M A C A R T H U R F O U N D A T I O N
Network on an Aging Society

IMPROVING HEALTH CARE AND SUPPORT FOR OLDER AMERICANS

POLICY BACKGROUNDER

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The MacArthur Foundation Network on an Aging Society brings together scholars who are conducting a broad-based analysis of how to help the nation prepare for the challenges and opportunities posed by an aging society. Research focuses on how major societal institutions, including retirement, housing and labor markets, government and families, will have to change to support the emergence of a productive, equitable aging society. www.agingsocietynetwork.org

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For supporting evidence and deeper background on the issues raised in this brief, see the accompanying Network on Aging in Society backgrounder, "Improving Health Care and Support for Older Americans."

Policy briefs in this series include:

Supporting Informal Caregiving in an Aging Society

Ensuring Generational Cohesion in an Aging Society

Improving Health Care and Support for Older Americans

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The Scope and Benefits of Life-Long Learning

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The last century has seen nothing less than a longevity revolution. Medical advances on the front and back ends of life have doubled the average lifespan during the twentieth century-century, with a tenfold increase in the number of Americans over age 65. Couple these advances with a demographic bulge that began with the post-war baby boom, and the result is an aging population. According to a Technical Panel on Assumptions and Methods (TPAM) appointed by the Social Security Administration, the U.S. population aged 65 and older is expected to increase from 13 percent in 2010 to more than 20 percent—a remarkable one in five U.S. residents—over the next two decades, before plateauing in the 2030s and 2040s. This increase reflects the arrival of the Baby Boom generation into its 60s and 70s. This bulge in the population will inch forward over the next decades, increasing the percentages of the "oldest old" (those over age 85).

The good news is that we're living longer. The bad news is, as Bette Davis once said, "old age ain't for sissies." Things go wrong. Hips give out. Arthritis sets in. The risks for heart disease accumulate. In fact, the majority of health costs tend to be concentrated in the latter part of life and particularly near the end of life. Simply put, the longer one lives, the greater the chance that one will develop costly chronic or acute diseases and the greater the opportunity for the body to break down. An aging population therefore means that, without cost controls, health care costs will only continue to rise.

However, the growth in the over-65 population is not the only a reason for rising health care costs. The current system has inefficiencies and conditions that add to costs. Therefore, we have a good opportunity to streamline and improve the health system to better support care for an aging population.

This Backgrounder accompanies the MacArthur Network on an Aging Society's police brief, "Improving Health Care and Support for Older Americans." It explores the trends behind growing life expectancy, including a healthier elderly population, and the expected societal costs of living longer. It also argues that the costs can be reduced if the United States creates a more efficient health care delivery system and a system that pays more attention to an aging population's needs. The Backgrounder outlines the parameters of what greater efficiencies and a stronger focus on prevention might look like. Finally, it looks extensively at how to improve geriatric care and training for the growing elderly population.

The Costs of Living Longer

With life expectancy projected to increase, the prevalence of chronic disease is likely to follow. If current trends continue, health care costs are expected to consume an ever-increasing share of national income. Although the elderly currently are approximately 16 percent of the population, they account for 26 percent of all physician office visits, 35 percent of all hospital stays, 34 percent of all prescriptions, 38 percent of all emergency medical responses, and 90 percent of all nursing home

use.[1] Given this disproportionate use of medical services coupled with a growing elderly population, the future liability of the Medicare program alone is estimated to be $24 trillion over the next 75 years, absent any policy changes.[2]

There are some more hopeful signs on the horizon, however. Although most imagine aging to mean an increasingly frail and disabled population, researchers have found that the current elderly population is in general healthier than in the past. Mortality has been falling nearly 1 percent per year since 1950, for example.[3] The nursing home population has also been declining.[4] Between 1982 and 1999, the rate of chronic disability (lasting more than 90 days) in the elderly population declined by 1.7 percent per year. Disability is defined as trouble with both serious impairments (such as being unable to manage activities of daily living [ADLs] and less serious (instrumental activities of daily living (IADL) impairments. Evidence also points to these reductions escalating over time. The decline from 1982 to 1989 was 1.0 percent per year. By 1994 to 1999, the pace of decline was 2.7 percent year per year.[5]

Much of this improvement, as Harvard University health economist David Cutler finds, is the result of health care advances, healthier habits, and rising education levels, as well as less physical jobs. Improved assistive devices for the elderly, such as shower bars and better walkers, have reduced falls and enabled more active lives as well.[6]

Although the above are hopeful signs, there are also some warning signs on the horizon. While the current generation of elderly is healthier than in the past, the next generations may not enjoy the same benefits. In fact, the younger cohorts are showing signs of increased disability. As UCLA health economist Dana Goldman and colleagues find, accounting for population change, disability rates for those aged 60–69 saw no improvement between 1984 and 1996. Furthermore, for those under age 60,

> An aging population means that, without cost controls, health care costs will only continue to rise.

[1] American Geriatrics Society, "The Demand for Geriatric Care and the Evident Shortage of Geriatrics Healthcare Providers." Issue Brief. (Washington, DC: AGS, June 2012). www.americangeriatrics.org/files/documents/Adv_Resources/PayReform_fact5.pdf

[2] Government Accountability Office, "Fiscal Year 2006 Financial Report to the U.S. Government." (Washington, DC: GAO, 2007).

[3] David Cutler, "Declining Disability among the Elderly," *Health Affairs*, vol. 20 (November/December 2001), citing National Center for Health Statistics, *Health United States: 2001*, table 30. Disability in this context is having functional limitations in one's ability to perform everyday tasks, both physical or mental, or someone who is dependent on someone else to help with activities of daily living such as bathing, dressing, using the toilet, and so forth.

[4] Cutler, "Declining Disability among the Elderly." Age-adjusted accounts for the growing number of aged in the population over time.

[5] Based on data from the National Long-Term Care Survey. See K.G. Manton and X. Gu, "Changes in the Prevalence of Chronic Disability in the United States: Black and Nonblack Population Above Age 65 from 1982 to 1999," *Proceedings of the National Academy of Sciences,* vol. 98, no. 11 (2001): 6354–6359. Other researchers find similar declines, although the magnitude depends on the data source and method. ADLs include dressing, bathing, toileting, and other similar activities. IADLs include less personally intensive activities than ADLs, such as taking the patient to a doctor or grocery shopping.

[6] Cutler, "Declining Disability among the Elderly," and "Commentary: The Reduction in Disability among the Elderly," *Proceedings of the National Academy of Sciences,* vol. 98 (June 2001).

disability rates rose sharply between 1984 and 1996. The sharpest aggregate growth—50 percent—occurred among those aged 30–39 between 1984 and 1996.[7]

> The current elderly population is in general healthier than in the past.

Reasons for this increasing disability profile include growing rates of obesity among the younger age groups. In fact, rough estimates show that obesity seems to be a dominant factor in the disability rates for those aged 50–59; disability rose only among the obese in this age group. Among those aged 18–29, obesity accounts for about one-half the rise in disability. It has a less pronounced effect among those aged 30–49.[8] There is less convincing evidence that more generous disability insurance is at play. Finally, technological advances in medicine, such as neonatal care for example, that prolong life have also added to the disability ranks.[9]

The impact of these two trends is inconclusive. Costs may increase if people survive but experience more disability, or they may fall if people live healthier lives and use less care. Costs may also increase if people live longer and are healthier because there is simply more time for something to go wrong.

However, what is conclusive is that everyone, even the healthiest, will die, and most health care costs are spent in the last two years, when individuals are in a downward spiral. Therefore, costs will eventually tally up.

While certain things are beyond policy's control when it comes to the health of a population, two things are in its control: an efficient health care delivery system and a system that pays more attention to an aging population's need. Both have been largely absent to date. For example, the spending increases in medical care for the elderly since 1980 are associated with a high cost per year of life gained. Specifically by age, the average cost per year of life gained between 1960 and 2000 was approximately $31,600 at age 15; $53,700 at age 45; and $84,700 at age 65. After age 65, costs rose more rapidly than did life expectancy: the cost per year of life gained was $121,000 between 1980 and 1990 and $145,000 between 1990 and 2000.[10]

Below we outline the parameters of what greater efficiencies and a stronger focus on prevention might look like.

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[7] Darius Lakdawalla, Jayanta Bhattacharya, and Dana Goldman, "Are Young Becoming More Disabled?" *Health Affairs,* vol. 23 (January/February 2004).

[8] Ibid.

[9] N. Marlow et al., "Neurologic and Developmental Disability at Six Years of Age After Extremely Preterm Birth," *New England Journal of Medicine*, vol. 352, no. 9 (2005): 9-19.

[10] David Cuter, "The Lifetime Costs and Benefits of Medical Technology," *Journal of Health Economics*, vol. 26 (2007). Dana Goldman et al., "Consequences of Health Trends and Medical Innovation for the Future Elderly," *Health Affairs*, (web exclusive) (September 2005). DOI: 10.1377/hlthaff.W5.R5.

Health Care Inefficiencies

Estimates are that 30 percent of health care spending is wasted, meaning it could be eliminated without reducing the quality of patient care.[11] Although no country can claim to have eliminated inefficiency, the United States spends more per capita than other nations without necessarily better outcomes. The U.S. health care system has high administrative costs, fragmented care, and care that varies widely by race, income, and geography. The U.S. health care system is also more likely to pay for diagnostic tests, treatments, and other forms of care before effectiveness is established and with little consideration for the value they provide.[12]

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A perverse set of disincentives that escalate costs is built into the U.S. health care system. The first is the fee-for-service system, in which doctors and hospitals are paid by the number of patients they see and the number of procedures they perform. Therefore, the incentive is to do more of both, regardless of the cost. As Laura Carstensen, the director of the Stanford Center on Longevity, writes in her book, *A Long Bright Future*, "some 30 to 40 percent of medical procedures are ineffective or redundant. An estimated 30,000 Medicare patients die each year from unnecessary or unproven care. Peter Orzag, former director of the Congressional Budget Office and the Office of Budget and Management, maintains that ineffective or redundant medical procedures cost the nation roughly $700 billion each year." (p. 171).

Physicians and hospitals have little incentive to compare two different treatments and use the most effective one. Currently Medicare pays for almost any medical service that is effective, even if one treatment is far more expensive than an alternative. Some are beginning to argue that we must not only consider the effectiveness of a treatment, but the cost-effectiveness as well.[13]

According to a report by the New England Health Institute (NEHI), the top two reasons for inefficiencies in the U.S. health care system stem from 1) "unexplained variation in the intensity of medical and surgical services, including but certainly not limited to: end of life care, overuse of coronary artery bypass surgery, and overuse of percutaneous coronary procedures" and 2) "misuse of drugs and treatments, resulting in avoidable adverse effects."[14] The elderly are frequently the patients in both these situations. For example, approximately 30 percent of all medication prescribed

[11] New England Health Institute, "The Wasteland of Health Care" (Cambridge, MA: NEHI, 2008).

[12] Alan Garber and Jonathan Skinner, "Is American Health Care Uniquely Inefficient?" *Journal of Economic Perspectives*, 22(4) (2008): 27–50.

[13] Ibid.

[14] New England Health Institute, "Waste and Inefficiency in the U.S. Health Care System Clinical Care: A Comprehensive Analysis in Support of System-Wide Improvements." (Cambridge, MA, NEHI, 2008). http://media.washingtonpost.com/wp-srv/nation/pdf/healthreport_092909.pdf

in the United States is for those over age 65, even though they make up only 13 percent of the population.[15]

Better compliance by physicians with clinical guidelines and greater reliance on evidence-based decisions in choosing treatment options can reduce inefficiencies, the NEHI report argues. It also noted the limited adoption of technology to ease the coordination of care. Greater collaboration across services, streamlined systems, and coordinated care can introduce efficiencies and save money. As the NEHI report noted, "Our belief is that much of the waste that exists today in health care can be reduced through collaboration among all health care stakeholders."[16]

The patients who consume the most health care—those afflicted with multiple chronic conditions, for example, a condition that includes many elderly—are the same patients who often receive uncoordinated and ineffective care from multiple specialists, hospitals, and emergency rooms. This lack of coordination hurts patients with the greatest health needs and robs the system of needed resources.[17]

Because the elderly consume more health care than other age groups, and because the elderly population is set to increase, attending to these inefficiencies now can stave off rising health care costs, and with better attention to improved services (such as using more evidence-based decision making in care decisions and more coordinated care) the future elderly populations will also be better served.

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But to improve services for this growing group, several steps must be taken now. These include improving geriatric care through better physician training, more coordinated care, greater use of palliative care, more consumer input into their own care choices, greater opportunities to continue to "age in place" in one's community or home, and better use of technology to both improve system efficiencies and improve care for elderly in their daily lives.

Improving Geriatric Care

Training

The first step to improving services for an aging population is to improve the training and care provided by physicians. The most important advances in geriatric care, say gerontological nurse researchers and practitioners, include changes in thinking about older patients. Although evidence

[15] Laura Carstensen, *A Long Bright Future* (New York: Broadway Books, 2009).

[16] New England Health Institute, "Waste and Inefficiency in the U.S. Health Care System," p. 7.

[17] John Rother, "Trimming the Fat from America's Wasteful Health Care System," America the Fixable series, *Atlantic* (online), 2012. www.theatlantic.com/health/archive/2012/05/trimming-the-fat-from-americas-wasteful-health-care-system/256953/

shows elderly people benefit from caregivers who understand the needs of their age group, fewer than 1 percent of nurses have training in geriatric care, according to the Institute of Medicine's 2008 report.[18] Even fewer general practitioners do.

A focus on expanding the numbers of geriatricians is critical. Geriatricians are in extremely short supply. As of 2012, there was one geriatrician for every 2,551 Americans 75 or older. Given the projected increase in the number of older Americans, this ratio is expected to drop to one geriatrician for every 3,798 older Americans in 2030.[19] Earlier studies predicted 36,000 additional geriatricians would be needed by 2030. But a more recent study (2011) calls that "impossible and unrealistic." Fewer than 320 physicians entered geriatric medicine fellowship training between 2004 and 2008, the study said.[20] Furthermore, as noted above, fewer than 1 percent of registered nurses, pharmacists, and physician assistants, and about 2.6 percent of APRNs are certified in geriatrics.[21]

The field of geriatrics promotes preventive care, with an emphasis on care management and care coordination that aims to help older patients maintain functional independence and quality of life. Geriatric training emphasizes an interdisciplinary approach to medicine and care coordination.

As the "Principles of Geriatric Care" by the American Geriatrics Society writes, the caregiving team can include a nurse, social worker, nutritionist, physical therapist, occupational therapist, consultant pharmacist and/or geropsychiatrist:

> Members of the geriatrics team look at many aspects of the patient's life. They evaluate the social support available to a patient, usually a spouse, children or friends, and his or her living and community conditions. The team also considers the patient's ability to perform activities of daily living (ADLs), such as bathing, dressing and eating. While the geriatrician often serves as the "point person," each member of the geriatrics team is a skilled health professional. All play an important role in the proper assessment and care of an older patient.

Under this arrangement, a team of providers coordinates the care and often focuses on managing transitions from a hospital to a skilled nursing facility, a nursing home, or from rehabilitation back home. Based on the assessment, the team develops a coordinated care plan, helps manage medicines, and helps the individual remain healthy, or when appropriate, seek palliative care. Currently, however, although 80 percent of pediatric patients see pediatricians, this is not the case with the elderly and geriatricians. Eight in ten geriatric patients see primary care doctors or internists instead.[22]

Family caregivers are another important source of support for an aging population (see "The Scope and Effects of Informal Care" brief and backgrounder for more information on family caregivers). Today, informal caregivers—either relatives or friends—care for the vast majority of older adults with disabilities. The estimated economic value of their unpaid contributions was approximately

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[18] Institute of Medicine, "Retooling for an Aging America: Building the Health Care Workforce." (Washington, DC: IOM, 2008).

[19] There were 7,356 allopathic and osteopathic certified geriatricians in the United States in 2012. American Geriatrics Society, "The Demand for Geriatric Care and the Evident Shortage of Geriatrics Healthcare Providers." Issue Brief. (Washington, DC: AGS, June 2012).

[20] Janice Lloyd, "Shortage of Geriatric Specialists Growing," *USA Today,* April 24, 2011, reporting on Lars E. Peterson et al., "Rural–Urban Distribution of the U.S. Geriatrics Physician Workforce," *Journal of the American Geriatric Society,* vol. 59 (2011): 699–703.

[21] Institute of Medicine, "Retooling for an Aging America."

[22] Peterson et al., "Rural–Urban Distribution of the U.S. Geriatrics."

$450 billion in 2009.[23] The magnitude of informal caregiving services is such that, if such unpaid care were not available, the costs would overwhelm our health care system. With increased life expectancy and the arrival, in 2011, of the first of the baby boomers to age 65, the need for home-based care provided by informal caregivers will continue to grow. Given their critical role for families and in reducing health care costs, continued training opportunities are critical.

Payment Reform

As noted above, the existing fee-for-service payment system does not encourage the kind of medical care most needed by older Americans. It promotes a high volume of technical procedures rather than paying for solid coordination, communication, and cognitive services. A better system would reimburse based on value, not services delivered. Fee-for-service creates incentives for physicians to perform distinctly quantifiable medical procedures rather than the more amorphous counseling and follow-up consultations that many elderly need. Those services cannot be billed under the current system but are often the key to improving patient health.

The fee-for-service system also inhibits a "team care" approach–where doctors, nurses, and other health professionals work together–which in national practice demonstrations is proving most effective at producing the best outcomes for patients. The PACE program is an example of team care. PACE is a Medicare and Medicaid program that helps older Americans with chronic conditions who would likely need nursing home care meet their health care needs in the community. A team of health care professionals works closely with families to ensure that the person receives coordinated care. Several long-term evaluations show that PACE provides better health outcomes than other traditional care and services arrangements for seniors with chronic care needs. Elderly individuals participating in PACE, for example, had significantly fewer hospital admissions and preventable hospital admissions per 1,000 patients per month and fewer preventable emergency department visits than a comparison group that received care from an independent primary care physician.[24] In addition, the staff serving these individuals are more satisfied working in a PACE environment. Other research demonstrates that PACE is an effective use of taxpayer dollars.[25]

There are many proposals to move us away from a purely fee-for-service reimbursement system, but they all share a common theme— tying payment to value. Value is understood to be mostly about achieving optimum patient outcomes, but it also takes into account the relative cost of certain procedures versus alternatives, as discussed above. As Dana Goldman, director of the Schaeffer Center for Health Policy Economics, has described, our advances in medicine are not always the most cost-effective. A new generation of pacemakers, for example, could likely reduce the risk of stroke by 50 percent, but they are expensive and adopting them would increase the cost of care substantially.

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[23] L. Feinberg et al., "Valuing the Invaluable: 2011 Update The Growing Contributions and Costs of Family Caregiving" (Washington, DC: AARP Public Policy Institute, 2011), p. 4.

[24] Chad Boult and G. Darryl Wieland, "Comprehensive Primary Care for Older Patients with Multiple Chronic Conditions," *Journal of the American Medical Association*, vol. 304(17) (2010):1936-43.

[25] David Grabowski,"The Cost-Effectiveness of Non-Institutional Long-Term Care Services: Review and Synthesis of Most Recent Evidence," *Medical Care Research and Review*, vol. 63, No. 1 (February 2006): 3-28.

Not all advances of course are costly or inefficient. One cost-effective advance, Goldman finds, is treatment of acute stroke. The latter, for example, would cost $3-4 billion annually after accounting for morbidity and mortality changes. The cost per additional life year is only $22,000 (standard estimates put the value of one life year at $100,000). The savings come significantly from reduced nursing home care.[26]

Alternatives to fee-for-service reimbursement are in development. Hospitals are purchasing the practices of specialists and moving them to a salaried reimbursement system, albeit with incentives built in for the specialists. Medicare and other insurers are going ahead with "pay for performance" reimbursement initiatives that modify physician fees based on measures of quality and resource use. Likewise, there are now successful experiments in "bundled" payments that set a price for all services related to an entire course of care, such as treating a broken leg.

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Changes in the Medicare payment structure have already begun in the form of accountable care organizations (ACOs), patient centered medical homes, and other demonstration projects largely housed at the Center for Medicare and Medicaid Innovation (CMMI). "Medical homes" for example, are showing some early promise in introducing efficiencies. The core of the medical home model envisioned a continuous relationship between a person and his or her personal physician, who would coordinate care to advance wellness and treat illness. The Affordable Care Act gives state Medicaid programs the option to develop patient-centered medical home projects for enrollees with chronic diseases. Demonstrations are showing that most medical home models incorporate the Chronic Care Model, which is showing positive effects on chronic disease outcomes.[27] The medical home model also includes the "four pillars of primary care"— access to first-contact care, coordinated care, comprehensive care, and sustained personal relationships— which are shown to contribute to higher quality at lower cost and with more equity.[28]

The country's first national medical home demonstration, which ran from June 1, 2006, to May 31, 2008, and involved 36 practices, showed, however, that the move to this model is neither simple nor quick. It requires changes in the way primary care clinicians think about themselves and their relationships with patients and other professionals on the care team, among other adjustments. The move to a medical home model will also require payment reform.[29] Others note that the components that make medical homes tick— health information technology and decision support systems, modified clinical practice patterns, and continuity of care— are complex undertakings, and "there is

[26] Goldman et al., "Consequences of Health Trends."

[27] E.H. Wagner et al., "Organizing Care for Patients With Chronic Illness," *Milbank Quarterly*, vol. 74(4) (1996): 511-44.

[28] T. C. Rosenthal, "The Medical Home: Growing Evidence to Support a New Approach to Primary Care," *American Board Family Medicine*, vol. 21(5) (2008):427–40; B. Starfield, *Primary Care: Concept, Evaluation, and Policy* (New York: Oxford University Press; 1992); B. Starfield, Ly Shi, and J. Macinko, "Contribution of Primary Care to Health Systems and Health," *Milbank Quarterly*, vol. 83(3) (2005):457–502.

[29] Paul A. Nutting et al., "Transforming Physician Practices To Patient-Centered Medical Homes: Lessons from the National Demonstration Project, " *Health Affairs,* vol. 30(3) (2011):439-45.

scant evidence to guide assessment of diverse strategies for achieving their integration into a medical home."[30]

Other innovations are also underway. However, these projects are limited in scope and it remains to be seen how effective they will be in accomplishing their goals of improved care and reduced costs. Payment models that are shown to improve outcomes for the Medicare population should be quickly disseminated throughout the Medicare program at the discretion of the Secretary of Health and Human Services.

Improving Care Choices

Incorporated in any new payment model should be incentives to offer palliative care and patient decision-making support throughout the life span, but particularly at its end. Palliative care focuses on alleviating the symptoms of serious illness and improve the quality of life of sufferers. Palliative care is a new medical specialty, emerging within the last decade. It differs from hospice care in that it does not serve only the dying. It also includes more than medical experts. The palliative team might include social workers, counselors, or members of the clergy. The care is patient-centered, and care is designed with patient's input and priorities in mind.

There are many proposals to move us away from a purely fee-for-service reimbursement system, but they all share a common theme—tying payment to value.

Today, the majority of America's medical schools have palliative care programs. Currently, there are more than 1,400 hospital palliative care programs in the United States, and about 80 percent of large U.S. hospitals with more than 300 beds have a palliative care program. Among smaller hospitals with more than 50 beds, a little more than one-half have programs.[31]

In a study published in August 2010 in the *New England Journal of Medicine*, researchers found early evidence of palliative care's benefits.[32] The researchers randomly assigned patients with newly diagnosed advanced lung cancer to receive either early palliative care integrated with standard oncologic care or standard oncologic care alone. Patients assigned to early palliative care had a better quality of life than did patients assigned to standard care. In addition, 16 percent of patients in the palliative care group had depressive symptoms compared with 38 percent in the standard care group. Despite the fact that fewer patients in the early palliative care group than in the standard care group received aggressive end-of-life care, median survival was longer among patients receiving early palliative care. The longer survival times, the authors suggest, may have been due to more effective treatment of depression, better management of symptoms, or less need for hospitalization.

[30] E. Carrier et al., "Medical Homes: Challenges in Translating Theory Into Practice," *Medical Care*, vol. 47(7) (2009):714-22.

[31] Center to Advance Palliative Care at Mount Sinai School of Medicine in New York City.

[32] Jennifer S. Teme, "Early Palliative Care for Patients with Metastatic Non–Small-Cell Lung Cancer," *New England Journal of Medicine* (August 19, 2010).

That palliative care left patients stronger and better able to withstand additional chemotherapy at an appropriate time as well.

The above study was of patients with very serious prognoses and the care was delivered outside the hospital. Studies of inpatient palliative care have found no such strong benefits, and one focused on elderly patients in the hospital found no improvement in symptoms, although the researchers did find that inpatient consultations improved satisfaction with care, decreased health care costs, shortened length of stay, increased advanced directives at index hospitalization discharge, and reduced ICU admissions on subsequent hospitalizations.[33] One reason for the lack of impact is that while all the patients had "palliative" issues, not all necessarily needed or would benefit from specialty palliative care. Therefore, the impacts might be diluted.

In general, the early research points to sizable benefits among certain populations. Palliative care, therefore, should be available to patients, and the management of symptoms and quality of life should be a high priority for health care providers.

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Long-Term Care

Patient decision-making aids can be used to determine an individual patient's values and preferences with regard to the setting of their care. Long-term care, in particular, can be offered in the home or community setting, an option that is frequently preferred by older Americans as it allows them to remain maximally connected to their families and communities. Long-term care is typically not medical care, but rather assistance with "activities of daily living (ADLs) such as bathing, using the bathroom, dressing, getting into and out of bed, and others. In addition, care can include help with household and other tasks such as meals, housework, and taking medications. According to the National Long-Term Care Clearinghouse, nearly seven in ten individuals over age 65 will need long-term care at some point.

For some, this kind of care requires a nursing home, with 24-hour nursing care, or in assisted living centers, which offer a slightly less intense set of services. But for others, care in their community is possible, and preferred. Home health aides, for examples, may be able to provide support in the elderly individual's home, or community supports that provide transportation, meals, or social events may be available. The services are typically divided into two groups: health needs ordered by a doctor, which are generally limited to 60 or fewer days, and in-home support with ADLs. Geriatric care providers (see above) can help design the program of services, and monitor long-term care needs over time.

However, the infrastructure and payment structure to do this may not be in place in all communities. Medicare or most health insurance policies do not cover long-term care, and Medicaid

[33] G. Gade et al., "Impact of an Inpatient Palliative Care Team: A Randomized. Controlled Trial," *Journal of Palliative Medicine,* vol. 11 (2) (2008).

payment policy can be an obstacle. Medicaid eligibility rules for coverage of long-term care are complicated and vary from state to state. A first requirement is that one's income must not exceed the federal poverty guidelines and assets may not exceed approximately $2,000-$3,000 (excluding one's home and one vehicle as well as belongings and assets held in certain trusts). Federal law also requires states to recover the amount Medicaid spent on one's behalf from the individual's estate after death. Each state has its own rules for who qualifies for Medicaid long-term care services, including how much assistance is covered. Most states use a specific number of personal care and other service needs to qualify for nursing home care or home and community-based services.

Incorporated in any new payment model should be incentives to offer palliative care and patient decision-making support throughout the life span, but particularly at its end.

Technology

Technology can make care in the community safer, and make it possible for the elderly to live at home longer. New technologies for an aging population include devices to measure gait and determine risk of falls; monitors that measure and transmit medical data; smart carpets that light a runway between bed and bathroom at night; tracking devices that determine whether a patient has left a bed or opened a refrigerator; cutting boards that detect bacteria that accommodate for the loss of smell as we age; robots that clean houses, assist with bathing and even hold limited conversations; and smaller, more user-friendly versions of complex equipment found in hospitals, such as ventilators, hemodialysis machines and X-rays.[34]

Technology can be an invaluable tool in the wider management of health care for older individuals, beyond those living in their communities with assistance. Electronic medical records, for example, can ensure that all providers involved in an individual's care have ready access to the information they need. Individual patients can also have easy access to their own records without a trip to the doctor, particularly helpful for elderly citizens. Patients at the Mayo Clinic's headquarters in Rochester, Minn., and its Arizona and Florida sites can see their records online or on a phone app. Similarly, Telehealth can be used to monitor the vital signs of a frail patient without requiring time consuming and expensive visits to a clinician's office.

Nearly seven in ten individuals over age 65 will need long-term care at some point.

Health information technology is a key enabler of change in the model of how we provide primary care service. Properly implemented, it frees up physician time during visits, provides all members of the primary care team with timely access to patient information, and aids in the overall coordination

[34] Carstensen, *A Long Bright Future*, p. 74.

of care. The range of health information technologies includes electronic medical records (EMR), clinical decision support systems, computerized physician order entry (CPOE), online appointment scheduling, and secure messaging of test results. The implementation of these technologies does require substantial investment in both capital and personnel. A 2005 study by RAND found that hospitals and doctors would spend about $7.6 billion a year in a 15-year adoption period to deploy the systems. However, if interoperable and interconnected EMR systems were adopted widely and used effectively, the net savings would be substantial, at least $81 billion annually at the end of the 15-year period.[35]

One goal of the federal 2009 Health Information Technology for Economic and Clinical Health (HITECH) Act is to advance the use of health information technology by providing Medicare and Medicaid incentives to physicians and hospitals that adopt and demonstrate "meaningful use" (MU) of electronic health record (EHR) systems.[36] As of 2011, 55 percent of physicians had adopted an electronic health record (EHR) system.[37] According to one extensive study of the adoption of electronic health records, a majority of adopters reported having accessed a patient's chart remotely and having been alerted to critical lab values by using their EHR system. A majority also reported that using their EHR system had resulted in enhanced overall patient care.[38]

However, not everyone is enamored of the technology. Some doctors complain that the electronic systems are hard to set up, difficult to use, and they are they are not designed to fit all aspect of a doctor's day. Like all computers, they are susceptible to crash and to fraudulent billing.[39] There is also, some argue, a greater potential for errors. A recent report by the Agency for Healthcare Research and Quality warned of the potential errors, such as in one instance when a defect in an updated version of its Computerized Patient Record System displayed the data of the previous patient when a physician accessed the record of another patient.[40]

The American Recovery and Reinvestment Act implemented policy to increase the use of electronic health systems. However, this will be a slow process that merits ongoing assessment and improvement to ensure that use of these systems is as effective and efficient as possible in improving patient care.

If interoperable and interconnected EMR systems were adopted widely and used effectively, the net savings would be at least $81 billion annually at the end of the 15-year period.

35 Richard Hillestad et al., "Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits, Savings, and Costs," *Health Affairs*, vol. 24, no. 5 (2005).

[36] Centers for Medicare & Medicaid Services. The official web site for the Medicare and Medicaid electronic health records (EHR) incentive programs. [Accessed April 9, 2012.]

[37] E. Jamoom et al. Physician Adoption of Electronic Health Record Systems: United States, 2011." NCHS data brief, no 98. (Hyattsville, MD: National Center for Health Statistics, 2012).

[38] Ibid.

[39] Milt Freudenheim, "The Ups and Downs of Electronic Medical Records," *New York Times*, October 8, 2012. www.nytimes.com/2012/10/09/health/the-ups-and-downs-of-electronic-medical-records-the-digital-doctor.html?pagewanted=all

[40] Mary Mosquera, "HHS Panel Considers HER Risks as Reports Detail Injuries, Deaths," (Govermnet Health IT, February 28, 2010). http://www.govhealthit.com/news/hhs-panel-considers-ehr-risks-reports-detail-injuries-deaths

Helping Older Americans Stay Healthy

A focus on population health is the second health system policy area that requires attention. Efforts must be made to both increase the likelihood that individuals will reach old age in good (or relatively good) health by creating an environment that is conducive to good health and healthy behaviors across the lifespan and to focus public health policy on the specific risks and needs of older Americans.

What follows are several features of such an approach.

Prevention and Public Health

Much of the trend driving health care spending today is the result of an epidemic in chronic conditions, including heart disease, hypertension, and diabetes, which has origins in changing patterns of diet and physical inactivity. Chronic disease has been estimated to account for 75 percent of health system costs, and more than two-thirds of Medicare beneficiaries in 2008 had at least two chronic conditions.[41] However, many of these conditions can be prevented or the disease progressions slowed through intensive lifestyle interventions. Ongoing research into the most effective prevention and screening tools for these conditions, specifically in older individuals, should inform prevention efforts and the coverage and cost-sharing associated with their use. High value prevention tools and programs should be available and implemented as widely as possible.

Health economist Dana Goldman has focused his research on the social benefits in longer lives of better quality of preventing disease in the first place, rather than treating it later. He finds that, in general, prevention is a better approach to extending life.[42] He examined, for example, the costs and benefits of preventing cardiovascular risk factors such as diabetes, hypertension, obesity, and smoking and finds that prevention—even at older ages—has great social value, and would be cost-effective if the right interventions can be found.

He finds, for example, that a person aged 51 or 52 who was successfully treated for diabetes would add 3.1 years, and 1.6 quality-adjusted years, to life. The latter are years with minimal impediments to mobility, daily activities, pain, and depression. The individual would save $34,483 in lifetime medical expenses. Results were similar, though with smaller effects, for the other conditions. The bottom line is that we could prevent these diseases without increasing average lifetime medical spending, and add significantly to quality of life.

The creation of the Prevention and Public Health Fund by the Affordable Care Act was a first step toward this goal. The Fund, according to healthcare.gov. is "an unprecedented investment in promoting wellness, preventing disease, and protecting against public health emergencies." The

[41] Healthcare.gov, "Affordable Care Act: Laying the Foundation for Prevention." Fact Sheet. (Washington, DC: U.S. Dept. of Health and Human Services, 2010).

[42] Dana Goldman, "The Benefits of Risk Factor Prevention in Americans Aged 51 Years and Older," *American Journal of Public Health*, vol. 99 (11) (November 2009)

Fund helps states tackle the leading causes of death and root causes of costly, preventable chronic disease; detect and respond rapidly to health security threats; and prevent accidents and injuries.[43] In addition, the Affordable Care Act creates a National Prevention, Health Promotion, and Public Health Council, composed of senior officials across the government, to elevate and coordinate prevention activities and design a focused strategy across Departments to promote the nation's health.

However, ongoing efforts to rob the Prevention and Public Health Fund of funding in order to offset spending in other areas threaten to undermine the entire health system. This is exacerbated by the fact that, although the fund was intended to supplement, not supplant, existing public health funding, this has not necessarily been the case in the face of current budget restrictions.

Also important in encouraging prevention efforts is ensuring that the elderly have access to needed medications at low cost, which can prevent more expensive complications that also reduce quality of life. Part D of the Medicare plan is an important beginning in ensuring access to medications, but more needs to be done, such as creating incentives in Part D for physicians to ensure their patients remain healthy.

The Physical Environment

A physical environment conducive to healthy living and high levels of social interaction can help not only to prevent and slow the development of chronic disease and disability, but also improve overall health. Such an effort includes reducing pollution that can hamper heart and lung function and exacerbate disease. High standards for clean air and appropriate levels of taxation and fees for pollution are two routes to lowering pollution. Communities for older adults are another area for intervention. Communities designed for older adults should prioritize access to affordable, healthy foods at full service grocers. In addition, communities should be designed to maximize opportunities for physical activity, in large part by emphasizing walkability. These elements encourage a healthy lifestyle and approaches that support physical activity by older adults are important to prevention of falls, frailty and cognitive decline, as well as prevention of obesity, diabetes, and cardiovascular disease. A later brief in this series focuses in more depth on housing and community design for older Americans, emphasizing intergenerational living and the built environment.

> Preventing disease—even at older ages—has great social value, and would be cost-effective if the right interventions can be found.

[43] HealthCare.gov, (website): Prevention & Wellness (Washington, DC: Healthcare.gov, 2012). www.healthcare.gov/news/factsheets/2011/02/prevention02092011a.html
www.healthcare.gov/news/factsheets/2011/02/prevention02092011a.html

Social and Community Support

The health of a population is supported not only by obvious medical and public health efforts, but also by the social and community supports that bind people to one another and prevent social isolation. Social isolation is an important predictor of health. Psychologist Nancy Adler has developed a measure of perceived social support that asks individuals where they think they sit on a ladder of connectedness and social standing. Those who see themselves on the bottom rung are more likely to have poorer health, and shorter lives. As Laura Carstensen writes in *A Long Bright Future*, these findings suggest that "health isn't just predicted by how many resources people have, but by how they relate to other people."

Being part of a community, having friends, getting out are all predictors of better health. People, for example, who eat meals with others tend to eat a better meal rather than standing over the sink eating yesterday's takeout. Having social connections also lowers the stress responses in your body, which can lead to health issues. Feeling connected even lowers one's odds of getting a cold.[44]

For older adults, the threat of social isolation grows with time, as friends and spouses die, and life becomes more restricted. Productivity--whether in the workplace or in constructive roles at home or in the community--as well as volunteer opportunities for older individuals, therefore, can both harness their productive capacity and improve their health; active productive engagement is associated with better physical health, lower rates of depression, and less use of medical services.[45]

"Health isn't just predicted by how many resources people have, but by how they relate to other people."

As volunteers, older adults can fulfill important social and economic needs while reaping the very real mental and physical health benefits of social contribution.[46] In "Building Communities That Promote Successful Aging," researchers Linda P. Fried and colleagues write that while many older adults have a great deal of time available to them, they are "in the main, marginalized from productivity… even though being able to make a contribution has been described as an essential element of 'successful aging.'"[47]

Experience Corps® is proving particularly effective in engaging older Americans as volunteers and improving their health.[48] Designed to provide structured opportunities for older adults to both give back to the next generation and support their own health, Experience Corps® places older volunteers in public elementary schools in roles designed to meet schools' needs and increase the social, physical, and cognitive activity of the volunteers. An evaluation of the program in Baltimore, in

[44] Laura Carstensen, *A Long, Bright Future*, p. 104.

[45] T.E. Seeman et al., "Behavioral and Psychosocial Predictors of Physical Performance: MacArthur Studies of Successful Aging," *Journal of Gerontology*, vol. 50A (1995):M177-M183

[46] T. A. Glass et al., "Change in Productive Activity in Late Adulthood," *Journal of Gerontology and Social Science*, vol. 50B, no. 2 (1995):S65-S76.

[47] Fried et al. "Building Communities That Promote Successful Aging."

[48] Kevin Frick et al., "The Costs of Experience Corps in Public Schools," *Educational Gerontology*, vol. 38, no. 8 (August 2012): 552-562; Erwin Tan et al., "Marketing Public Health through Older Adult Volunteering: Experience Corps as a Social Marketing Intervention," *American Journal of Public Health* (February 18, 2010). See also J. Kotre, *Outliving the Self* (Dearborn, MI: Norton Press, 1996).

which the volunteers were 60–86 and largely African American found that four to eight months after participating, the volunteers had improved physical activity, strength, social connections, and cognitive activity. The early results point to the potential for the Experience Corps to improve health for an aging population while simultaneously improving educational outcomes for children.[49] What is yet unknown is whether such effects would hold among a population that is perhaps less eager to volunteer than the Experience Corps participants.

Other roles are important as well. In the workplace, it is essential that we create continuing opportunities for older Americans to work if they are able. This may mean creating new pathways into part-time roles or less stressful positions. As we write in "Productivity in an Aging Society," another backgrounder in this series, far too many able-bodied workers are leaving the workforce at young ages. The median age of exit from the labor force has steadily fallen from 66.9 years in 1950-1955 to 62.0 years in 1995-2000--even as the share of workers with a disability has declined to 7.5 percent in 1996.[50] While many older workers may not opt to continue working in their same job at the same pace, creating options to step-down into less demanding jobs would be beneficial to many. Many older Americans report enjoying work, including the vast majority over age 65. Working is also connected to improved health and emotional well-being.[51]

One role that the elderly are increasingly likely to play is that of grandparent. Approximately one-third of children under age 1 and about one in five preschoolers are cared for by their grandparents. Most of this is babysitting while parents work, but in about 6 percent of cases, grandparents provide more extensive care—upwards of 40 hours a week. In addition, 4.9 million children (7 percent) under age 18 live in grandparent-headed households in 2010, many of these no doubt the result of the Great Recession and the ongoing family hardship it has caused.[52]

Four to eight months after participating, the volunteers in Experience Corps had improved physical activity, strength, social connections, and cognitive activity.

Yet not all grandparents are volunteer caregivers. Increasingly, grandparents are caring for their grandchildren alone. Approximately 1 million children have neither parent present and the grandparents are responsible for their basic needs.[53] Their own child may be unable to care for his or her child because of substance use, poverty, or other hardships. In many cases, the grandparent steps in. In some cases, the children are deeply affected by the loss of their parent and act out or are difficult. In others, they may be suffering from fetal alcohol or drug exposure, which can make them hyperactive or more physically fragile. They can, in other words, be a handful. Added to this strain is the strain in the relationship between the grandparent and their own child—and in many instances, the

[49] Linda Fried et al., "A Social Model for Health Promotion for an Aging Population: Initial Evidence on the Experience Corps Model," *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, vol. 81, no. 1 (March 2004).

[50] Murray Gendell, "Retirement Age Declines Again in the 1990s," Monthly Labor Review, vol. 124 (2001).

[51] Barbara Butrica et al., "Enjoying the Gold Work Years" (Washington, DC: Urban Institute, 2006).

[52] AARP, "More Grandparents Raising GrandKids" (December 20, 2010), online at http://www.aarp.org/relationships/grandparenting/info-12-2010/more_grandparents_raising_grandchildren.html

[53] Ibid.

grandparent's own financially precarious conditions. In these cases, grandparents experience high levels of stress, often affecting their own health.[54]

Social programs that support grandparents with a significant amount of responsibility for their grandchildren both protect the children and ease stress on the grandparents. In addition, these programs can support the caregivers responsible for older adults. Training in first aid and other skills can ease this task, and generous family leave policies can encourage active family involvement and mutual support from all generations. Federal policy should both directly support these goals and encourage states to do so as well.

Conclusion

As the United States ages, the costs of health care are bound to increase. Many of these elderly are healthier than at any time in the past, yet troubling signs point to a younger generation at higher risk for disabling chronic conditions such as diabetes, obesity, and the heart disease. Without stronger preventive care and more efficient health care delivery—with an elderly population in mind—the health care costs could continue to spiral higher.

Some of these improvements include rethinking the fee-for-service model of health care delivery, improved compliance by physicians with clinical guidelines and greater reliance on evidence-based decisions in choosing treatment options, and better and more efficient coordination of care. Greater collaboration across services, streamlined systems, and coordinated care will also introduce efficiencies and save money. Equally important is expanding the field of geriatric medicine, training more physicians in geriatric care, and offering training and support to family caregivers. Finally, preventive care and services are an important strategy in lowering health care costs. These can range from the individualized efforts to the societal, such as greater access to healthy foods and healthier environments. The future of the country will inevitably be an older society, but it can also be a healthier society surrounded by an efficient, effective health care system.

# # #

[54] Carstensen, *A Long Bright Future*. Also, Cheryl Smithgall et al., "Caring for Their Children's Children: Assessing the Mental Health Needs and Service Experiences of Grandparent Caregiver Families," (Chicago: Chapin Hall Center for Children, 2006).