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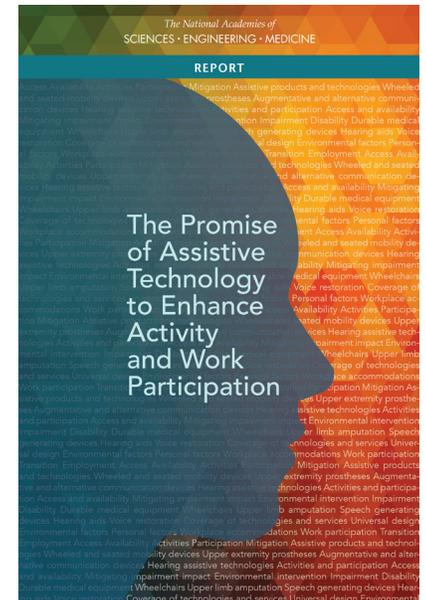
The Promise of Assistive Technology to Enhance Activity and Work Participation

The U.S. Social Security Administration (SSA) provides monetary benefits to eligible people with disabilities through its Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI) programs. As of December 2015, approximately 11 million individuals were SSDI beneficiaries, and about 8 million were SSI beneficiaries.

In 2012, the Government Accountability Office recommended that SSA examine “the availability and effects of considering more fully assistive devices and workplace accommodations in its disability determinations.” With support from SSA, the National Academies of Sciences, Engineering, and Medicine convened an ad hoc, expert committee to provide an analysis of the use in adults of selected assistive products and technologies, including the following categories:

- wheeled and seated mobility devices,
- upper-extremity prostheses,
- hearing devices, and
- communication and speech technologies.

The resulting report, *The Promise of Assistive Technology to Enhance Activity and Work Participation*, describes the range of available products and technologies in these categories, as well as examines how they may mitigate the effects of impairments and the extent to which they help enable people with disabilities to enter or return to the workforce.



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THE COMMITTEE'S OVERALL CONCLUSIONS

While assistive products and technologies may enable people with disabilities to work, in some cases, environmental, societal, and personal factors may create other barriers to employment. These factors are as important in determining individuals' overall functioning with respect to employment.

People require appropriate devices for their needs, proper fitting of and training in the use of these devices, and appropriate follow-up care. Even if these conditions are met, assistive products and technologies may not fully mitigate the effects of impairments or associated activity limitations. The committee drew the following conclusions:

1. Assistive products and technologies hold promise for partially or completely mitigating the impacts of impairments and enhancing work participation when appropriate products and technologies are available, when they are properly prescribed and fitted, when the user receives proper training in their use and appropriate follow-up, and when societal and environmental barriers are limited.
2. When matching individuals with appropriate assistive products and technologies, it is important to understand the complexity of factors that must be optimized to enhance function. Selecting, designing, or modifying the correct device for an individual and providing training in its use, as well as appropriate follow-up, are complex but necessary elements for maximizing function among users of assistive products and technologies.



Financial access to appropriate assistive products and technologies, as well as qualified providers, varies significantly across the United States. Coverage sources vary in their missions, their eligibility requirements, and the types of assistive products and technologies and related services they cover.

Access to coverage may also be affected by socioeconomic status or education levels. Health literacy is associated with a variety of factors, including educational level. Acquisition of assistive devices may be promoted by people's knowledge of their needs, device and coverage options, and means to pursue the device(s) they need. The committee drew the following conclusions:

3. Access to appropriate assistive products and technologies and to qualified providers and teams with the knowledge, skill, and expertise necessary to properly evaluate, fit, train, and monitor people in the use of those products and technologies is frequently limited and varies considerably from case to case, state to state, district to district, urban to rural and frontier areas, and funding source to funding source.
4. The variability of coverage for assistive products, technologies, and related services is an important impediment to optimizing function and maintaining gainful employment among transitioning youth and adults with impairments.



Even when assistive products and technologies are covered, individuals' knowledge about the existing options, their needs, and the means available to them to pursue the products and technologies they need will either promote or hinder their acquisition of the devices. The distribution of this knowledge varies greatly. The committee drew the following conclusion:

5. Education regarding the availability of assistive products and technologies and knowledge and training that empower users to self-advocate or have a significant other (e.g., family member, friend, or professional) advocate for them are important elements in achieving successful access to appropriate assistive products and technologies and related services.



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The provision of assistive products and technologies often relies more on reimbursement policy than on patient need. Products covered as medically necessary in some cases are not those that would best meet the needs of users. On the other hand, devices and components may not be covered as medically necessary even if prescribed by a trained professional. The committee drew the following conclusion:

6. Assistive products and technologies are advancing at a much faster rate relative to clinician education, regulations, and reimbursement systems, which may limit access to these devices and/or access to training in their use.



The mission of funding sources and benefit programs affects the extent to which they provide or help beneficiaries to obtain appropriate assistive products and technologies and related services designed to facilitate their ability to work. Based on its review of specific monetary disability benefit programs and funding sources, the committee drew the following conclusion:

7. Some coverage and disability benefit models, such as those of the Veterans Health Administration, state vocational rehabilitation agencies, some private disability insurance carriers, and a few private health insurers, are more holistic than others, providing access to a greater range of assistive products and technologies and related services that can be appropriate to meeting individuals' needs and facilitating their ability to work.



Personal factors such as gender, race/ethnicity, age, socioeconomic status, insurance coverage, education, and previous work experience can influence how an individual experiences disability. Factors such as an area's job market, workplace attitudes, geographic location, and the built environment also influence the individual's experience. Although a complete evaluation of a person's functioning would include the assistive products and technologies he or she normally uses, that finding needs to be tempered by the following conclusion:

8. Professionals involved in disability determinations cannot assume that because an individual uses a particular assistive product or technology, this device is always effective for that person, that it mitigates the impact of the person's impairment, or that it enables the person to work. Environmental, societal, and personal factors must also be taken into account.



Data on the prevalence of use of these products—and the extent to which they mitigate the impacts of impairments—are fragmented and limited. The committee drew the following conclusion:

9. Additional research is needed to understand how the specifications for and use of assistive technologies and products and related services impact inclusion in society and work participation for individuals with disabilities. Such research may not only enhance knowledge in these areas, but also inform the development of rational resource utilization, including informing cost/benefit analyses and coverage for devices and related services.



To read the full report and view related resources, please visit [nationalacademies.org/AssistiveDevices](https://www.nationalacademies.org/AssistiveDevices).

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