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US Public Sector

Serving the Aging Citizen

A Deloitte Research Study

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Foreword

My first in-depth exposure to this issue came from a fascinating report called *Wealth with Wisdom*, a report released by Deloitte Research and Deloitte Touche Tohmatsu (DTT) that examined how the aging of the world's population is fundamentally changing how businesses serve consumers with rapidly changing wants and needs. As I read that report, I began to think about how some of the same trends impact governments around the world. Citizens, after all, are essentially "consumers" of government services.

We are all aware, of course, of how an increasingly elderly population will have a drastic impact on issues such as Social Security and public health care programs. Far less frequently discussed is the much broader impact the aging of the population will have across all government services. As I thought about this, I asked myself what deeply held assumptions that have long guided our public policy will have to change? What basic public services will become obsolete? Which of those services will become more and more in demand? And how will we pay for those services in a world with far fewer workers?

The result of those initial thoughts and questions is this report, *Serving the Aging Citizen*. This study examines how the combination of an aging workforce and declining birth rates will fundamentally reshape the very nature of how governments serve their citizens in ways in which we have yet to fully grasp, and how to pay for those services.

With a smaller proportion of the population paying taxes, for example, revenues will come under pressure, which will almost certainly require wholesale changes in tax codes. With more elderly citizens, law enforcement agencies will have to shift their focus toward preventing crimes and fraud against the elderly. Prisons filled with older and more infirm inmates will have to find ways to accommodate them. And governments will almost certainly find themselves altering the balance between spending on education for the youngest citizens and spending on care for the eldest. To adequately prepare for this rapidly approaching tectonic shift, governments must start to transform services across a whole host of areas.

This report lays out in detail some of the changes being wrought by these dramatic demographic shifts, and some of the reforms that are already taking root across the country.

I hope you find it useful.

Greg Pellegrino
Managing Director
Global Public Sector

Executive Summary

By 2011, when the Baby Boom generation begins to reach retirement age, government agencies in the United States will face new challenges. As the population and workforce age, policymakers will have to examine how the growing number of elderly will impact the design and mix of services they offer, the funding sources they rely on, and the delivery channels they use for citizen services.

As a first step, government agencies need to thoroughly understand how they will be impacted by approaching demographic trends and the factors likely to shape these trends.

Demographic trends. One statistic that summarizes the problem of the aging population is the dependency ratio: the ratio of the economically dependent part of the population—children (0–14 years) and the elderly (65+ years)—to the working-age population (15–65 years). Florida, Maine, Wyoming and New Mexico will see their old-age dependency ratios rise from one elderly person per four working-age persons in 2000 to one for every two in 2030. By 2030, many states will look demographically similar to how Florida looks today.

Several factors impact old-age dependency ratios: the rate of immigration and migration; fertility rates; and the workforce participation rate among elderly.

- **Immigration and migration.** Immigration and domestic migration are two major factors in the makeup of regional populations. Whereas immigrants tend to cluster in the gateways (such as New York and California), established residents often move away from the gateways to other regions (states like Georgia and Arizona). The implications of the existing pattern in population shifts are that the elderly will age in place and some regions will age faster than others.
- **Fertility rates.** In the developed world, fertility rates (measured by the average number of children born to a woman of reproductive age) have fallen to dramatically low levels. The United States is better positioned than most Western, industrialized countries with fertility rate just a tad shy of the replacement rate of 2.1.
- **Average retirement age.** Another way to impact old-age dependency rates is by encouraging the elderly to stay in the workforce longer. Since the early 1960s, the average retirement age—the youngest age at which at least half of the population exits the labor force—fell steadily in the industrialized countries. In the US, it recently edged up from 62 to 63, putting it in a slightly better position compared to much of the European Union, where the figure is still in the high 50s. Realistically, however, an increase in the average retirement age can provide only part of the solution to the revenue problem that governments face due to aging.

Financing services. As the number of elderly increases and a declining percentage of individuals assume the bulk of the tax burden, governments will need to determine how they can generate the revenue to finance the range of services they provide. In this regard, four trends will likely become more prominent in the next few decades:

1. Governments will have to modernize their tax systems to reduce their dependency on personal income tax revenues. This means fewer exemptions that poke holes in the tax base and a shift away from narrow-based, idiosyncratic tax structures.
2. The erosion of the tax base for income and payroll taxes can be offset to some extent by extending the average retirement age. The older Americans are when they retire, the less they will draw on Social Security, Medicare and Medicaid and the more tax revenues they will pay into government coffers. However, a meaningful increase in retirement age is unlikely without significant changes on the demand side.
3. A reliance on user fees will continue to grow.
4. The emergence of a vastly bigger and more sophisticated nonprofit sector will create new opportunities for partnering and also for leveraging private dollars for public causes.

The changing service mix. The rise in the elderly population will drive changes in the composition of government services: many services catering to the elderly will rise while, with fewer school-age children, demand for education and youth and child welfare services will fall in some countries.

The early experience in health care provides some insight into the kinds of changes we can expect in government services due to the growing number of elderly people. Demand for nursing home care has fallen steadily over the last decade while demand for home health care grew dramatically over the same period. Cost savings from home-based health care over nursing home care are no longer a subject of dispute, and technology can help reduce costs further. Governments are examining how they can strengthen this trend by helping families that provide support to the elderly.

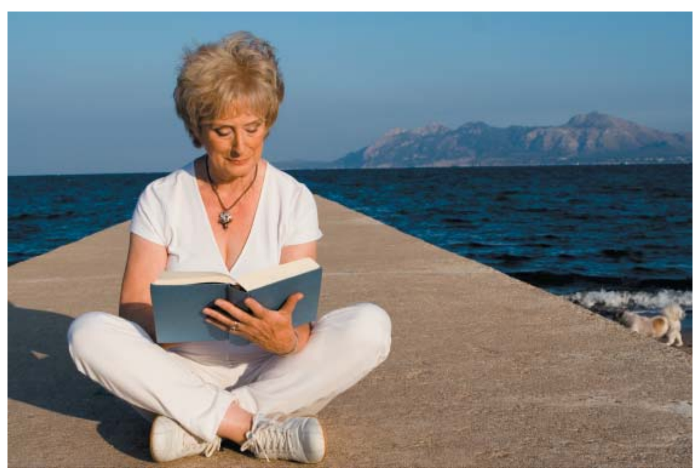
Service innovations for elderly citizens. Leading private companies are fundamentally altering their product and service offerings to meet the critical needs of the elderly. What about government? How will the aging citizen affect how the public sector delivers services and programs? How can governments simultaneously meet the very different service channel preferences of aging citizens and the younger digital generation—without heaping on huge new costs? How can they shift citizens to lower cost channels at the same time that the population cohort least comfortable with such channels is growing rapidly?

These are the kinds of questions facing government agencies of all shapes and sizes. Agricultural departments wrestle with how to shift farmers to lower cost online channels for reporting and information without alienating older farmers. Social security agencies wonder whether they will need their extensive networks of physical offices a decade from now—and whether they can even afford them.

Governments will need to find a way to strike a balance between demand and cost considerations as the population ages. To do so, public agencies will need to acquire a deeper understanding of three critical areas:

- **Customer segments.** Who are the agency's customers now, and how might they change in the future?
- **Customer preferences.** What do different customer segments need and desire, and what types of solutions are they looking for?
- **Delivery channels.** What is the full range of service delivery channels—both high and low cost—available to agencies? Can customer preferences for delivery channels be changed over time, and how can they be influenced?

The rise in the old-age dependency ratio could lead to a wide gap between government expenditure and revenue. Three factors—a greater openness to immigration, higher fertility rates, and increases in average retirement ages—could somewhat mitigate the potential problems in the United States. Even if these trends increase, the aging population will still prove quite challenging. The sooner local, state and federal agencies come to grips with the emerging challenges posed by an aging population, the more options they will have.



Introduction

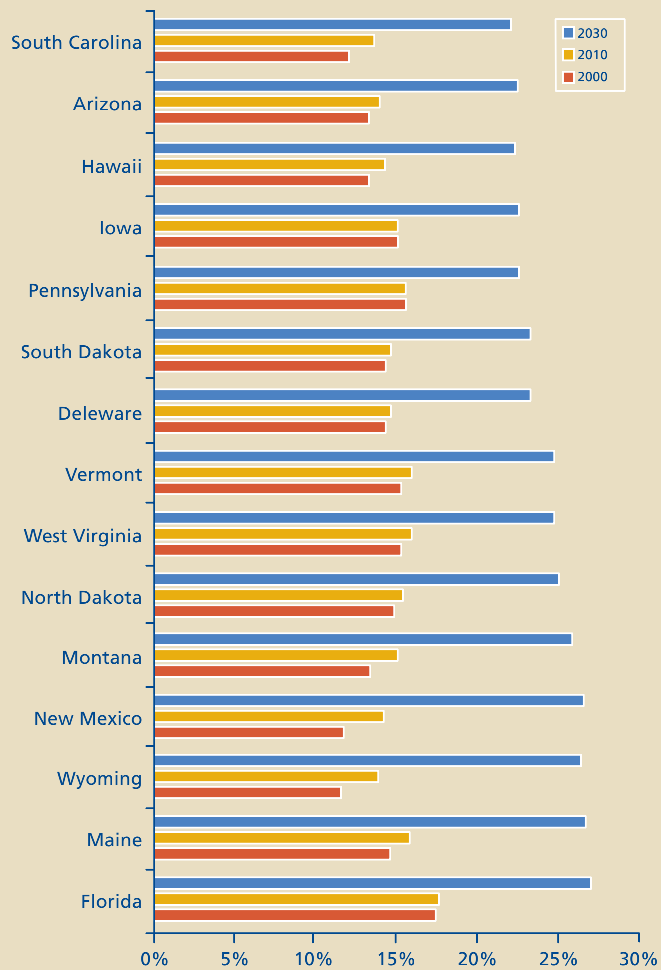
As the Baby Boom generation begins to reach retirement age in the next five years, state and local governments in the United States will face important challenges.[1] Before 1995, elderly residents exceeded 15 percent of the population in only five states; by 2025, the elderly share will exceed 15 percent in every state but Alaska and California (as well as the District of Columbia). The number of Americans 65 and older will more than double in at least 20 states and then continue to grow for decades to come (see figures 1 and 2).

The consequences of this demographic change will be far reaching. Not only will it force state governments to examine existing benefit programs as they relate to the elderly, it will also push them to rethink how to address the full range of elderly needs with the resources they have and other resources they can mobilize.

Pennsylvania, a state that has already experienced "premature graying," provides a case in point. The state ranks second for the percentage of population 65 and older, is experiencing out-migration (i.e., more younger residents are moving out than moving into the state) and has a low fertility rate because of its older population. Thanks to these demographics, it is the nation's third slowest-growing state in terms of population, behind North Dakota and West Virginia.

Pennsylvania's aging began in the 1970s, when the collapse of the traditional industrial job base forced many young adults to migrate to other states in search of career opportunities.[2] To address service demands for the growing and substantial senior population, in 1972 the state implemented the first and, to date, only state lottery that dedicates all proceeds to senior programs (in most states, lottery proceeds go to education). Since then, it has spent nearly $15 billion on elderly assistance programs, ranging from providing subsidized prescription drugs and transportation to assisting in rent and property tax.

Figure 1. Graying States
Percentages 65 and Older



Source: U.S. Census Bureau, *State Interim Population Projections by Age and Sex: 2004-2030*

The United States, of course, is not the only country facing the challenges of an aging population. Throughout the developed world, birth rates are declining, life expectancies increasing, and populations aging. The birth rate in the United States, at 2.04 per woman, is higher than in most other Western countries (Germany's rate is 1.4, Japan's 1.3, and Italy's 1.2), yet it still remains just below the replacement rate—the rate necessary to maintain a steady population level in the absence of immigration. Among other implications, this means fewer workers will be available to support the elderly.

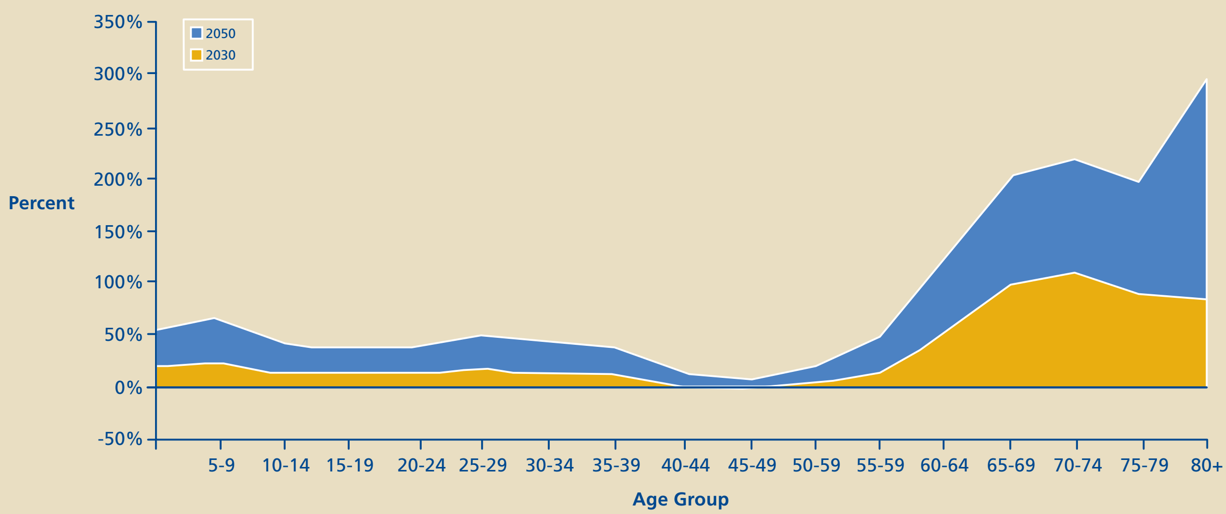
As the population and workforce ages in America, governments at all levels will have to address the challenge of how to deliver retirement and medical benefits to a surging number of aging citizens. Many of the key issues—including extending retirement ages and reducing benefits—have been probed in depth. A less thoroughly explored but equally critical issue is how the growing ranks of the elderly will affect the way government agencies are organized and the services they deliver: the design and mix of services they offer; the delivery channels they use; the funding sources they rely on; and the way aging citizens will affect civic participation.

For example, the growing elderly population may give states compelling reasons to move traditional office-based services online as a way to expand their reach and reduce costs. State and local government agencies may also want to consider new types of service collaborations with business or philanthropic partners. They may also need to pursue ways to reduce dependency on general taxes through greater reliance on user fees and other funding models. For years, user fees have been used successfully to support highways and national and state parks. Moreover, state governments will need to reach beyond their traditional role as service providers to become more aggressive in orchestrating services delivered by others.

There is little doubt that states will face trade-offs, including how to provide services to both the very young and the very old without further straining limited coffers. To do so, governments will need to anticipate the changing needs and preferences of their citizens. Elderly people have different needs from those in other age groups, and they expect to access the services easily.

This study highlights options available to governments for dealing with the challenges associated with population aging. As a first step, states need to thoroughly understand how they will be affected by certain demographic trends and the factors likely to shape these trends.

Figure 2. Growth in Demographics Cohorts 2030 and 2050
Percentage Change Over 2005



Source: U.S. Census Bureau, International Database

Key Demographic Trends Affecting States

Before exploring how government services and service delivery will need to change in response to the aging citizenry, it's important to understand the major demographic trends directly or indirectly related to the aging population that will occur in the coming decades. Decisions made today can have potentially large effects on the future.

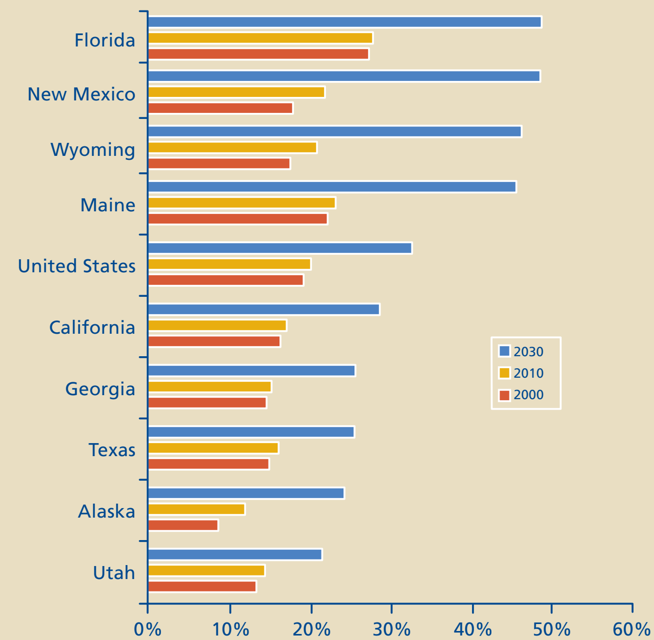
Old-Age Dependency on the Rise

One statistic that summarizes the problem of the aging population is the dependency ratio: the ratio of the economically dependent part of the population—children (0–14 years) and the elderly (65+ years)—to the working-age population (15–65 years).

As the number of elderly people increases, dependency ratios are projected to rise in most developed countries.[3] In practical terms, this means there will be far fewer taxpayers to support recipients of government services in the future.

Here in the United States, dependency burdens will begin climbing within a decade. The four states with the highest percentages of elderly residents (Florida, Maine, Wyoming and New Mexico) will see their old-age dependency ratios go from nearly one elderly person for every four working-age persons in 2000 to one for every two in 2030 (see figure 3). North Dakota, Montana, and Arizona all face escalating old-age dependency rates, which are likely to drive steep increases in total dependency. All in all, many states by 2030 will look demographically more like Florida, Pennsylvania and West Virginia look today.

Figure 3. Projected Old-Age Dependency Ratio in Selected States
Old Age Dependency Ratio



Source: U.S. Census Bureau, Population Division, Interim State Population Projections, 2005.
Note: Old-age dependency burden has been calculated as the ratio of the elderly population (65 and over) to the working-age population (aged 15-65).

Why does the dependency ratio matter? What does a rise in dependency—particularly old-age dependency—imply? Among other things, it potentially means a reduced labor supply, less consumption, slower economic growth, increased government spending in light of declining revenues, more regional disparities and new fiscal pressures. Consider just two of these impacts:

- **Reduced labor supply.** A rising old-age dependency ratio corresponds to a relative decline in the labor force as a percentage of population and also in absolute numbers in states like Maine, Iowa, Ohio and Pennsylvania, which in turn would lead to a decline in GDP.[4]

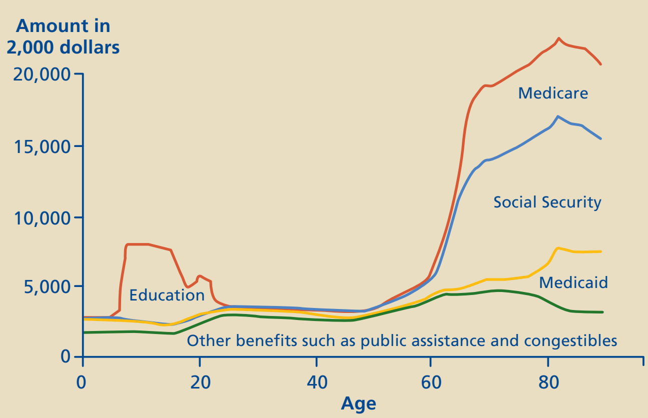
- **Fiscal pressure.** A key challenge is to cover increased expenditures for Social Security, Medicaid, and Medicare as revenues fall with a shrinking workforce as a percentage of the population.[5] Typically, benefits for the elderly tend to cost substantially more on a per capita basis than benefits for children (see figure 4).[6] Some regions will likely see a rapid growth in population at both ends of the age spectrum and be hard-pressed to balance the needs of the elderly and the young. In California, for example, the population of the group aged 0–17 will rise by almost 30 percent between 2000 and 2020, while the 65+ population is expected to grow by a staggering 70 percent.[7] This rapid growth at both ends of the demographic spectrum contrasts sharply with an anticipated slight decline in the age 30–49 population. California is likely to face a growing service burden at both ends of the spectrum, because the demand for schools and universities increasing at the same time as the demand for elderly services is on the rise. Meanwhile, the number of taxpayers in a key high-earning demographic group will be declining.

Three main factors influence the size of the old-age dependency ratios:

- The level of immigration
- The fertility rate
- The workforce participation rate among the elderly.

The specific roles these factors play in the future will depend on public policy and on a variety of economic, social and political considerations.

Figure 4. Current Cost of Benefits by Program and Age, U.S.



Source: Ronald Lee and Ryan Edwards, "The Fiscal Effects of Population Aging in the U.S.: Assessing the Uncertainties," in James M. Poterba, ed., *Tax Policy and Economy*, vol. 16, MIT Press for NBER, June 2002, pp.141–81.

Changing Patterns of Immigration and Domestic Migration

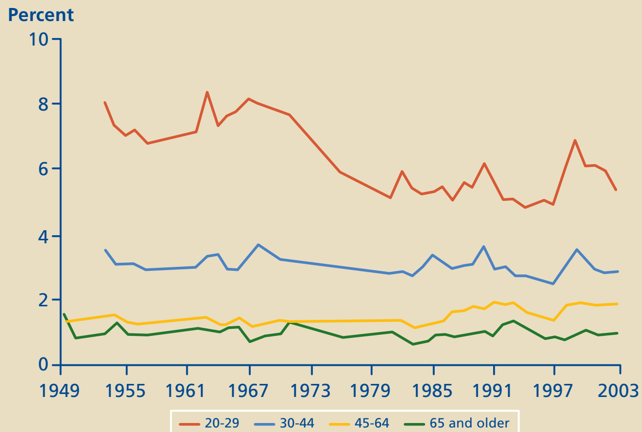
The leading destination for foreign migrants has been North America, which received 1.3 million (legal) immigrants (and maybe millions of additional illegal immigrants) from 1990–2000 and is likely to continue attracting immigrants on a similar scale.[8] In the United States, the immigration rate (immigrants as a percentage of total population) has increased from 0.16 percent in the 1950s to 0.37 percent in the 1990s.[9] China, India and Mexico have been the leading countries of origin.

Like immigration, domestic migration (both in-migration and out-migration) can be a major factor in the makeup of regional populations and in turn can have a significant impact on the level of demand for benefits and services. During the 1990s, for example, the population in the Sunbelt States increased by nearly 25 percent. More than one-third of that increase came from U.S. residents moving into the Sunbelt from other states; less than 7 percent of the increase was attributable to foreign immigration. In melting pot states, however, such as New York, Illinois and California, where the population rose by nearly 15 percent, almost 40 percent of the increase resulted from foreign immigration (an increase that was partially offset by net domestic migration out of the melting-pot states of nearly 24 percent).[10]

Until fairly recently, foreign immigrants tended to settle in "gateway" states such as Arizona, California and New York while the domestic population out-migrated to states like Georgia, Arizona and North Carolina. In the last 10–15 years, however, increasing numbers of immigrants have moved to other areas after a brief stay in the gateway states or have bypassed the gateways altogether to settle in areas that traditionally did not attract large numbers of immigrants.[11] Overall, the US population is shifting from the Northeast to the South and West.[12]

So what are the implications of the data on domestic migration for state governments? We see two main implications. First, the elderly tend to stay put. Elderly populations are likely to stay where they are and age in place (see figure 5). Rather than relocating to institutional settings, many would prefer to receive services at their doorsteps. This will require thinking beyond the confines of health issues and developing new long-term care options for living in communities, aging in place, social support, transportation, and entertainment.[13]

Figure 5. Percentage of Population Making Interstate Moves by Age



Source: Douglas A. Wolf and Charles F. Longiono, "Our Increasingly Mobile Society? The Curious Persistence of a False Belief," *Gerontologist*, February 2005, p. 7.

Second, some regions will feel the effects of migration more than others. Regions that are neither gateways for immigrants nor attractive areas for domestic migrants will age much faster than others. These regions could potentially have more difficulty delivering services to the elderly. States with large numbers of younger immigrants about to enter childbearing age may fare better. It must be recognized, however, the dynamic nature of these demographic trends. Immigrants have always followed jobs and family connections. As the demand for jobs to serve the elderly increases in "aging-in-place" states such as Maine, Ohio, Pennsylvania and West Virginia, immigration levels could rise in these states. In fact, immigrants from Mexico have already begun to bypass traditional gateway states and are migrating to states such as Delaware, Indiana, Michigan, New Hampshire, South Dakota and other states that have not traditionally seen large influxes of immigrants.[14]

Immigration and domestic migration offer only partial solutions to the problem of aging populations. Therefore, it is important to understand other potentially critical factors: fertility rates and the age of retirement.

Fertility Rates

In the developed world, fertility rates (measured by the average number of children born to a woman of reproductive age) have fallen to dramatically low levels (see table 1). A fertility rate of 2.1 is needed to maintain the population at a constant level in the absence of net immigration. In most developed countries, total fertility rates are far below this, with the exception of the United States where the rate is slightly shy of the replacement level.[15]

Table 1. Estimated Total Fertility Rates in Selected Developed Countries, 2000–2005

Country	Total Fertility Rate
France	1.87
Germany	1.32
Italy	1.28
Japan	1.37
United States	2.04

Source: United Nations Population Division, *World Population Prospects: 2004 Revision* <http://esa.un.org/unpp/index.asp?panel=2>.

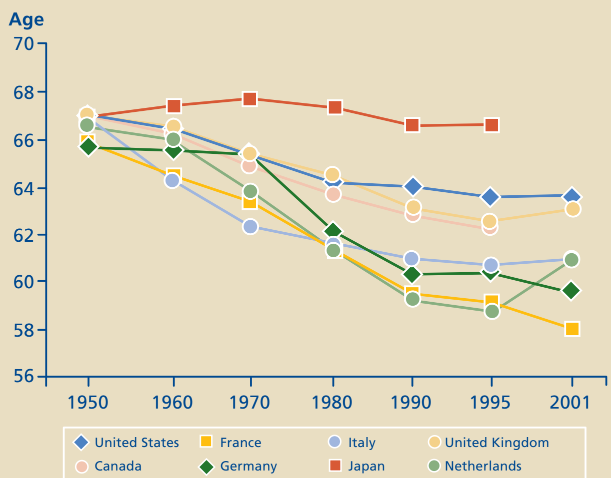
Fertility is declining for several reasons. The social and economic costs of raising children are increasing while the returns from childbearing are declining. As more and more people have moved away from farming and rural areas to urban centers, children have become more of an economic cost than an asset. In addition, as opportunities in the workplace have improved for women, they have chosen to devote less of their time to child-rearing and more to work. Many knowledge-age parents also want to invest more resources in each child, thus limiting the number of children they can support.[16] And although the responsibilities of parenting are considerable, parental authority and the social prestige associated with parenting have declined in recent years, creating less societal incentives to have children.[17]

Average Retirement Ages

Another way to influence old-age dependency rates is to encourage seniors to stay in the workforce longer. In the early 1960s, male workers in the industrialized countries typically remained in the workforce past age 65. [18] Over the next three decades, the average retirement age—the youngest age at which at least half the working population leaves the labor force—fell steadily. In the United States, the average fell to about age 62, while in Canada and many European countries, it dropped even lower.

Only recently has the retirement age in some countries begun to increase (see figure 6). For example, the US average recently edged up from age 62 to 63, putting it in a slightly better fiscal position compared with some countries in the European Union where average retirement ages are still, in some cases, in the high 50s.[19] Additionally about 53 percent of American men in the age group 60–64 are in the workforce, compared with 50.8 percent for Canada and 39 percent for the European Union.[20]

Figure 6. Average Retirement Age for Male Wokers in OECD Countries



Source: S. Blondal and S. Scarpetta, "The Retirement Decision in OECD Countries," OECD, Economics Department Working Paper Number 202, Organization for Economic Cooperation and Development, 1998. European Commission, *Employment in Europe 2005*, September 2005. Joseph F. Quinn and Garry Burtless, "Is Working Longer the Answer for an Aging Workforce," *Issues in Brief 11*, Center for Retirement Research, Boston College University, December 2002.

Longer life expectancies make the financial implications of extending retirement ages even more important. The longer elderly workers can be encouraged to remain in the workforce, even as part-time workers, the more taxes they pay to contribute to the revenues needed to meet the burgeoning expenditures for Social Security and health care systems.

Realistically, however, an increase in the average retirement age can provide only part of the solution to the revenue problem that governments face from aging. What's more, there are several complicating factors. First, rising life expectancies will increase the time spent in retirement beyond the additional time spent working.[21] Even given a higher average retirement age, government expenditure may still outstrip new revenue.

Second, increasing the average retirement age cannot be accomplished with changes on the supply side alone. To have a meaningful impact, a rise in the supply of elderly workers requires that businesses increase their demand for older workers.[22]

Lastly, for people involved in physical labor, an increase in the retirement age may be unrealistic.

Philanthropy on the Rise

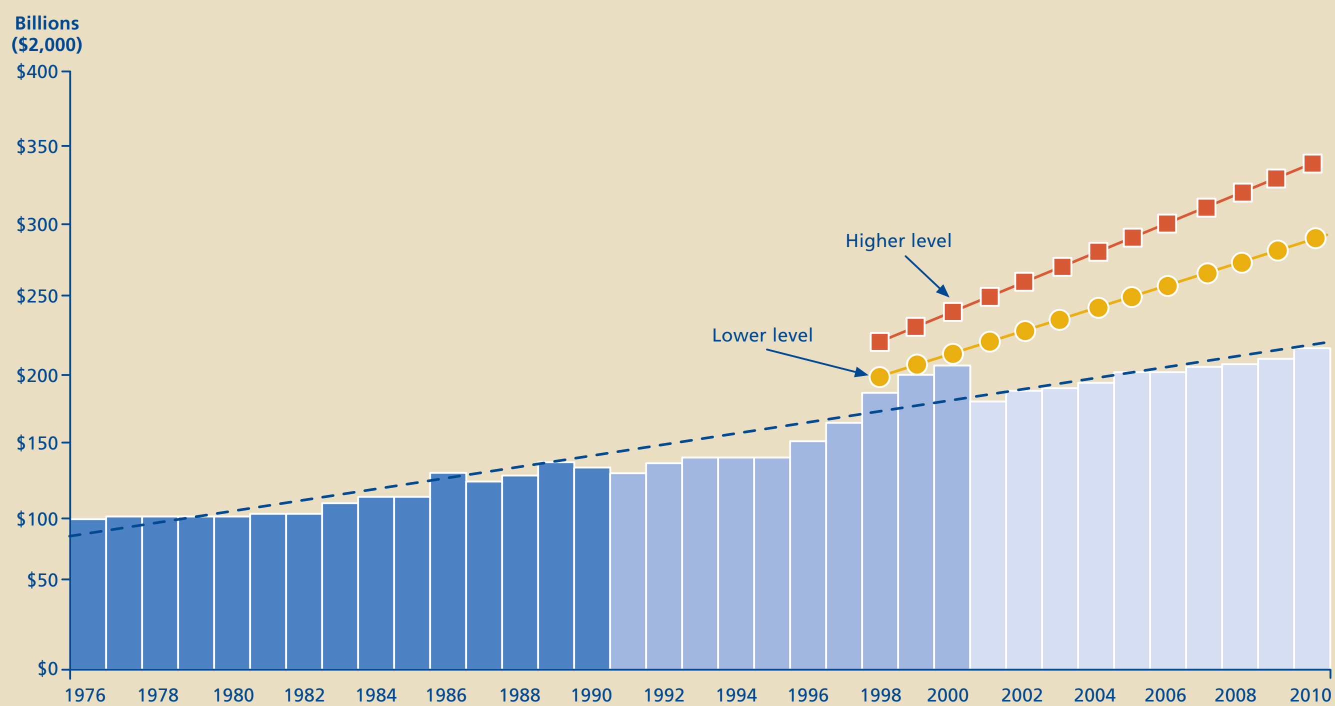
A large intergenerational wealth transfer from the World War II generation to the Baby Boomers will occur in the United States over the next 40 years. This transfer—estimated to be anywhere from $7.2 trillion to $13.7 trillion—could influence the average retirement age (enabling some Baby Boomers to accelerate their retirements) and also have a large impact on some government services, for example, by accelerating the shift to nonprofit organizations delivering social services and being engaged as partners in tackling big public policy issues.[23] The total intergenerational transfer, including that from the Baby Boomers to the successive generations, over the period 1990–2044 is expected to be a minimum of $41 trillion at 1998 prices.

The anticipated wealth transfer from the World War II generation to the Baby Boomers is attracting a lot of attention from the media. Together with the recent multibillion dollar gift announcements by wealthy individuals such as Bill Gates and Warren Buffett, the projected surge in philanthropy is feeding expectations that private donors may play an increasingly influential role in how public services are organized and delivered. Overall, only a tiny percentage of Baby Boomers (less than 2 percent) will inherit enough money to reduce or eliminate their need for continued earned income. The big difference, both in the next few years and beyond, will be in the amount of wealth earmarked for charity.[24]

Baby Boomers already give more to charity than their parents' generation did, and they plan to increase their giving in the next five years.[25] By one estimate, the flow of assets into charity could be as high as $3 trillion from 2001 to 2010, almost double the $1.6 trillion donated during the 1990s.[26] (see figure 7).

Major new donors have already indicated they will follow priorities and strategies different from many established charities. For example, the Bill and Melinda Gates Foundation identified disease eradication in poor countries as one of its primary focuses. To the extent that the new wave of philanthropists directs some of their funds to programs for the elderly, there is the prospect that their approach to program management will be more corporate. In addition to providing the resources, they are apt to get more deeply involved in program design, implementation and evaluation.

Figure 7. Projected Total Giving



Source: GBN Global Business Network, "The Coming Flood: Philanthropy in this Decade," May 2002, p. 6. Note: The dashed projection line follows the simple linear average trend of the last quarter century. The solid projection lines correspond to the lower and higher estimates of cumulative bequests to charity between 1998 and 2010.

Civic Engagement

A rise in philanthropy isn't the only way the aging of the Baby Boomers will affect civic engagement. Across nearly every measure of civic participation—voting, attending town hall meetings, volunteering, contacting government officials—the elderly have higher participation rates than nearly every other demographic group. Consider the following:

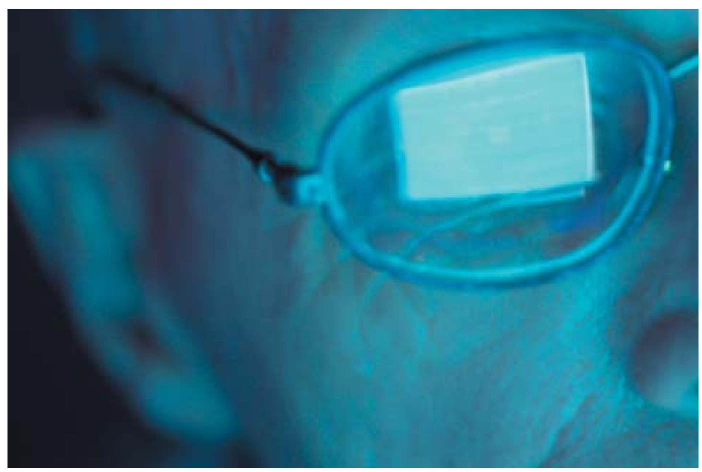
Voting. As people age, their propensity to vote goes up. The voting rate of citizens ages 55 and older in the 2004 US presidential election was 72 percent compared with 47 percent among those aged 18–24 years. Similarly, in the 2001 United Kingdom general election, 70 percent of the elderly voted compared with 50 percent of the population as a whole.[27] With the expected rise in the proportion of the elderly in the population, and given their higher voting rates, the issues that affect senior citizens will gain greater importance.

Participation in democracy. Those over age 65 are much more likely to contact the government to express an opinion—33 percent compared with the 19 percent average.[28]

Volunteering. A large percentage of retirees spend at least part of its time volunteering, and all indications are that Baby Boomers will ratchet up their volunteer activity as they retire.[29] In just two years, from 2002 to 2004, the percentage of retired boomers who volunteered rose from 25 to 30 percent.[30]

The volunteer activity of the Baby Boomers and younger generations are focused on education and youth services rather than the elderly today who tend to be very involved in church-related volunteer activities. This reflects changes that governments may expect in the future. Overall, as boomers age, volunteer activity in nearly all sectors will likely increase.

Volunteer organizations are gearing up to exploit this tremendous potential. For example, Civic Ventures, a California-based think tank, is promoting volunteerism among Baby Boomers through one of its biggest initiatives, The Next Chapter, designed to mobilize older citizens. The National Council on Aging has launched "RespectAbility" to help nonprofit organizations make effective use of older Americans to renew communities.[31] State and local governments can leverage this trend toward rising civic engagement and philanthropy to meet the mounting responsibilities in the face of declining resources as a ratio of government expenditure.[32] Already, initiatives such as Citizen Corps, Community Emergency Response Teams, Volunteers in Police Service, and the Medical Reserve Corps exemplify how governments can leverage the greater community to tackle new challenges.[33]

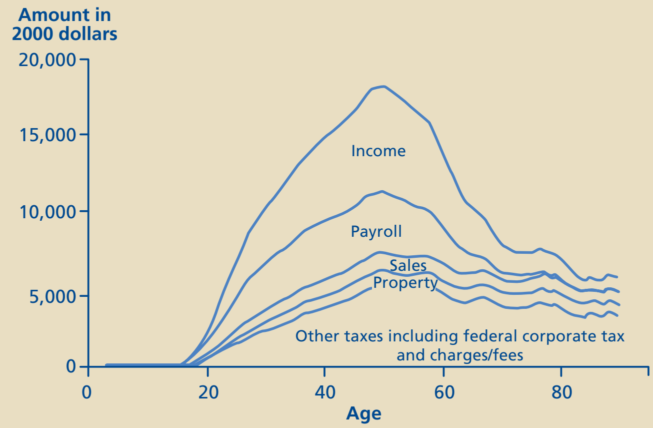


Financing Services

The aging population will have a major impact on state and local finances. Revenue could become a significant issue as the number of elderly increases and a declining percentage of individuals assume the bulk of the tax burden. In many cases, states will want to consider modifications to their tax structures and alternative approaches to funding services. Several trends are likely to become more prominent in the next few decades as states grapple with the challenges of funding services and programs in the face of an aging population:

- Modernization of the tax system
- Increase in retirement age
- Greater emphasis on user fees
- Growth in public-private partnerships (particularly involving the nonprofit sector)

Figure 8. Tax Revenues by Progam and Age, U.S.



Source: Ronald Lee and Ryan Edwards, "The Fiscal Effects of Population Aging in the U.S.: Assessing the Uncertainties," in James M. Poterba, ed., *Tax Policy and Economy*, vol. 16, MIT Press for NBER, June 2002, pp. 141–81.

Tax System Restructuring and Modernization

Once the Baby Boomers begin to retire and the proportion of working-age citizens shrinks, growth rates in personal income tax revenues could slow significantly.[34] This slowdown will have a serious impact on the United States and other countries heavily dependent on the personal income tax. Many state and local governments provide preferential income tax treatment to retirement income and preferential property tax treatment to the elderly. The cost of these tax preferences will grow as retirement income grows and the population ages. Moreover, tax receipts on purchased goods as a ratio of total personal consumption expenditure are likely to decline as well since the elderly tend to spend less than younger people on goods and more on services (which are taxed less if at all under state sales taxes).

In both absolute and per capita terms, seniors on average contribute less in each category of tax receipts. The drop with age is especially pronounced in the case of income and payroll taxes, but a decline also occurs for sales and property taxes (see figure 8).

To meet their funding requirements, governments will have to modernize their tax systems by retaining their existing tax base while extending it into new areas. Key features of modernized tax systems are likely to include:

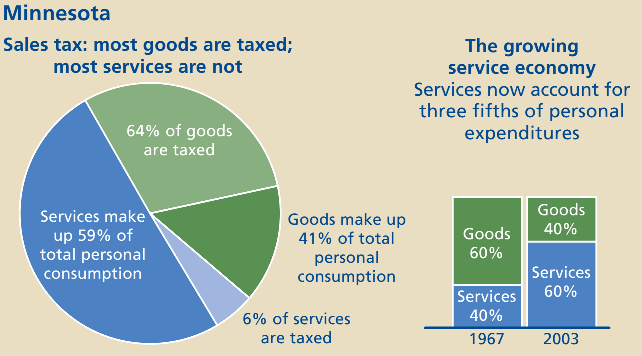
- **Fewer tax preferences.** Governments at all levels will likely look to reexamine tax preferences. Seniors, in particular, benefit from tax preferences. A review of Minnesota's tax system, for example, shows that only about 46 percent of the gross income of seniors is taxable compared with 67 percent for younger taxpayers.[35]

- **Taxes on services.** Many state tax systems are designed for an Industrial Age economy (see figure 9). Manufactured goods tend to be heavily taxed, while services are lightly taxed—or not taxed at all. Given both the growth of a more service-based economy and the fact that the elderly spend relatively less on goods and more on services than younger people do, such tax structures may not be sustainable over the long term. Despite the political difficulties of doing so, services are likely to be more heavily taxed in the future.

- **A balanced-basket tax approach.** The aging of the population will mean that idiosyncratic tax structures that rely on narrow tax bases will prove increasingly untenable. States will need more diversified and broad-based revenue sources in the future. The same goes for local governments, which now depend heavily on property taxes as the funding source for education. This approach will come under tremendous political pressure from an aging population in many places. In addition to being less able to pay rising property taxes out of fixed incomes, the elderly, having no children in local schools, tend to place comparatively less priority on education spending than do parents of school-age children. As many as 20 states have recently seen revolts against property tax increases.[36] In short, the property tax will likely need to be supplemented increasingly with other revenues sources to fund education.

State and local governments have also favored narrower sales taxes, which are weighted heavily toward goods. However, there is a limit to how much further governments can go with this approach—both politically and in terms of overall effectiveness—because sales tax rates approaching 10 percent begin to push a lot of economic activity to the black market and dampen economic growth. To avoid these problems, states will have to shift to broader, more diversified tax regimes.

Figure 9. The Mismatch Between Tax and Output Structure in Minnesota



Source: Minnesota Department of Revenue, *Minnesota's State and Local Tax System*, January 2005 <http://www.taxes.sta te.mn.us/legal_policy/other_supporting_content/tax_system_overview.pdf>.

Increase in the Retirement Age

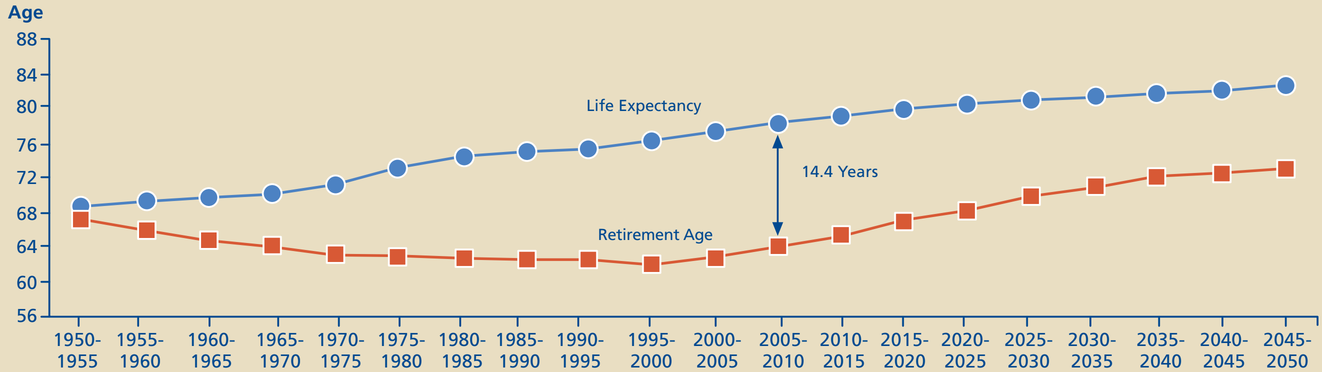
After age 60, most Americans pay significantly less income tax than they did previously, meaning potentially less revenue from income taxes for states and the federal government. One way to stem this potential erosion of the income tax base is by extending the average retirement age to better reflect increased life expectancies. The older Americans are when they retire, the less they will draw on Social Security, Medicare, and Medicaid and the more tax revenues they will pay into the government coffers. In fact, every year an eligible person defers drawing Social Security benefits saves the system 7 percent.[37]

Raising the retirement age by just a few years may not be enough, however. Professor Jeremy J. Siegel of the Wharton School warns that the retirement age will have to increase much faster than the increase in life expectancy to narrow the dependency gap in a meaningful way (see figure 10). Otherwise, living standards will fall and taxes will increase to unpalatable levels to fund Social Security and Medicare.[38]

Some foreign governments have begun to understand the depth of this problem and have become more aggressive in their response. The United Kingdom has proposed shifting the retirement age to 68 over the next 40 years in response to an increase in life expectancy.[39] In the United States, if the planned increase in the retirement age to 67 was accelerated and completed in 2015 then rose to 70 by 2030 and the increase slowed to one month each two years thereafter, social security outlays would actually fall by 12 percent by 2050.[40]

Efforts to get people to postpone retirement can go only so far, however, without significant changes on the demand side. Currently, companies face a host of disincentives for retaining or hiring older workers. Tax, pension and age discrimination laws often discourage employers from implementing phased retirement. For instance, many workers cannot afford to reduce their work hours without receiving a part of their pension, but rules prohibit employers from making payments from defined benefit plans.[41] To affect real changes, these kinds of obstacles will have to be removed.

Figure 10. Retirement Age Must Rise Faster than Life Expectancy



Source: <http://www.ioes.hi.is/events/conf_200506_Aging/Siegel.pdf>. For details, see Jeremy J. Siegel, *The Future for Investors: Why the Tried and True Triumphs over the Bold and New* (New York: Crown Business, 2005).

Increased Reliance on User Fees

Instead of raising more general taxes, governments have been relying more and more on user fees in recent decades to finance services in areas such as roads, urban parking, locally owned utilities (including Internet access through Wi-Fi), parks, and health care.[42] This method of finance, which entails charging fees directly to the users of public services, will likely continue to gain popularity in the future. User fees hold several advantages over general taxes:

- **They promote efficiency.** User fees help ration scarce resources by forcing users to pay the cost of the services they consume.
- **They align the costs of services with the benefits.** Those who use the services are the ones who pay. This discourages people from asking the government to provide ever-higher service levels with the expectation that other groups of voters will bear the cost of those services.
- **They are flexible.** User fees are a more flexible source of funding than taxes because the amount charged can vary with demand and the costs associated with providing the service.

If current trends continue, county governments in the United States could receive nearly as much revenue from user fees as from property taxes within a few decades.[43]

Growth of Nonprofit Role

The emergence of a vastly bigger and more sophisticated nonprofit sector will create new opportunities for partnering and for leveraging private dollars for public causes. Already, the rise of the nonprofit sector means that governments in the United States now deliver less than half the social services they finance; in most communities, three-fifths or more of health and social services are now delivered by either nonprofit or for-profit providers. Similar changes have occurred in other countries. In 1980, government agencies in Great Britain delivered the overwhelming majority of social services in that country; only 14 percent were provided by private firms or voluntary organizations. Less than two decades later, that number had jumped to 40 percent.[44]

As the population ages and demands for many social services increase, the continued growth of the nonprofit sector will allow governments to engage the nonprofit sector's innovative spirit and creativity in efforts to solve major social problems.[45] Moreover it will enable government officials to discharge government's important role in solving social problems by better supporting functioning elements of civil society.

The Changing Service Mix

In addition to changes in government funding, the growth of the elderly population will drive changes in the composition of government services. In absolute terms, 19 states are expected to see a decline in the number of persons aged less than 18 in 2030 compared to 2000. This will cause the demand for many services catering to the elderly to rise while, with fewer school-age children in many states, the demand for education and youth and child welfare services will fall.

Florida, the grayest state with close to 18 percent of the population ages 65 and over, offers a glimpse into what the future might look like in many states. Florida has invested considerable resources into offering better transportation services and aggressively screening older drivers to make sure they can safely operate motor vehicles. The Florida Commission for the Transportation-Disadvantaged, for example, offers cost-effective transportation services to older people who cannot drive.

Meanwhile, the Florida Senior Community Service Employment Program offers training for older workers to enable them to continue working or find a new job. CVS Pharmacy and Home Depot have partnered with the agency and hired older workers with experience and a willingness to work flexible hours as part-time or seasonal workers.[46]

Law enforcement is another area likely to see major adjustments, such as increased attention to preventing and investigating crimes and frauds against the elderly. In Florida, the Administration on Aging has funded more than 300 education sessions on consumer fraud for more than 9,000 seniors, their families and law professionals.[47]

Furthermore, given the fact that increasing age generally leads to a decreasing propensity to commit crimes, the prison population, and therefore the demand for new prisons, will likely fall. Another likely impact of the aging population on law enforcement will be changes in sentencing and imprisonment. Some states are already beginning to provide alternatives to incarceration for elderly criminals, both as a way of saving money and making the last years of their lives more humane. Florida, for instance, has a chapter of Projects for Older Prisoners that identifies low-risk older prisoners for alternative forms of incarceration or for special release. The state has also created special geriatric units for high-risk older prisoners and instituted a special unit for elderly female prisoners.

Programs that promote healthy lifestyles through preventive public health care measures, wellness centers, and health clubs, and education on low-cost, healthy, easy-to-prepare meals are also likely to increase in popularity as a result of the aging population.

Changing Mix of Services at a Glance

Increased Demand	Reduced Demand
Home-based health care	K-12 education
Public transportation	Youth services
Adult education	Playgrounds
Job retraining	Child welfare
	Prisons

Source: Deloitte Research

Closely examining two sectors the government is heavily involved in—health care and transportation—sheds more light on the kinds of changes we can expect in government services in response to the aging citizen.

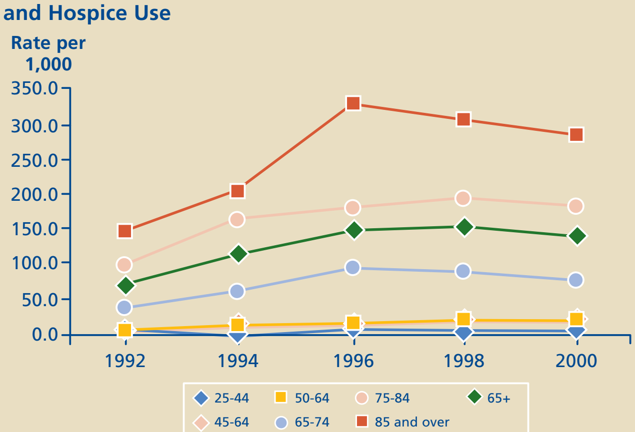
Elder Care

A profound shift has occurred over the past few decades in how society cares for the elderly. Just a generation or two ago, adult children cared for the majority of the elderly in their own homes; as more women entered the workface, families turned more to nursing home care for their elderly. But the once-strong demand for nursing home care has fallen steadily over the past two decades.[48] Meanwhile, the demand for home health care grew dramatically in the early 1990s, tapering off just slightly toward the end of the decade (see figure 11).

Healthier living habits, technological and service innovations, cost considerations, and deep-seated preferences of the elderly to live at home rather than in institutional care have driven the growth of home health care and assisted-living facilities over that of nursing homes. Home health care costs much less than nursing home or hospital care, and technological advances have made it as effective as hospital care for many treatments. The continued rise in the elderly population will cause the demand for home-based health care to increase at an even faster clip in the future.[49]

The savings from home-based health care costs over nursing home care costs are no longer a subject of dispute. Not only is the average Medicare home health service expenditure lower, but it also increased at a much slower rate than nursing home care between 1992 and 2002.[50] Governments can save considerable money by encouraging home-based health care, more so because the morbidity pattern is shifting toward chronic diseases (such as cardiovascular disease) that require long-term treatments. Technology can shrink costs further. By employing "smart devices" that can monitor a patient's vital signs and automatically transmit the information to the relevant health care staff, customized wearable devices, electronic patient records, wireless Internet-linked systems, and other advanced solutions, providers can deliver relatively inexpensive but convenient, user-friendly, and customized health care in the home.[51] By one estimate, the yearly equipment cost is equivalent to just two weeks of residential care.[52]

Figure 11. Trends by Age Group in Home Health Care and Hospice Use



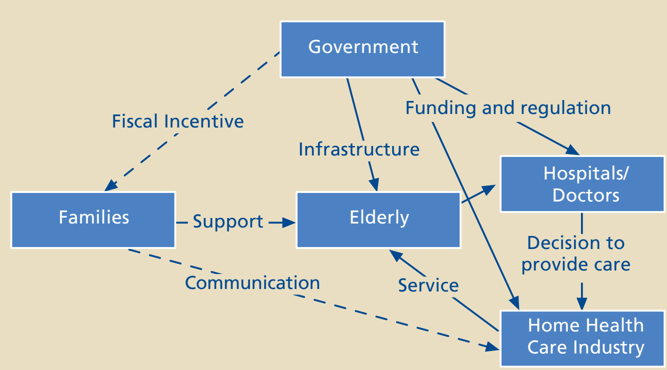
Source: *Trends in Health and Aging*, National Center for Health Statistics, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, <http://209.217.72.34/aging/TableViewer/tableView.aspx>

Home health care for the elderly depends on a complex set of linkages between the government, families, and the health care industry (figure 12). Governments play an important role by creating, through funding, policies, and regulation, the overall framework for interactions among institutions serving the low-income elderly.

Given the tremendous cost savings to be had, state governments are beginning to take steps to accelerate the trend toward home-based health care for the elderly. For example, governments are examining how they can help support families who care for their older members. Families now provide approximately 80 percent of the care needed for ill and disabled family members living at home. In the United States, about 20 million adults care for their aging parents, according to the Family Caregiver Alliance, a San Francisco–based social service organization.[53] Because of changing demographics, however, the number of available caregivers will decline in relation to the number of people who need care.[54]

A number of policies can strengthen needed support: vouchers, greater flexibility in working hours, phased retirement programs, and information to navigate the managed-care system. In Massachusetts, for example, low-income families receive $1,500 a month to take care of seniors who need help with everyday tasks.[55] Since treatment costs are usually lower when there is early diagnosis, family members also need better education about diagnosis, prevention, and treatment of health problems associated with old age. The channels of communication between families and the home health care industry also need be strengthened, with increased emphasis on coping with caregivers' emotional stress and respite needs.

Figure 12. Who Provides Home Health Care for the Elderly?



Source: Deloitte Research

Snapshot: South Dakota

A big challenge faced by many Heartland states is the impending huge increase in demand for long-term care that will occur at the same as time the number of younger workers will be falling. In addition to presenting broader economic challenges, this dynamic is likely to make it difficult simply to meet the rising demand for long-term care workers. Take South Dakota: by 2010, a third of the state's population will be over 50, a percentage that will grow to 42 percent by 2025.[56] Thanks to these trends, the South Dakota Department of Labor forecasts that healthcare and social assistance will be the fastest-growing industry in the states by 2012. However, the population of nurses age 25–55 is dropping. About 80 percent of the 110 nursing homes in South Dakota are understaffed, a percentage expected to grow as younger people continue to leave the state.[57] Around 11,000 additional health care workers will be needed to meet the demand.

As the demand for home-based health care continues to rise, governments will face increasing pressure to regulate the industry more heavily. Home health care providers often employ low-wage, temporary homecare workers who frequently aren't trained adequately to provide skilled services. This leads to high attrition, shortages of personnel to meet the rising health care needs of the elderly, and potential safety problems. To avoid more extensive government regulation, the home health care industry will likely need to take active steps to self-regulate staff training, improve working conditions, reduce attrition, and create a safe environment for the elderly. Safety is a growing concern because home health care workers are frequently called upon to provide relatively skilled services, such as helping the elderly take medications.[58]

Improved Transit Options

Instrumental to a well-functioning, home-based health care system is a public transit system that addresses the mobility needs of both the elderly and home health care workers. The elderly also desire access to entertainment, shopping and the ability to get together with friends and relatives. Aging in place will increase the demand for mobility choices so that elderly people can remain independent and in control of their lives as they age.

Senior citizens in the United States tend to associate mobility with driving one's own vehicle rather than public transportation. The next generation of elderly—the Baby Boomers—is even more likely to do so.[59] The elderly are, by and large, unprepared for the transition to the stage where they can no longer drive. As a result, they can become isolated, vulnerable, and dependent on others. One in five Americans age 65 and older does not drive, and more than half of these non-drivers stay at home on any given day.[60]

Aging populations will require inexpensive and easy-to-use public transportation,[61] but mobility for the elderly will need to extend beyond introducing more rail and bus services to include:

- Convenient location of grocery stores
- Well-planned developments that reduce dependence on cars
- Coordinated delivery of human and social services so that hours of service coincide with those of public transit
- Revamped highway systems, with clear and legible signs, well-marked roads, and bright lighting
- Improved safety for pedestrians and cyclists

Important issues in transportation are the need for policies and regulations that promote safety, as well as vehicles and infrastructure that are old-age friendly. Older drivers tend to have somewhat better driving records than commonly believed. But they are also more vulnerable to injuries and death from auto accidents.[62] These crashes are often caused by age-related physical and cognitive frailties.[63] According to the U.S. Department of Transportation:

> Crash involvement of aging drivers often stems from lack of attention or errors in comprehension. Failure to yield the right of way, misunderstanding of signs and signals, and inaccurate judgments of speed are typical mistakes.[64]

Making roads safer is crucial to promoting elderly independence and quality of life, and it can also go a long way toward reducing accident-related health expenditure costs. To do so, governments need to improve pavements and roads (lines, lights, and signs), develop better methods for testing driving ability, and, with help from the private sector, create more parking spaces reserved specifically for seniors. Governments can also encourage automakers to develop safety features designed to compensate for age-related declines in motor functions and other physical abilities.[65]

In this vein, New York Department of Motor Vehicles Commissioner Nancy Naples believes that the next decade will see an increase in reexaminations, refresher courses, and defensive driving instruction for elderly drivers.[66] Her agency encourages senior drivers to self-assess their driving ability by providing information that draws attention to the impact of age on driving skills. Visual acuity, motor skills, and response-time awareness are just some of the visible indicators affecting driving capabilities that are highlighted.[67]

Families also need to be more involved in the process of determining whether an elderly person can still safely drive. The New York DMV will also educate doctors on what to look for in evaluating whether an elderly person should be reexamined or take a refresher course.[68]

Future trends will also force governments to rethink their spending allocations across various services, paying particular attention to how they balance services for the young and elderly. To do so, government agencies will have to figure out the future demand patterns for their services. They will also have to reevaluate the channels for delivering services to avoid burgeoning costs at a time when their revenues may be flat or declining.

Service Innovations for the Aging Citizen

The private sector is responding to the aging of the Baby Boomers and the rise of the elderly population by undertaking fundamental changes in the way services are delivered and products are brought to the market. Home Depot, the home improvement retail chain, has shifted from the "do-it-yourself" to the "do-it-for-you" approach by offering home improvement installation services.[69] Meanwhile, OXO International introduced the Good Grips line of kitchen tools to cater to the senior cohort. Fidelity Investments redesigned its new website to make it easier for aging customers to navigate. Increasingly, customer-centered private companies are focused on understanding their aging customers and learning how their needs change as they get older. That knowledge helps them redesign their products and services to meet the critical needs of this important customer segment.[70]

What about government? How will the aging citizen affect government delivery of services and programs? How can governments simultaneously meet the very different service channel preferences of aging citizens and the younger digital generation without heaping huge new costs on a shrinking number of taxpayers?

These are the kinds of questions facing government agencies of all shapes and sizes. Agricultural departments wrestle with how to shift farmers to low-cost, online channels for reporting and information without alienating older farmers. Veterans departments try to figure out how to deal with the very different preferences younger and older veterans have for interacting with the government. Social Security agencies ponder whether they will need their extensive networks of physical offices a decade from now—and whether they can even afford them. Motor vehicle agencies struggle with how to advance both safety and mobility in the face of rapidly increasing numbers of much older drivers.

No matter what types of services or programs a government agency is responsible for, they all have a common concern: how to shift to the most cost-efficient channels of service delivery without upsetting current customers or compromising citizen expectations. In tackling this issue, governments are pressed to meet two often-conflicting objectives: provide value to taxpayers by reducing cost, and provide value to customers by addressing individual preferences. Which objective should receive priority? Both. Businesses don't try to cut costs irrespective of customer preferences. They would end up losing customers. Governments, for their part, could face a political uproar. Therefore they will need to find a way to strike a balance between demand and cost considerations as the population ages. To do so, government agencies will need to acquire a deeper understanding of three critical areas:

- **Customer segments.** Who are the agency's customers now, and how might they change in the future?
- **Customer preferences.** What do different customer segments need and desire, and what types of solutions are they looking for?
- **Delivery channels.** What is the full range of service delivery channels—both high- and low-cost—available to agencies? Can customer preferences for delivery channels be changed over time, and how can they be influenced?

These questions, in turn, can't be addressed in isolation; they are closely intertwined. Together, the answers form the core of a holistic customer strategy for the aging citizen.

Segmenting Customers

Governments have long looked at their "customer" base as a homogeneous group. The result has been a tendency to provide one-size-fits-all services. The problem with this approach is that it fails to meet the rising expectations of citizens accustomed to more personalized and convenient services in the private sector. It is bound to become even less acceptable as the base of the demographic pyramid becomes increasingly elderly. Not only do the young and the old have different service needs that need to be managed, but increasingly, each different age group—and segments within these groups—have their own preferences for how they want services provided. Moreover, these preferences may continue to change in the future. Segmenting customer citizens according to needs and means of delivery allows governments to rethink their options for allocating resources. The goal: aligning services with customer needs and service preferences.

Such customer segmentation is standard practice at consumer-oriented businesses. They use demographic data and interviews to formulate customer profiles (for example, age, income, and geography) and to determine what kinds of products and services different customer groups want. Governments have the opportunity to do the same.

The starting point is building a hypothesis about customer needs that is closely tied to the characteristics of the particular segment (for example, the need for elderly transportation or health care). By understanding customer characteristics today and how those characteristics are likely to change over time, governments can anticipate how customer preferences may evolve and adjust service channels accordingly.

Take the issue of transportation for the elderly, particularly during the evening hours. Currently, the accident rate for elderly people shoots up after dark. To address this problem, one response could be to provide cheap, safe public transportation after 5 p.m. But first, the public transit authorities should assess who the potential customers are and how likely they are to use the service. A public transit agency would begin by gathering core data about the elderly population: the number of elderly drivers, the number of accidents (by hour of the day), and elderly usage of public transportation. It would be important to know the age and income characteristics of elderly bus riders and what encourages and discourages ridership. If buses were easier to board and more comfortable, drivers friendlier, and service better publicized, would demand for the service increase? And how might usage change in 5 or 10 years, as the number of elderly grows and targeted customers age?

Understanding Customer Preferences

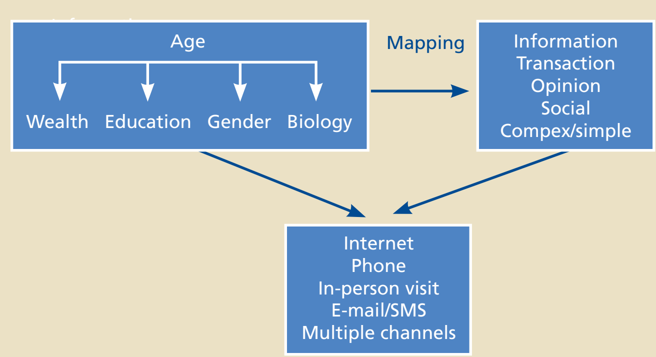
Understanding customer needs and preferences is a many-tiered process. In addition to age, other factors such as education, wealth, health, geographic location, and experience with technology come into play (figure 13). In thinking about how to design or reorganize services, governments should recognize that different groups have different needs and may be more comfortable doing business one way (say, face-to-face or by phone) versus another (on the Internet or by e-mail). Before inducing customers to change channels, governments need to understand the underlying preferences of different customer segments and the corresponding cost implications.

Consider the case of veterans. Mark Sullivan, the secretary of Australia's Department of Veterans' Affairs, notes that service delivery in his department is geared heavily toward World War II veterans, who prefer high-contact, in-person service. As a result, these customers are extremely satisfied with the service they currently get. But many younger veterans think the service is too slow and cumbersome. They don't like having to fill out multiple forms, but prefer 24/7 one-stop shopping online. So what should the department do? How can Veterans' Affairs simultaneously cater to the needs of both customer segments? In this case, age is a dominant variable in channel preference—in-person services are "entrenched" within the department's World War II customer segment. The size of this customer segment is declining, however, because members of this generation are dying of old age and various illnesses. This means that some of the more expensive physical channels can eventually be phased out.

Health care provides other examples. We have already noted that demand for home-based health care will increase significantly with the aging of the population. But governments have to recognize that the needs of the elderly poor will be significantly greater than those of people with resources. Those with resources, for example, may require little or no government assistance at all in arranging for in-home services and paying for them. Others, particularly those who can't rely on family members to provide daily help, may need significant support in getting information about benefit eligibility and access to services. As the recent rollout of the Medicare Prescription Drug Plan illustrates, government agencies need to be careful about introducing programs that offer too many choices. Without good navigational support, lots of consumer choice can easily lead to confusion and disillusionment.

Surveys can provide helpful information about customer preferences, as can demographic modeling and testing ideas with focus groups.[71]

Figure 13. A Customer Segmentation Approach in the Context of Aging



Source: Deloitte Research

Managing Delivery Channels

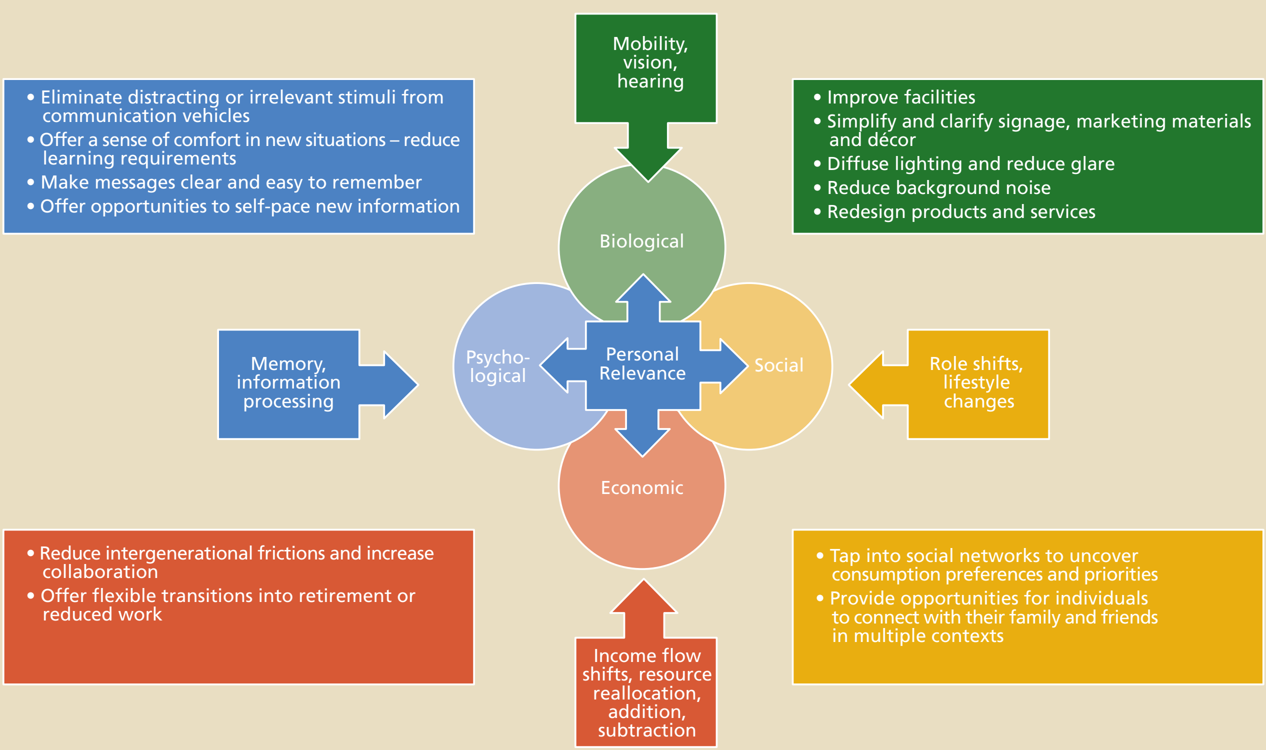
Increasingly, citizens want to access public services through different channels. Providing services through multiple channels, however, can be expensive to government agencies.

If cost was the only consideration, governments would quickly shift as many citizen customers as possible to the lowest-cost channel (usually the Internet) and eliminate some of the old physical and paper channels. But the fact that many seniors may prefer in-person visits or phone calls to online channels adds a serious wrinkle to this strategy.[72] Many of today's elderly are not comfortable enough with technology to access government services through the Internet. For some, it's a matter of age-related disabilities: diminished vision, decline in motor and muscular control, and reduced response to stimuli. However, there are two other important factors. First, the complexity of many citizen-government interactions increases with age.[73] This makes it harder for people to be satisfied with simple answers. Second, many older people have a desire for social interaction, which causes many of them to prefer in-person visits. (This equation may change over time. The Baby Boomers are far more comfortable with technology than the generation that preceded them. As they age, they should be far more comfortable using the Internet than today's elderly.)

Given these considerations, how can governments accelerate customer shifts to lower-cost channels and improve overall efficiency without alienating the elderly and near elderly? Four strategies can help to balance the trade-offs.

Do the easy things first. Age-related disabilities (vision loss, hearing loss, memory problems and mobility loss) are common among elderly citizens. Therefore, it is important to pay special attention to user design interfaces (see figure 14). For documents, this means making sure that they are clearly written and printed in easy-to-see type. For online information, it means making sure that material is visually and substantively coherent and easy to navigate.[74] Making online services age-friendly will help not only the elderly, but others as well, and may encourage customers using other channels to go online.

Figure 14. Align with Aging on Multiple Dimensions



Source: Deloitte Research

For face-to-face interactions, improving user interfaces means training front-office employees and customer service representatives in responding to the unique needs of aging citizens. For example, employees at department of motor vehicle offices will need to be specially trained to interact with seniors from a customer service perspective, by recognizing their unique needs and communicating with them in the best way to help them solve their problems. Road safety inspectors will likewise need advanced training in understanding the driving implications that come with changes in visual acuity, motor skills and response times as people age.

Develop ways to handle complex needs online. Governments need to find better sway for e-government initiatives to address complex needs, which will only grow in number as the elderly population increases. The conventional wisdom is that online services may work well for simple tasks but are unfit for helping people with more complex issues. This is not completely true. Technologies using various forms of artificial intelligence, now widely available, can be used to answer complex questions that previously could only be answered by humans.

Online expert assistance tools developed by the US Department of Labor and the Occupational Safety and Health Agency, for example, offer potential models. These agencies promulgate thousands of new rules and regulations that businesses must comply with each year. To help small businesses, the agencies have built more than 30 expert advisor programs, which provide customized assistance for complying with various DOL and OSHA regulations. The expert systems capture and organize facts and knowledge by "cloning" expert experience, which can be used to solve tricky but routine problems. Based on answers to dynamic questions, the computerized expert advisors can lay out precisely what people need to do to comply with particular regulations. For example, in 10 to 15 minutes, the Hazard Awareness Advisor can interview a restaurant owner, analyze the workplace based on answers he or she provides, and write a customized 5- to 20-page report on probable hazards. Typically, a knowledgeable professional would need two to three days to conduct the interview and complete the report. OSHA estimates that this advisor alone will save small businesses between $40 million and $83 million a year.[75]

Expert systems and other technology tools could be employed in a similar manner to help make electronic channels more appealing to seniors. Through interactive question-and-answer formats, they can enable seniors with only the most rudimentary computer literacy skills to navigate their way through complex online government programs.

These self-service Web tools also provide the ability to do real-time customer segmentation. Based on the answers to the questions, agencies can discern various patterns in their customers. This in turn allows them to better tailor their service offerings and channels to customer preferences.

Develop clicks and mortars solutions. Governments can also use technology to transform traditional physical channels into "clicks and mortars" services that offer some of the personal interaction many seniors want while using technology to reduce costs. Airline check-in kiosks that are now prevalent in many airports offer a good private sector example. The kiosks reduce queues and allow the airlines to serve customers with fewer front-counter employees while providing for in-person support where necessary.

Government agencies that rely on direct interactions with customers have opportunities to provide similar services. By setting up a network of kiosks, New York's DMV will allow motorists to receive services that previously required direct staff assistance.[76] In addition to placing kiosks in DMV offices, the department intends to put them in other locations, such as convenience stores. Kiosks already provide a channel for conducting banking and utility bill payments. For some motor vehicle-related transactions—for example, printing car registrations and other documents—the kiosks could be an alternative to the Internet, providing documents on the spot.[77] The DMV hopes that, in addition to reducing postage and handling costs, the kiosks will reduce wait times for elderly people and others who require over-the-counter services.[78]

One of the problems with phasing out physical offices is the perception that customer service will decline, especially for customer segments that prefer face-to-face interaction. Mobile offices offer one way to continue face-to-face service while reducing the overhead costs of physical infrastructure.

Establish public-private "channel" partnerships. Governments don't own all the channels of delivery. Nor can they meet all the service needs of customers on their own without driving up costs. In some cases, it will make sense to "piggyback" on the investments others have made in service lines and delivery channels to meet the needs and preferences of aging citizens. Governments can do this by establishing "channel partnerships" with private firms, associations and nonprofit organizations that would conduct transactions on behalf of government agencies in the same way that retail stores act as a distribution channel for manufacturers. In most states, for example, auto dealerships can handle motor vehicle registrations. Similarly, sporting goods stores often

Veterans Administration Tele-Health Program

Tele-health offers a powerful clicks-and-mortar approach to reduce spiraling health care costs. In Florida, for example, the number of elderly veterans is escalating, and many veterans are rural residents. The distance from medical facilities can deter patients from seeking care until their condition has deteriorated to the point where expensive hospital stays, surgeries and other intensive treatments are necessary.

To address these issues, the Sunshine Network Veterans Health Administration, which encompasses VA hospitals in Florida, Puerto Rico and the Virgin Islands, is deploying high-tech, user-friendly tele-health computer devices to allow many elderly veterans to lead more independent lives. Patients can solicit advice from health professionals in remote medical centers; keep tabs on their own disease progression and measure their blood pressure, blood sugar, blood oxygen, temperature and weight; record their peak flow and stethoscope sounds; and take electrocardiograms—all from the comfort and convenience of their own home. "We are addressing health concerns before they worsen," explains Patricia Ryan, from VHA's Office of Care Coordination. "Diabetics, for example, need to be concerned about getting eye exams, so we are using special cameras that can take a picture of the eye with a tele-retinal camera. We used this technology to transmit the images over an hour away to get read by an expert."

Traditional rounds have been replaced by control centers that monitor patients through real-time videoconferencing. The patient's home is equipped with various electronic monitoring devices, and a schedule for check-in calls is established. Each device is customized to individual patient needs and designed to increase patient compliance by reminding them to take their medications and asking them questions to assess their well-being.

Currently 20,000 patients are enrolled in the tele-health program nationwide, with a goal of 100,000 patients by 2009. In addition to the home tele-health program, MyHealthyVet, which provides interactive access to veterans' electronic medical records, is available online to all veterans in the VHA system.

Photo: Viterion TeleHealthcare LLC

serve as outlets for fishing licenses. The opportunities for governments to provide services to the elderly through partners are both broad and deep.

The essential idea is to leverage the investments private sector organizations—for example, the American Association of Retired Persons (AARP) or health care companies—are already making in the elderly market by partnering with them to create robust channels for distributing information and handling a variety of important transactions. A model for this kind of partnership is Earth911.org, a nonprofit organization that offers community-specific resources in a variety of environmental areas including recycling. People looking for information about their communities can simply enter their zip code and learn about solving their own specific problems—everything from how and when to get rid of used oil and tires to where to charge electric vehicles.[79]

Internet portals catering to the elderly could gather together community-specific elderly resources in one place. (In addition to having information about health care, the sites could offer updates on transportation options, home care resources, and upcoming events.) But there is also an opportunity to coordinate the various interactions people have with the government. Most elderly people have a variety of different transactions with the government including filing tax forms and receiving retirement benefits. As more and more seniors remain active and continue to work part time, the number of transactions will grow.

Today, these transactions happen in silos. A more efficient system would treat the discrete transactions as part of a more integrated relationship, which could be cheaper and less cumbersome for both individuals and governments to manage. This is particularly true of low-value transactions, which are costly to administer. To deal with these inefficiencies, for example, the Australian government allows families to reconcile their government benefits with their tax returns, reducing the amount of paperwork and costs associated with multiple transactions.

Conclusion

The population in the developed world is aging, and some countries face declining populations. These changes will lead to in an increasing problem of old-age dependency and, in many countries, a wide gap between government expenditure and revenue. Three factors—openness to immigration, higher fertility rates, and increases in average retirement ages—will somewhat mitigate the potential problems in the United States, compared with Japan and much of Europe.

Nevertheless, the aging population will still prove quite challenging for state governments to serve. Among other concerns, governments will need to look at the expenditure side of their budgets and either reallocate funds or identify ways to reduce the cost of delivering service. This will force governments to change the way they deliver services, particularly to senior citizens.

As a first step toward gaining a better understanding of the myriad ways the aging citizen will affect their state, governors can follow the lead of New York, which in 2002 required every state agency to produce a plan detailing how they were preparing to cope with the impact of the aging and increasingly diverse state's population. Such planning will be crucial to avoid being swamped by the coming demographic tidal wave.

Endnotes

[1] The Baby Boom is generally defined as the generation born between 1946 and 1964.

[2] *State of States* 2006 Report <www.Stateline.org>.

[3] Japan and the countries in the European Union are likely to be hardest hit. Japan's dependency ratio is expected to shoot up to 0.74 in 2030 and to 0.97 in 2050, meaning there will be almost one dependent for every worker.

[4] The impact of the decline in work force on GDP could theoretically be overcome by a rise in productivity. But given the large scale of decline in labor supply in some countries, this would require a phenomenal growth in productivity. For instance, the German workforce is expected to decline by around 8 million by 2050. This would require a rise in productivity of close to 40 percent per annum, almost impossible to achieve given that the long-term annual productivity growth rate is close to 1.6. The impact of these demographic changes on per capita GDP is more difficult to predict, given a reduction in population accompanied by the reduction in labor force. See Axel Borsch-Supan, "Global Aging: Issues, Answers, More Questions," Working Paper WP 2004-084, Michigan Retirement Research Center, University of Michigan, 2004.

[5] Ronald Lee and Ryan Edwards, "The Fiscal Effects of Population Aging in the US: Assessing the Uncertainties," in James M. Poterba, ed., *Tax Policy and Economy*, vol. 16, (Cambridge, MA: MIT Press, June 2002), p.154. Lee and Edwards have calculated the average government (federal, state and local) expenditure per US individual, by benefit program and age; it shows that benefit programs for the elderly are by far the most costly on a per capita basis, followed by programs for children. The programs include 25 individual and or household benefits program (school lunches, TANF, energy assistance, SSI) plus additional non-individual program. Expenditures that do not accrue to individuals or households have been assigned on a per capita basis.

[6] It should be noted that the number of survivors into old age is lower and so the per capita cost may be higher. A study by J. Gruber and D. A. Wise found that the expenditure per individual old person in the OECD countries declined over time. Nevertheless, the total expenditure on the elderly increased. Further, they found that the total government expenditure as a share of GDP did not change with aging, mainly due to reduction in other areas. The conclusion is that the aging population will put pressure on government in terms of trade-offs and constraints, rather than in terms of level of expenditure. See J. Gruber and D. A. Wise, "An International Perspective on Policies for an Aging Society," NBER, Working Paper No. 8103, 2001.

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[12] In the United States, the south witnessed an average net in-migration of 353,000 annually between 2000 and 2004.For more details on domestic migration in the United States, see US Census Bureau, "Domestic Net Migration in the United States: 2000 to 2004," April 2006.

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