability of older Americans, and researchers explain the process in several ways. Education may directly affect the brain's development—building a kind of "cognitive reserve" that older adults can draw upon if they begin to suffer a decline in memory and reasoning ability. More-educated people may be better able to develop techniques to compensate for their reasoning or memory problems, for example. People who have completed more education also tend to have healthier lifestyles, higher incomes, better health care, and more social opportunities—all associated with better brain health.

Although education allows adults to delay the onset of cognitive impairment-or to mask its detection-moreeducated adults did not live longer than less-educated adults once they experienced cognitive impairment. Langa and his colleagues concluded that a decline in cognitive function occurred at older ages in the more-educated adults, but then progressed more rapidly than among less-educated adults. Similarly, Agnès Livère, Dawn Alley, and Eileen Crimmins reported that older Americans tend to live about 1.5 years after developing severe cognitive impairment, whether in their 70s or their 90s.²⁵ But they found that following the diagnosis of cognitive impairment, more-educated older adults live for slightly less time than less-educated older adults. This "compression" of cognitive impairment into a shorter period of time among those with more education confers more years free of impairment and fewer years with dementia.

Researchers are finding that mental exercises can improve cognitive abilities in the areas in which training is received: Ten one-hour mental training sessions were associated with improved memory, concentration, and problemsolving skills in healthy, independent older adults for at least five years, according to analysis by Frederick Unverzagt and colleagues from the ACTIVE (Advanced Cognitive Training for Independent and Vital Elderly) study.²⁶ The study—the nation's largest multicenter, randomized controlled clinical trial of a cognitive-intervention—examined the impact of training on mental abilities (memory, reasoning, and attention) and on preserving activities of daily living (managing finances, taking medication, using the telephone, and driving) in older adults in six states. Researchers tracked the mental and functional ability of nearly 3,000 participants following the training sessions.

After five years, participants who received the training sessions showed improvement in the specific basic mental ability that was trained and reported a better health-related quality of life. They also reported being able to perform more "instrumental activities of daily living" (functions linked to living independently) than older adults who did not receive the training. These results suggest that a modest level of basic cognitive training not only improves the skill targeted but also may translate to the performance of daily activities.

Karlene Ball and her colleagues combined individual results from ACTIVE participants in Alabama, Indiana, Maryland, and Pennsylvania with their state driving records to assess the effect of cognitive training on driving.²⁷ The participants who received training to improve speed of processing or reasoning had fewer collisions (per mile driven) where they were at fault than did individuals with similar age, race, mental status, health, vision, and depressive symptoms who did not receive any cognitive training. Because ACTIVE participants were individuals not already experiencing cognitive or functional difficulties, these results suggest a protective effect: Training in speed processing or reasoning helped individuals to maintain driving competence. Modest levels of cognitive training before cognitive difficulties or problems performing daily activities develop show promise as an intervention to help older Americans maintain independence.

There are still questions about the value of cognitive training after cognitive difficulties begin. At what stage does cognitive training no longer protect older adults from further decline in either the basic abilities in which they receive training or in the ability to perform daily tasks? Earlier results from Unverzagt's team provide some insight. They found that older adults with pre-existing memory impairment did not benefit from memory training, but did benefit from other types of training. This research suggests that cognitive training can help even older adults with mild impairment maintain skills that allow them to live independently and lead a higher quality of life.

Civic Engagement: Volunteering and Health

A growing body of research finds that older adults who are involved in social and community activities remain mentally and physically healthy longer than other adults. Volunteering is one way to remain active in retirement and is thought to be a "win-win" activity, with benefits for both the older volunteers and the community programs they serve.

Numerous studies have identified a variety of health benefits associated with volunteer activity. Volunteers tend to have greater longevity, higher functional ability, lower rates of depression, and higher self-rated health. But healthy people are more likely to volunteer and poor health is a barrier to volunteering, making it difficult to determine to what extent (if any) volunteers' better health is a benefit of volunteering.

Volunteers are more likely to be highly educated, to have higher incomes, and more likely to be married than those who do not volunteer. Volunteers may be different from nonvolunteers in other fundamental ways. Many people are brought into formal volunteering through clubs, churches, or other organizations of which they are members, thus "joiners" are more likely to become volunteers, according to Neal Krause.²⁸ People who actively practice their religion are much more likely to volunteer than people who do not. These characteristics also may be related to better health.

Researchers have considered a variety of pathways through which the health benefits of volunteering accrue. Michelle Carlson and her colleagues suggest that the mental stimulation generated by planning and carrying out various volunteer responsibilities may help to slow or offset the cognitive decline associated with aging.²⁹ Not only does the physical activity and cardiovascular conditioning involved in volunteer activities improve physical functioning, it also enhances people's cognitive functioning by increasing brain activity, they theorize. In a study of brain function, a sample of Baltimore volunteers who participated in a volunteer program for six months showed sharper memories, increased brain activity when performing complex tasks, and greater ability to plan and carry out tasks than before they began volunteering. Jeffrey A. Burr, Jane Tavares, and Jan E. Mutchler examined data from the nationally representative Health and Retirement Study and found that a modest

BOX 2

Evidence From Experience Corps on Volunteering and Health

Does volunteering improve health or do healthier people tend to volunteer? To explore whether volunteering produces health benefits, researchers are studying the Experience Corps (EC) program in Baltimore and a number of other U.S. cities. This program matches older adults with elementary schools where they volunteer as tutors and mentors for students. EC was designed to promote better health for the volunteers through increased physical activity (a result of traveling to and from the school and walking around the school building); social interaction (with teachers, EC staff, and other volunteers); and cognitive stimulation (from tutoring students, preparing for tutoring sessions, and training).

EC volunteers were recruited from neighborhoods near the low-performing schools in the program. They tended to be lower income, less educated, and nonwhite—people who research has shown are usually less likely to volunteer in organized programs. Early surveys of EC participants have demonstrated that even among less-healthy, poorer, and more sedentary individuals, the desire to volunteer is great.

In a pilot study to test their study design, a team from Johns Hopkins University tracked EC Baltimore volunteers and found that in this sample, volunteers tended to have increased physical activity more than nonvolunteers did. And the benefits persisted: After three years in the program, African American EC volunteers reported they walked farther and climbed more stairs than they had before, while a comparison group of nonvolunteers did not increase their activity levels. Larger random-controlled evaluations of EC volunteers currently underway will show whether or not the pilot results may be broadly applicable to the older population in these neighborhoods.

Sources:

Mary Kent, "Volunteering and Health for Aging Populations," *Today's Research on Aging* 21 (Washington, DC: Population Reference Bureau, 2011).

Erwin Tan et al., "The Long-Term Relationship Between High-Intensity Volunteering and Physical Activity in Older African American Women," *Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 64B, no. 2 (2009): 304-11. amount of volunteer activity lowered the risk of hypertension (a risk factor for cognitive impairment), cardiovascular disease, and renal failure.³⁰

Volunteering may improve psychological well-being by giving volunteers a sense of purpose and confidence in their role in society, referred to as "mattering" by Jane Allyn Piliavin and Erica Siegl.³¹ This enhanced self-esteem may prevent or reduce depression. For some older people, volunteering also may provide a distraction from their own physical or personal problems, encouraging a more positive attitude about their health. These factors may contribute to volunteers being more likely than others to tell researchers that they are in good or excellent health.

Studies that take into account that healthy people are more likely to be volunteers can determine the benefits of volunteering for people of different levels of health (see Box 2, page 7). A better understanding of the net health effects of volunteering will help governments and community groups determine the best mechanisms for fostering volunteerism that produces both gains for the individual and gains for the community. If volunteering provides health benefits regardless of the starting health status of the individual, then volunteer activity might be promoted for its therapeutic value, which might include delaying physical and cognitive decline. If, on the other hand, volunteering produces few or no net health benefits but is linked to other positive outcomes (such as reducing loneliness and increasing social connections), then it might be more appropriate to take steps to keep individuals healthy enough to volunteer at older ages so that they may experience these other benefits of volunteering.

Trends and Policies Influencing "Aging in Place"

The growth of the older American population is more pronounced in some places of the United States than in others. As the local population ages in place, suburban and Sunbelt locations are experiencing the most rapid growth in their 65-and-older age group, while places in the Northeast and Midwest have many of the nation's highest concentrations of older Americans.³² The extent of the demands older people will place on health, transportation, and social-support services will depend on individual living arrangements and health. Financial resources also will play a role: Changes in Social Security benefits can influence housing decisions and living arrangements, with implications for long-term care costs and social services.³³ The research discussed in this newsletter underscores the importance of acting proactively. Older adults may adopt behavior designed to improve or maintain memory and health. Small amounts of relatively inexpensive social and material support can keep people living in their communities at lower cost than nursing home care. Ongoing research also has the potential to inform city and state governments about the type of housing designs and household and neighborhood improvements that facilitate aging in place.

References

- 1 Eileen M. Crimmins et al., "Change in Disability-Free Life Expectancy for Americans 70 Years Old and Older," *Demography* 46, no. 1 (2009): 627-46.
- 2 Vicki A. Freedman et al., "Trends in Late-Life Activity Limitations in the United States: An Update From Five National Surveys," *Demography* 50, no. 2 (2013): 661-71.
- 3 Linda G. Martin and Robert F. Schoeni, "Trends in Disability and Related Chronic Conditions Among the Forty-and-Over Population: 1997-2010," presented at an interagency conference, sponsored by the Administration for Community Living, National Institute on Aging, National Institute on Disability and Rehabilitation Research, and the Interagency Committee on Disability Research, May 17-18, 2012.
- 4 Brenda Spillman, "Implications of Disability Onset Before Late Life for Supportive Services," presented at the annual meeting of Academy Health, Orlando, FL, June 25-27, 2012.
- 5 Freedman et al., "Trends in Late-Life Activity Limitations in the United States."
- 6 Philippa Clarke et al., "Mobility Disability and the Urban Built Environment," American Journal of Epidemiology 168, no. 5 (2008): 506-13.
- 7 Vicki A. Freedman et al., "Trends in Assistance With Daily Activities: Racial/Ethnic and Socioeconomic Disparities Persist in the U.S. Older Population," in *Health at Older Ages: The Causes and Consequences of Declining Disability Among the Elderly*, ed. David M. Cutler and David A. Wise (Chicago: University of Chicago Press, 2009).
- 8 Edward Laumann, Sara Leitsch, and Linda Waite, "Elder Mistreatment in the United States: Prevalence Estimates From a Nationally Representative Study," *Journals* of Gerontology Series B: Psychological Sciences and Social Sciences 63, no. 4 (2008): S248-54.
- 9 Ron Acierno et al., "Prevalence and Correlates of Emotional, Physical, Sexual, and Financial Abuse and Potential Neglect in the United States: The National Elder Mistreatment Study," *American Journal of Public Health* 100, no. 2 (2010): 292-97.
- 10 Mark Lachs et al., "The Mortality of Elder Mistreatment," *Journal of the American Medical Association* 280, no. 5 (1998): 428-32.

- 11 XinQi Dong et al., "Elder Self-Neglect and Abuse and Mortality Risk in a Community-Dwelling Population," *Journal of the American Medical Association* 302, no. 5 (2009): 517-26.
- 12 Nicholas Christakis and Paul D. Allison, "Inter-Spousal Mortality Effects: Caregiver Burden Across the Spectrum of Disabling Disease," in *Health at Older Ages: The Causes and Consequences of Declining Disability Among the Elderly*, ed. David M. Cutler and David A. Wise (Chicago: University of Chicago Press, 2009).
- 13 Lisa Fredman et al., "Mortality Associated With Caregiving, General Stress, and Caregiving-Related Stress in Elderly Women: Results of Caregiver-Study of Osteoporotic Fractures," *Journal of the American Geriatrics Society* 58, no. 5 (2010): 937-43.
- 14 Amanda K. Damjanovic et al., "Accelerated Telomere Erosion Is Associated With a Declining Immune Function of Caregivers of Alzheimer's Disease Patients," *Journal* of Immunology 179, no. 6 (2007): 4249-54
- 15 Elissa Epel et al., "Can Meditation Slow Rate of Cellular Aging? Cognitive Stress, Mindfulness, and Telomeres," Annals of the New York Academy of Sciences 3, no. 1 (2009): 34–53; Eli Puterman et al., "The Power of Exercise: Buffering the Effect of Chronic Stress on Telomere Length," Public Library of Science One 5, no. 5 (2010); and Helen Lavretsky et al., "A Pilot Study of Yogic Meditation for Family Dementia Caregivers With Depressive Symptoms: Effects on Mental Health, Cognition, and Telomerase Activity," International Journal of Geriatric Psychiatry 28, no. 1 (2013): 57-65.
- 16 Amanda F. Elliott, Louis D. Burgio, and Jamie DeCoster, "Enhancing Caregiver Health: Findings From the Resources for Enhancing Alzheimer's Caregiver Health II Intervention," *Journal of the American Geriatrics Society* 58, no. 1 (2010): 30-37.
- 17 Steven H. Belle et al., "Enhancing the Quality of Life of Dementia Caregivers From Different Ethnic or Racial Groups," *Annals of Internal Medicine* 145, no. 10 (2006): 727-38.
- 18 Linda Nichols et al., "Translation of a Dementia Caregiver Support Program in a Health Care System—REACH VA," Archives of Internal Medicine 171, no. 4 (2011): 353-59.

- 19 Louis D. Burgio et al., "Translating the REACH Caregiver Intervention for Use by Area Agency on Aging Personnel: The REACH OUT Program," *The Gerontologist* 49, no.1 (2009): 103-16.
- 20 Kali Thomas and Vincent Mor, "The Relationship Between Older Americans Act Title III State Expenditures and Prevalence of Low-Care Nursing Home Residents," *Health Services Research* (published online, 2012), accessed at http://onlinelibrary. wiley.com/doi/10.1111/1475-6773.12015/abstract, on Dec. 11, 2012.
- 21 Naoko Muramatsu et al., "Risk of Nursing Home Admission Among Older Americans: Does States' Spending on Home- and Community-Based Services Matter?" *Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 62, no. 3 (2007): S169-78.
- 22 Brenda Plassman et al., "Prevalence of Dementia in the United States: The Aging, Demographics, and Memory Study," *Neuroepidemiology* 29, no. 1 (2007): 125-32.
- 23 Brenda Plassman et al., "Incidence of Dementia and Cognitive Impairment, Not Dementia in the United States," Annals of Neurology 70, no. 3 (2011): 418-26.
- 24 Kenneth M. Langa et al., "Trends in the Prevalence and Mortality of Cognitive Impairment in the United States: Is There Evidence of a Compression of Cognitive Morbidity?" *Alzheimer's & Dementia* 4, no. 2 (2008): 134-44.
- 25 Agnès Livère, Dawn Alley, and Eileen M. Crimmins, "Educational Differentials in Life Expectancy With Cognitive Impairment Among the Elderly in the United States," *Journal of Aging and Health* 20, no. 4 (2008): 456-77.
- 26 Frederick W. Unverzagt et al., "Cognitive Training in Older Adults: Lessons From the ACTIVE Study," *Current Alzheimer Research* 6, no. 4 (2009): 375-83.

- 27 Karlene Ball et al., "Cognitive Training Decreases Motor Vehicle Collision Involvement Among Older Drivers," *Journal of the American Geriatric Society* 58, no. 11 (2010): 2107-13.
- 28 Neal Krause, "Church-Based Volunteering, Providing Informal Support at Church, and Self-Rated Health in Late Life," *Journal of Aging and Health* 21, no. 2 (2009): 63-84.
- 29 Michelle C. Carlson et al., "Evidence for Neurocognitive Plasticity in At-Risk Older Adults: The Experience Corps Program," *Journals of Gerontology Series A: Biological Sciences and Medical Sciences* 64, no. 12 (2009): 1275-82.
- 30 Jeffrey A. Burr, Jane Tavares, and Jan E. Mutchler, "Volunteering and Hypertension Risk in Later Life," *Journal of Aging and Health* 23, no. 1 (2011): 24-51.
- 31 Jane Allyn Piliavin and Erica Siegl, "Health Benefits of Volunteering in the Wisconsin Longitudinal Study," *Journal of Health and Social Behavior* 48, no. 4 (2007): 450-64.
- 32 William H. Frey, "The Uneven Aging and 'Younging' of America: State and Metropolitan Trends in the 2010 Census," *The State of Metropolitan America* (Washington, DC: The Brookings Institution, 2011); and William H. Frey, *Mapping the Growth of Older America: Seniors and Boomers in the Early 21st Century* (Washington, DC: Brookings Institution, 2007).
- 33 Gary V. Engelhardt, "Social Security and Elderly Homeownership," *Journal of Urban Economics* 63, no. 2 (2008): 280-305; and Gopi Shah Goda, Ezra Golberstein, and David C. Grabowski, "Income and the Utilization of Long-Term Care Services: Evidence From the Social Security Benefit Notch," *Journal of Health Economics* 30, no. 3 (2011): 719-29.

The NIA Demography Centers

The National Institute on Aging supports 14 research centers on the demography and economics of aging—at the University of California at Berkeley; the University of Chicago; Duke University; Harvard University; Johns Hopkins University; the University of Michigan; the National Bureau of Economic Research; the University of Pennsylvania; Princeton University; the RAND Corporation; the University of Southern California and the University of California at Los Angeles; Syracuse University; and the University of Wisconsin. *Research Highlights in the Demography and Economics of Aging* is prepared as a cooperative activity of these centers. For further information about the centers and to view other issues of *Research Highlights*, please visit the all-centers website at http://agingcenters.org.

This research brief was produced by the Population Reference Bureau (PRB) with funding from the University of Michigan Center on the Demography of Aging (MiCDA), Coordinating Center. This center coordinates dissemination of findings from the 14 demography centers listed above. The brief was written by Paola Scommegna, senior writer and editor, and Marlene Lee, program director, Academic Research and Relations, at PRB.

POPULATION REFERENCE BUREAU

1875 Connecticut Ave., NW Suite 520 Washington, DC 20009-5728 USA

INFORM

EMPOWER

ADVANCE

PRB

202-483-1100 phone 202-328-3937 fax www.prb.org web popref@prb.org e-mail