

## Chapter 9: What Impact Can Technology Have on the Lives of Older Residents?

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Technology has changed the lives of younger and older people in ways that could not be imagined even a short time ago. This experience suggests that the future will be very different. Both older and younger generations stand to benefit from technological advances such as the availability of personal computers and the Internet, which can reduce feelings of isolation and increase access to a great deal of information.

Developments in assistive technology also will probably have a great impact on the lives of older people. Assistive technology can be used to maintain or improve the functional abilities of individuals. Specialized equipment can help people function more independently and emergency response systems can provide an extra measure of security for people who otherwise could not be left alone. With telemedicine, people can stay at home and receive information and advice about medical conditions. Some conditions can be monitored or even diagnosed from home. The greater use of assistive and other technologies may be one response to expected long-term care provider shortages.

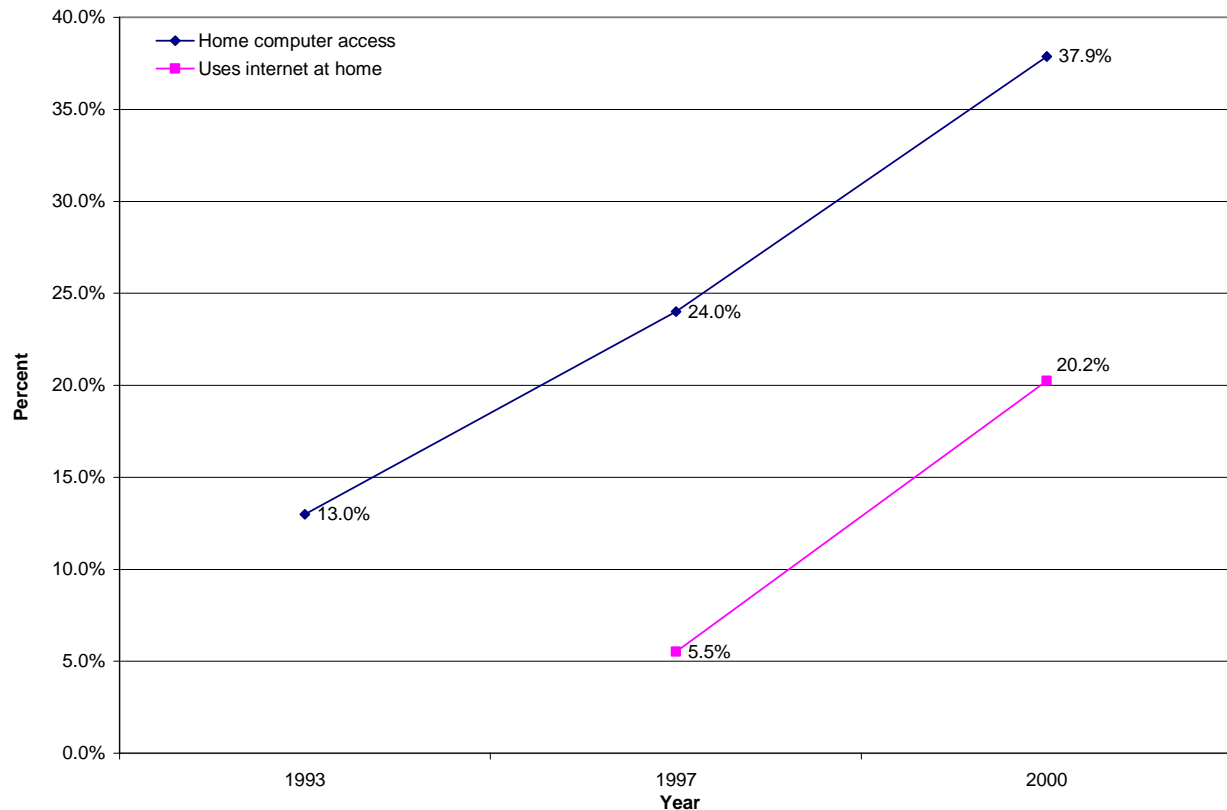
As policymakers consider what states can do to promote the use of technology, it is important to note that some oversight will be needed to prevent Internet scams and other misuses of technology.

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## Increased computer use has changed lives

*Proportion of People 55 and Older with Access to a Computer and the Internet at Home, 1993, 1997, 2000*



Source: (1993 data) U.S. Census Bureau. (1993). *Computer Use in the United States - October 1993*. [Data file] Retrieved from <http://www.census.gov/population/www/socdemo/computer.html>.

(1997 data) Newburger, E.C. (1999). *Computer Use in the United States, 1997*. Washington, DC: U.S. Census Bureau.

(2000 data) Newburger, E.C. (2001). *Home and Computers and Internet Use in the United States: August 2000*. Washington, DC: U.S. Census Bureau.

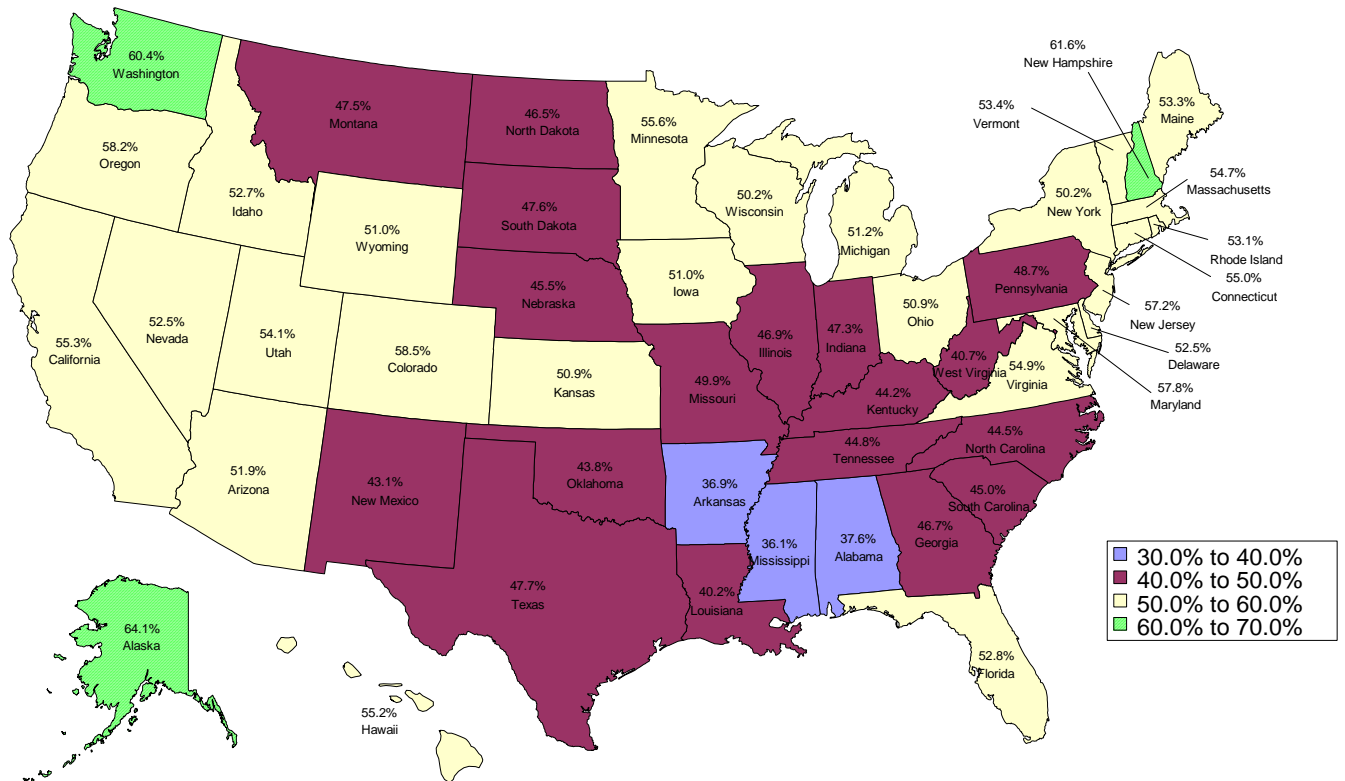
Access to the Internet can improve the lives of people, including older people and those with disabilities, by allowing them to keep in touch with others and providing access to a wealth of information.

- In the area of employment, there are more opportunities for people who cannot or do not want to leave their homes to work from home or simply cannot get to the workplace because they do not have transportation.
- The option of applying for public assistance programs online is becoming more common.

- Older people, particularly those with low incomes, do not use computers or the Internet in similar proportions as other age groups. Over time, this situation may change.

## Internet use varies by state

### Percent of Households That Have at Least One Member Using the Internet at Home, 2001



Source: U.S. Department of Commerce, Economics and Statistics Administration. *Percent of Households with Internet Access, by State, 2001* [Data file]. Retrieved from [www.esa.doc.gov/ANationTable.cfm](http://www.esa.doc.gov/ANationTable.cfm).

As policymakers plan for increased use of the Internet, they should bear in mind that access to the Internet varies by age and location. In 1997, use of online services was lowest for people over age 55 living in rural areas and highest for people age 35 to 44 living in urban areas. Use of online services is also lower among the low-income population than among people with higher incomes.<sup>1</sup>

<sup>1</sup> National Telecommunication and Information Administration. (1998). *Falling Through the Net II: New data on the digital divide*. Retrieved from [www.ntia.doc.gov/ntiahome/net2/](http://www.ntia.doc.gov/ntiahome/net2/).

## All states have government Web sites

### *Overall State Rankings of State Government Web sites, 2000*

Alabama	41
Alaska	43
Arizona	38
Arkansas	40
California	42
Colorado	35
Connecticut	40
Delaware	31
District of Columbia	N/A
Florida	47
Georgia	36
Hawaii	35
Idaho	44
Illinois	49
Indiana	41
Iowa	45
Kansas	48
Kentucky	40
Louisiana	40
Maine	40
Maryland	40
Massachusetts	41
Michigan	44
Minnesota	50
Mississippi	41
Missouri	47
Montana	36
Nebraska	35
Nevada	33
New Hampshire	32
New Jersey	40
New Mexico	40
New York	50
North Carolina	45
North Dakota	48
Ohio	43
Oklahoma	39
Oregon	47
Pennsylvania	50
Rhode Island	29
South Carolina	41
South Dakota	33
Tennessee	40
Texas	51
Utah	41
Vermont	35
Virginia	42
Washington	45
West Virginia	41
Wisconsin	42
Wyoming	40

Source: West, D.M. (2000). *Assessing E-Government: The Internet, Democracy, and Service Delivery by State and Federal Governments*. Retrieved from the A. Alfred Taubman Center for Public Policy and American Institutions, Brown University Web site, [http://www.brown.edu/Departments/Taubman\\_Center/](http://www.brown.edu/Departments/Taubman_Center/).

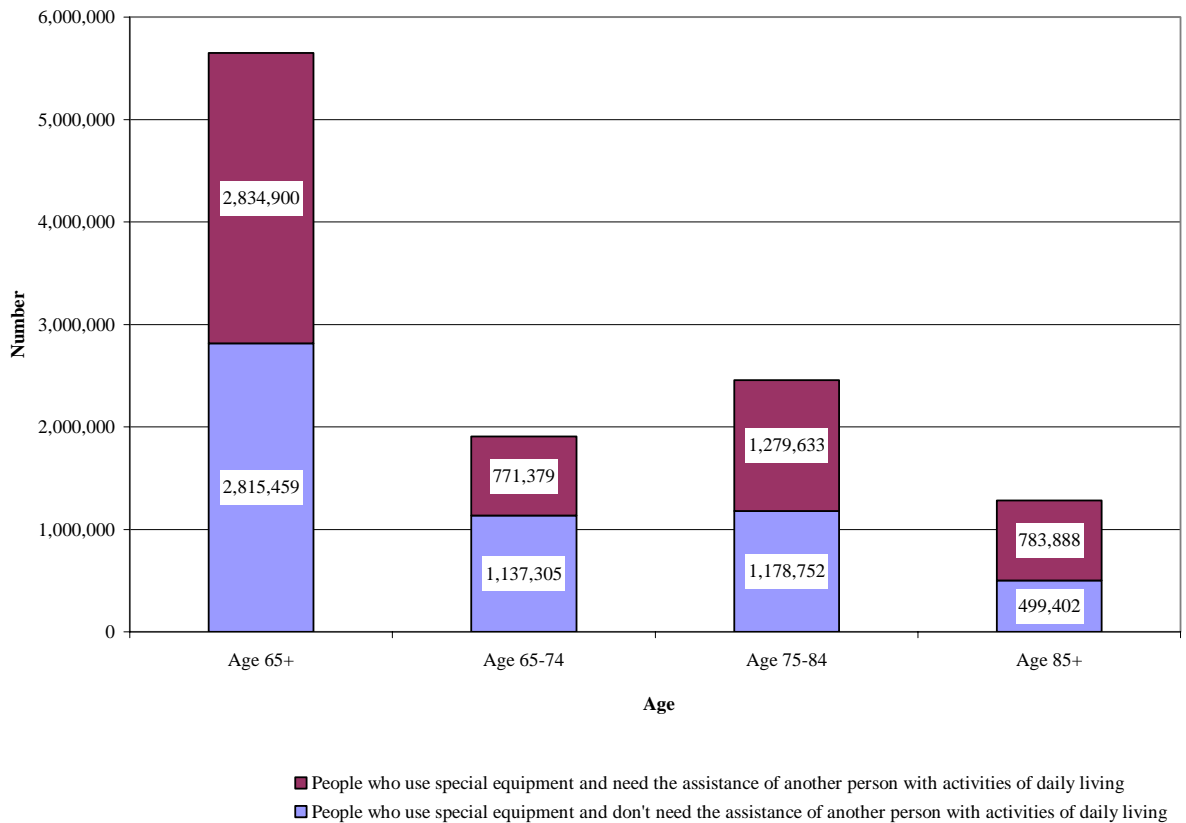
Note: The rankings are based on overall scores in an index based on 12 features. These features included offering phone contact information, addresses, publications, databases, foreign language access, privacy policies, security policies, an index, disability access, services, email contact information, and search capabilities.

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An assessment of state government Web sites indicates that there are differences in factors that affect the utility of the sites. Such factors include offering phone contact information, addresses, publications, databases, foreign language access, privacy policies, security policies, an index, disability access, e-mail contact information, and search capabilities. On a scale of 0 to 100, states' Web sites ranked between 29 and 51.

## Assistive devices help older people function independently

*Number of People 65 and Older Using Special Equipment, 2000*



Source: Center on an Aging Society analysis of data from the *2000 National Health Interview Survey*.

Assistive technology is used to maintain or improve the functional ability of individuals. More than five and a half million people age 65 and older use special equipment. About half of this group needs the help of another person to function daily, but half function independently with the help of assistive devices.

Crutches, canes, walkers, or wheel chairs are used most commonly by about 4.5 million people. Hearing devices also are commonly used, by about three million people age 65 and older. Anatomical devices including braces or artificial limbs are

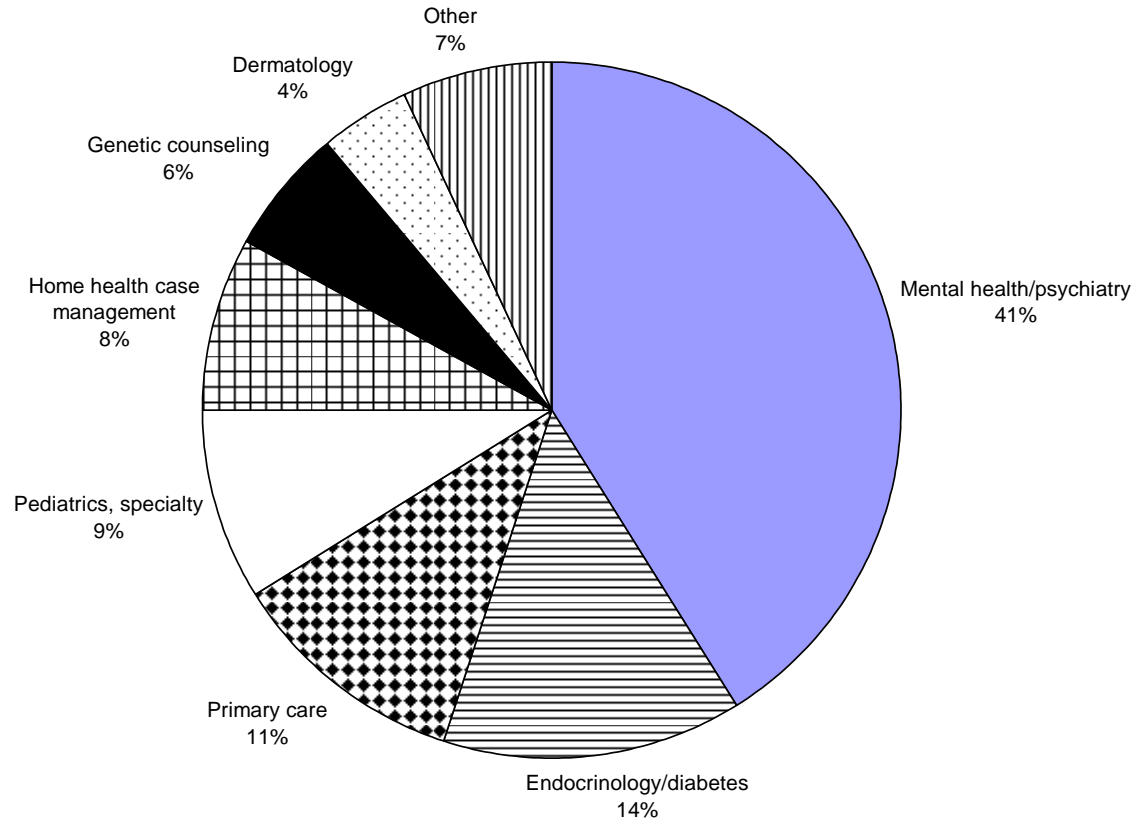
used by about 750,000 and special devices to help with vision are used by almost 270,000 older people.<sup>2</sup>

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<sup>2</sup> Russell, J.N., Hendershot, G.E. & Howie, L.J. (1997). *Trends and Differential Use of Assistive Technology Devices: United States, 1994*. (Advance Data No. 292). Washington DC: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.

## The use of telemedicine is growing

***Clinical Telemedicine Usage in Maine Telehealth Networks Facilities, 2001***



Source: Edwards, M.A. & Patel, A. C. (2003). Telemedicine in the State of Maine: A Model for Growth Driven by Rural Needs. *Telemedicine Journal and e-Health*. 9 (1):25-39.

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Telemedicine allows people to stay at home and receive information and advice about medical conditions. Some conditions can be monitored or even diagnosed from home. The Association of Telehealth Service Providers reports that there are some 206 telemedicine programs in the United States, up from 170 in 1999. In Maine, which has one of the largest statewide telemedicine systems, mental health and psychiatry services account for the largest portion of clinical activities in the system.

## Advances in telecommunications have had an impact on the lives of older people

### *Clinical Telemedicine Usage in Maine Telehealth Networks Facilities, 2001*

#### *Use of Wireless Phone Service, by Age*

	<i>Respondents age 18 to 49</i>	<i>Respondents Age 65+</i>
Security in case of an emergency is the reason for subscribing to a wireless service	30%	54%
Wireless calls are used only to make calls, but not to receive them	19%	35%

Source: Baker, C.A. & Jackson, A. M. (2000). *Understanding Consumer Use of Wireless Telephone Service*. Retrieved from the AARP Web site, <http://research.aarp.org/consume/list.html>.

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The Cellular Telecommunications and Internet Association reports that currently, there are over 135 million wireless users in the United States, an increase of 70 million since 1997.<sup>3</sup> More than half of all older subscribers say that security in case of an emergency is the reason they subscribe to wireless services. Some communities have recognized that wireless phones have the potential to be useful in emergency situations—and these communities provide phones for people who cannot afford to subscribe for full service but are glad to have a phone that they can use in emergency situations.

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<sup>3</sup> Cellular Telecommunications and Internet Association. *Industry Issues—Advocacy on Capitol Hill*. Available at <http://www.wow-com.com/industry/>.