

Stories

Assistive Technology and Community Living

Introduction

Assistive technology (AT) includes software, devices, equipment and products that improve the functioning of individuals of all ages with disabilities. For example, assistive technologies such as hearing aids can help people improve their communication skills on the job; assistive technologies such as an app on a smart phone can help someone read with low vision. Assistive technology also includes durable medical equipment (DME), such as wheelchairs and other mobility aids.

Assistive technology can affect a person's well-being by improving their ability to walk, eat, bathe, communicate, see, speak and live independently. Technologies also can help address social isolation and improve quality of life by assisting people with communication, mobility, and other daily activities.

This issue brief discusses: 1) the important role of assistive technology in helping people of all ages with disabilities live full and independent lives in their communities; and 2) certain sources of public funding for the technology, including Medicare, Medicaid, and programs that the Administration for Community Living (ACL) manages. While other public programs, such as those for Veterans, may fund assistive technology, those programs are beyond the scope of this issue brief.

Role of Assistive Technology

Assistive Technology is any item, device, piece of equipment, or product system used to maintain or improve the independence and function of people with disabilities of all ages, in education, employment, recreation, and daily living activities. Assistive technology devices can be 'low tech' like a built-up handle on a spoon to improve the ability to grasp, to 'high tech' computers controlled with eye movement. These devices can be do-it-yourself, or even consumer electronics like home automation solutions that can be more than just a convenience for a person with a disability. Assistive technology includes the services necessary to get and use the devices, including assessment, customization, repair, and training. (ACL, 2019)

The range of technologies that support people with disabilities in their many daily activities is vast. Examples of categories include devices that can help people carry out daily activities like eating and dressing;

K is a 3-year-old boy with a huge personality. K's mother reached out to the Oklahoma Assistive Technology Program for support as this youngster with physical and vision disabilities prepared to transition to preschool. One of the Oklahoma AT Program partners created a sensory table and a braille board to demonstrate do-it-yourself assistive devices that were suitable in the home and later at school. K made gains in strength and endurance in his ability to stand while playing at the sensory table. He also increased his attention span, and made improvements in pre-literacy skills with the braille board.

Rebecca, who is in her mid-60s, contacted the Arizona Assistive Technology Program because of problems with her vision. During a device demonstration, she tried several different video magnifiers, including handheld and desktop models. She practiced using the devices with the activities with which she needed assistance, like reading her mail, reading her favorite magazine, and being able to read food labels at the grocery store. Once Rebecca decided on a model to purchase, the AT specialist referred her to local vendors, and later helped her complete an application for a financial loan from the Arizona cash loan program. With the technology, Rebecca is able to continue to lead an independent life without relying on others for daily tasks and community engagement.

hearing, vision, and mobility aids; and computers, home or office environments, and vehicles that are accessible (Santana et al., 2016).

Following are some examples from a National Academy of Science, Engineering and Medicine report (2017) about how assistive technology can assist people, and considerations about person-centered approaches to providing assistive technology:

- Wheeled and seated mobility devices can improve an individual's function, help them be independent, integrate into their communities, achieve and maintain independence, and improve quality of life. The process for choosing a device requires understanding an individual's needs throughout the day; their cognition, function, and activities; condition progression; and environment. These devices must be fit to the user, and the user must have training on how to use their devices. Such personalized approaches to training and adaptation can affect the individual's experience and prevent abandonment of the device.
- Hearing aids improve audibility and customizing them to users' needs is important. Researchers document greater satisfaction with hearing aids when they are fitted to the user.
- A literature review reveals that the most common application of intelligent assistive technology in dementia care is supporting older adults with daily activities, like eating, bathing, and dressing. Monitoring is the second most common application, with safety being an important feature.
- Word processing-based assistive technology interventions had a large positive effect on writing error rates for people with learning disabilities. Text-to-speech systems and smart pens had positive effects on reading comprehension.

Public Sources of Funding

The public sources of funding for older adults and people with disabilities include **Medicare Part B**, which covers up to 80 percent of the cost of assistive technology for the program's beneficiaries. The technology must meet Medicare's definition of "durable medical equipment," which comprises devices that are "primarily and customarily used to serve a medical purpose, and generally are not useful to a person in the absence of illness or injury." Original Medicare covers DME when a doctor or other treating practitioner prescribes it for use in the home. The equipment must be medically necessary, that is, needed to diagnose or treat an illness, injury, condition, disease, or its symptoms. The equipment must meet accepted standards of medicine. In addition to mobility devices, Medicare Part B covers prosthetic devices (like cardiac pacemakers, enteral nutrition pumps, and prosthetic lenses), orthotic items (like leg, neck, and back braces) and prostheses (like artificial legs, arms, and eyes), as well as speech-generating devices.

Medicare Advantage plans gained new flexibility to address social determinants of health from passage of the Bipartisan Budget Act of 2018. The Act allows Medicare Advantage plans starting in 2020 to offer "non-primarily health related" supplemental benefits, such as meals, transportation, and home modifications to chronically ill enrollees to address gaps in care, and improve health outcomes for this population. So, these plans may choose to cover DME that Original Medicare Part B does not.

Medicaid serves those with limited incomes and few assets. It covers a wider variety of durable medical supplies than Medicare. For example, Medicaid covers hearing aids and doesn't have as strict limitations concerning the number of supplies and use duration that Medicare does. Medicaid tends to

cover a larger portion of expenses, and often it covers all associated expenses for qualifying medical supplies. Many states cover assistive technology to support the functioning and independence of Medicaid beneficiaries with disabilities through Medicaid Home and Community Based Services programs, Medicaid Managed Care, or Money Follows the Person programs.

ACL's Assistive Technology Programs

ACL's two assistive technology programs are: 1) the ***State Grant for Assistive Technology Program*** and 2) the ***Protection and Advocacy for Assistive Technology (PAAT) Program***. The first program supports state efforts to improve access to and acquisition of assistive technology for individuals with disabilities of all ages through comprehensive, statewide programs that are responsive to consumers. Each state, the District of Columbia, Puerto Rico, and outlying area receives an annual award and must create a state plan for the program. The State Assistive Technology Programs carry out activities that promote the ability of people with disabilities to know about, have access to, and ultimately be better able to obtain assistive technology. The Assistive Technology Act, which funds the State Grant for Assistive Technology program authorizes four state-level activities:

- a. *Assistive Technology Demonstration* activities provide opportunities for people to become familiar with specific types of technology by comparing devices through hands-on exploration that a knowledgeable professional guides.
- b. *Assistive Technology Device Loan* activities allow individuals to borrow a device for a limited time to try it out and determine if it will meet their needs before a purchase.
- c. *Assistive Technology Reutilization* activities support the reuse of assistive technology that the original owner no longer needs or uses, and that a new owner can acquire at substantial cost savings.
- d. *Assistive Technology State Financing* activities support the purchase or acquisition of technology, through financial loans or other initiatives that directly provide assistive technology to consumers at no cost, using dollars from non-Assistive Technology Act sources to save consumers money when purchasing the technology. States may not directly pay for devices and associated services.

ACL's Assistive Technology Act Technical Assistance & Training (AT³) Center assists grantees of the State Assistive Technology Programs. The Center: (1) supports quality implementation of state activities, and (2) develops and maintains a national assistive technology website. The Center provides information and support for the following activities: state financing, technology reuse, short-term device loan, device demonstrations, training, technical assistance, public awareness and information and assistance, and collaborations that improve access to and acquisition of assistive technology.

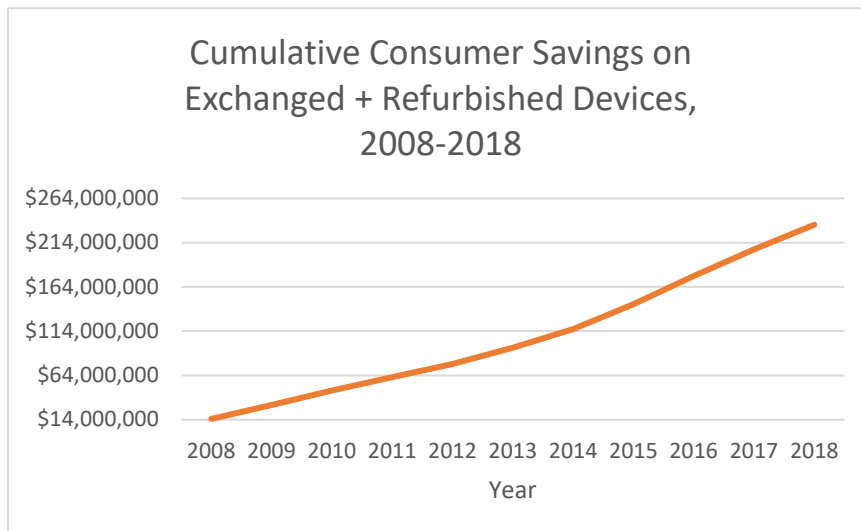
The second program - ***Protection and Advocacy for Assistive Technology (PAAT)*** supports 57 formula grants for protection and advocacy (P&A) systems, which provide information, advocacy, representation, training, technical assistance, and general guidance to increase access to and provision of assistive technology devices and services. The emphasis is on consumer advocacy and capacity-building through existing protection and advocacy agencies in the states. Existing P&A agencies are authorized under various federal statutes to provide legal representation and related advocacy services, and to investigate abuse and neglect of individuals with disabilities in various settings. The P&A system is the nation's largest provider of legally-based advocacy services for persons with disabilities.

The National Disability Rights Network (NDRN) provides technical assistance to PAAT grantees. The Network supports its P&A agency members through the provision of training and technical assistance, legal support, and legislative advocacy.

Data on ACL Assistive Technology Programs

Federal law requires ACL's **State Grant for Assistive Technology Program** grantees to report data on their activities and provide annual progress reports to ACL. To assist in data collection, ACL funds a [Center for AT Act Data Assistance](#) (CATADA), which provides technical assistance and support to state programs as they report their data. The website provides annual data on grantees' major program activities for fiscal year 2008 through the present. The following data from states that reported them indicate the efficacy of ACL's Assistive Technology programs in Fiscal Year 2018.

- State **Device Demonstration Programs** provided about 38,709 demonstrations, which 72,559 individuals attended. Ninety-nine percent were highly satisfied or satisfied with the demonstrations.
- State **Device Loan Programs** loaned 49,721 devices and 99 percent of people were highly satisfied or satisfied with the device loans.
- State **Device Reutilization Programs** exchanged 2,141 devices, realizing a savings of \$1,411,324 for consumers. The programs refurbished 68,532 devices and saved consumers \$26,664,449. One hundred percent of participants were highly satisfied or satisfied with their exchanged or refurbished devices. The graph below shows cumulative consumer savings through device reutilization programs over an 11-year period from 2008-2018.



Source: CATADA data, 2008-2018 for all programs reporting data

- State **Financing Programs (SFA)** enabled 908 borrowers to obtain financial loans totaling \$7,867,423 to buy 933 devices in FY 2018. In addition, 3,359 individuals acquired 4,859 devices valued at \$3,722,993 from other state financing programs that directly provide AT using external funding sources. Finally, 2,190 recipients acquired 2,333 AT devices with a savings of \$712,610 from other state financing activities, such as cooperative buying programs.
- State **Training and Information Activities** involved training 107,658 people and providing information and assistance to 221,175 individuals.

These programs use federal funds to leverage other sources of funding to provide services that increase access to and acquisition of assistive technology. In FY 2018, the 56 AT programs received \$28,165,621 in federal funding and garnered additional funding of \$21,106,708.

According to ACL's FY2017 Report on Grantees, the PAAT Program:

- Served 1,808 individual clients in Fiscal Year 2017
 - 42 percent of individual clients were living independently and another 33 percent were living in family homes
 - 15 percent of individual clients were aged 65 and older
- Provided 9,911 information and referrals services
- Provided case work services to individual clients who received 1,905 AT Services Devices; 25 percent of cases related to mobility devices, and 12 percent to communication devices. Seventy-four percent of individual cases were resolved in client's favor.
- Provided 1,224 training sessions attended by 42,133 individuals

Conclusion

About 32 percent of Medicare beneficiaries (KFF, 2019), or about 20 million people, have at least one functional limitation and assistive technology might be helpful to them. State assistive technology programs are already reaching 500,000 individuals with functional limitations. Partnerships with Centers for Independent Living, Area Agencies on Aging and other organizations in the Aging and Disability Network could extend the State Assistive Technology programs' reach to additional older adults and individuals with disabilities.

Medicare Advantage and Medicaid policies can also expand access to assistive technology. Medicare Advantage plans are able to offer targeted supplemental benefits to certain enrollees and in 2020, plans may offer a broader range of supplemental benefits, including health-related assistive technology. State Medicaid waivers are increasing access to assistive technology as a part of home and community-based services. As more states develop approaches to address the social determinants of health, assistive technology can address social and functional needs of individuals with disabilities and thus improve their ability to thrive in the community.

References

ACL Report, P&A AT FY2017 Data, information downloaded June 26, 2019.

Center for Assistive Technology Assistance Act Data Assistance, information downloaded on May 1, 2019.

KFF (Kaiser Family Foundation) *Issue Brief: An Overview of Medicare*, February, 2019.

National Academies of Sciences, Engineering, and Medicine, 2017. *The promise of assistive technology to enhance activity and work participation*. National Academies Press.

Santana, Fábio Evangelista, Ivo Rodrigues Montanha Junior, Márcio Fontana Catapan, Vilson João Batista, and Fernando Antônio Forcellini. "Opportunities and challenges on assistive technology innovation: A systematic literature review on people with disabilities." *International Journal of Knowledge Engineering and Management (IJKEM)* 5, no. 11 (2016): 92-115.