Assistive technology survey results: Continued benefits and needs reported by Americans with disabilities

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September 27, 2001

What do Americans with disabilities think about the role assistive technology (AT) plays in their daily lives? Responses to a recent survey give some insight, including how Americans with disabilities determine their personal needs for AT, and how they obtain information about acquiring AT.

Assistive technology is defined rather broadly by the law (Technology-Related Assistance for Individuals with Disabilities Act of 1988, PL 100-407, and the Assistive Technology Act of 1998, PL 105-394) as any kind of device that assists persons with disabilities in the performance of daily tasks and activities. This includes a rather large number of devices and technologies, ranging from “low-tech” mobility devices such as walkers and canes to “high-tech” speech synthesizers and other augmentative communication devices, or the stair climbing “Ibot” wheelchair. To provide an idea about the number and variety of AT devices available for use today, ABLEDATA’s online catalogue of assistive technology (see: http://www.abledata.com/) includes over 18,000 items supplied by over 2,000 different companies, and also lists another 8,000 items no longer available for sale (ABLEDATA, 2001).

Assistive technology use in the United States today is difficult to estimate (Carlson, 2001). Data from past surveys similar to the AT Survey discussed here, such as the Disability Followback Survey (DFS) administered between 1994 and 1997 (National Center for Health Statistics, 1999a, 1999b), show that based on a weighted sample of 41.8 million Americans with disabilities aged 18 years and older:

- 8.3 million Americans with disabilities needed special equipment or aids (AT) to perform basic activities of daily living (ADLs) such as bathing or showering, dressing, eating, getting in and out of bed or chairs, walking, getting outside, and using the toilet, including getting to the toilet.
- 15.4 million Americans with disabilities reported using assistive devices or technologies (primarily medical), such as tracheotomy tubes, ostomy bags, catheterization equipment, glucose monitors, diabetic equipment and supplies, inhalers, nebulizers, hearing aids, crutches, canes, walkers, wheelchairs, scooters, and feeding tubes.
- 16.6 million Americans with disabilities used special equipment, aids or assistive technology (either one or more of the above).

- 7.4 million Americans with disabilities had surgical implants such as shunts to drain away fluid, artificial joints, implanted lenses, pins, screws, nails, wires, rods, or plates, artificial heart valves, pacemakers, silicone implants, infusion pumps, implanted catheters, organ implants, and cochlear implants.

- 14 million Americans with disabilities lived in homes modified to meet their special needs. Among these, over 1.5 million persons reported needing further home modifications to already existing ones. An additional 1 million persons with disabilities who did not have any home modifications indicated that they needed such accommodations.

- 511 thousand Americans with disabilities reported using modified cars or vans. 369 thousand persons with disabilities reported needing modifications to their cars or vans. Of these, 60 thousand persons needed modifications in addition to the ones they already had, and the remaining 309 thousand persons used vehicles that had no modifications but needed them.

- 15.1 million Americans with disabilities worked at the time of the interview. In this group, 4.2 million persons reported being limited in the kind or amount of work they could do.

- 714 thousand Americans with disabilities reported having an accessible work environment that included hand rails or ramps, accessible parking or an accessible transportation stop close to the building, elevators, including elevators designed for persons with special needs, specially adapted work stations, restrooms designed for persons with special needs, automatic doors, voice synthesizers, TDDs, infrared systems or other technical devices, Braille, enlarged print, special lighting or audio tape devices, and special pens or pencils, chairs, or other office supplies.

- 1.3 million Americans with disabilities working at the time of the interview reported needing one or more of the above mentioned work place designs and accessories.

- 402 thousand Americans with disabilities were provided with special accommodations that included readers, oral and sign language interpreters, job coaches, personal assistants, job redesign or slowing the pace of tasks, reduced work hours and more breaks, part-time work and other types of equipment, help, and work arrangements not named above.

- 531 thousand Americans with disabilities, working at the time of the interview, indicated a need for one or more of the previously mentioned special accommodations.

Due to the narrow scope of questions and the dated information provided by the survey data, these figures may substantially underestimate the full scope of AT use and need in the United States.

Assistive technology undeniably provides greater opportunities for persons with disabilities in the United States (Verbrugge, Rennert, & Madans, 1997). With these benefits, however, also come costs, and it is difficult for many Americans with disabilities to obtain and pay for adequate AT. For these reasons, the above mentioned legislation and associated appropriations provide for technical assistance and financial support to help persons with disabilities acquire the assistive devices and technologies they need. The National Institute on Disability and Rehabilitation Research (NIDRR), a component of the U.S. Department of Education's Office of Special Education and Rehabilitative Services, provides funds to numerous agencies that assist persons with disabilities in addressing their AT needs.

In an effort to assess the impact that AT-related assistance has made in the lives of Americans with disabilities, NIDRR, the Rehabilitation Engineering Society of North America (RESNA), and the University of Michigan Survey Research Center are collaborating to conduct a nationwide survey focusing on AT use and need (Carlson & Bailey, 2001; RESNA, 2001). In addition to determining the type of disabilities respondents have and what AT they use or need in the home, in school, at work, and in the community, the survey also contains ten knowledge and opinion questions about AT. This report discusses the thoughts and opinions expressed by persons with disabilities in responding to survey questions.

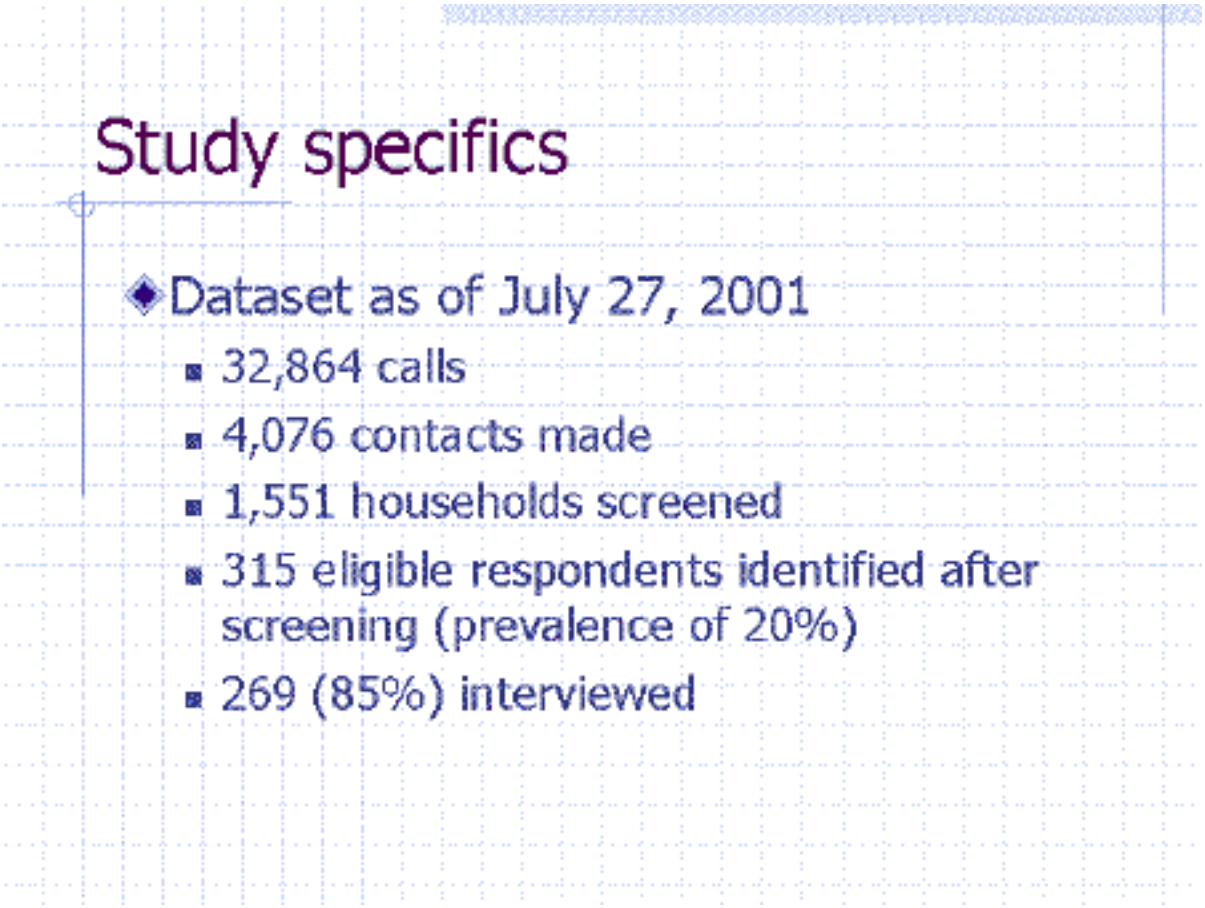
Methods

The data for this study were drawn from Phase 1 of a nationwide telephone survey of households with persons with disabilities (Carlson, Ehrlich, Berland, and Bailey, 2001). A random digit dial (RDD) method was used for initial contact, and a computer-assisted telephone interview (CATI) protocol was used to administer the questionnaire. A $20 payment was made to respondents upon completion of the survey interview.

The overall objectives of the survey were to:

- produce a national estimate of persons with disabilities that currently use or need AT/Information Technology (IT) devices and services;
- gather data on how persons with disabilities select and acquire AT/IT devices, and how these devices are purchased;
- provide an account of how persons with disabilities interact with agencies that deliver AT/IT services at the State level; and
- suggest strategies, in view of consumer needs, to alter or enhance the AT service delivery system.

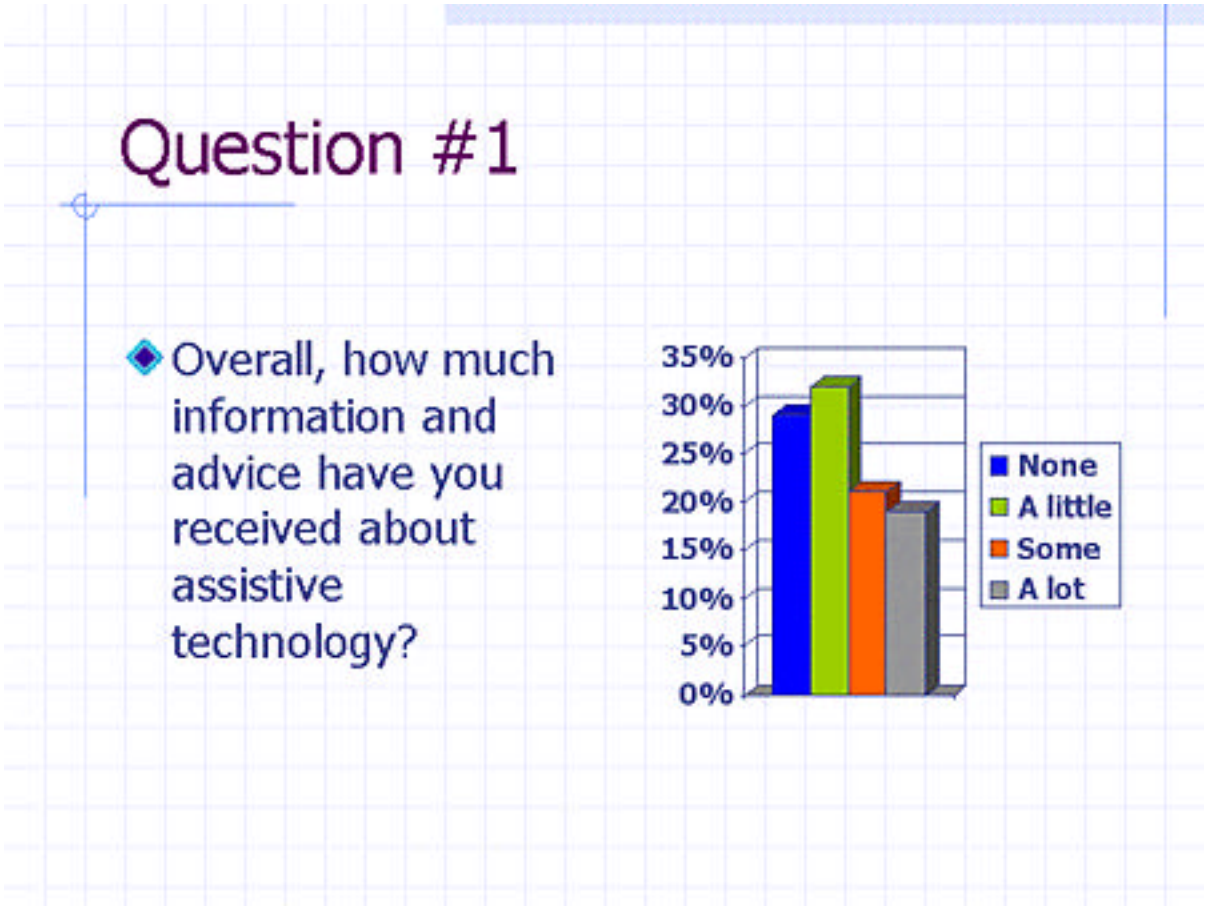
During the initial phase of the survey, a total of 1,551 households were screened to identify households with one or more members with a disability. Screening questions were similar to those used in the National Health Interview Survey and the 2000 Census. From this screening, 315 households (20 percent) were identified as having at least one member with a disability and were considered to be eligible to participate in the survey. A total of 269 persons provided survey results, reflecting a response rate of 85 percent.



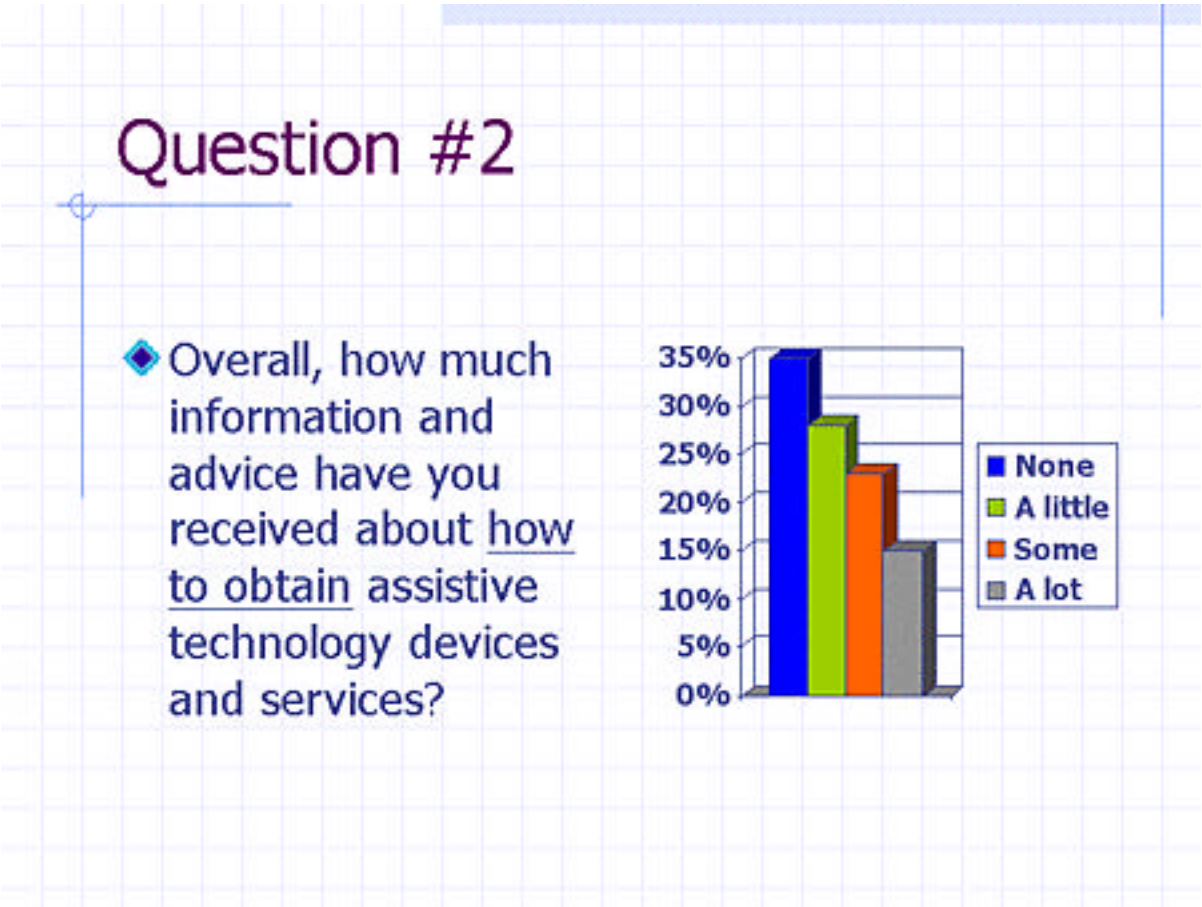
Findings

An analysis of the comments provided by the 269 respondents, indicated the following general findings concerning AT.

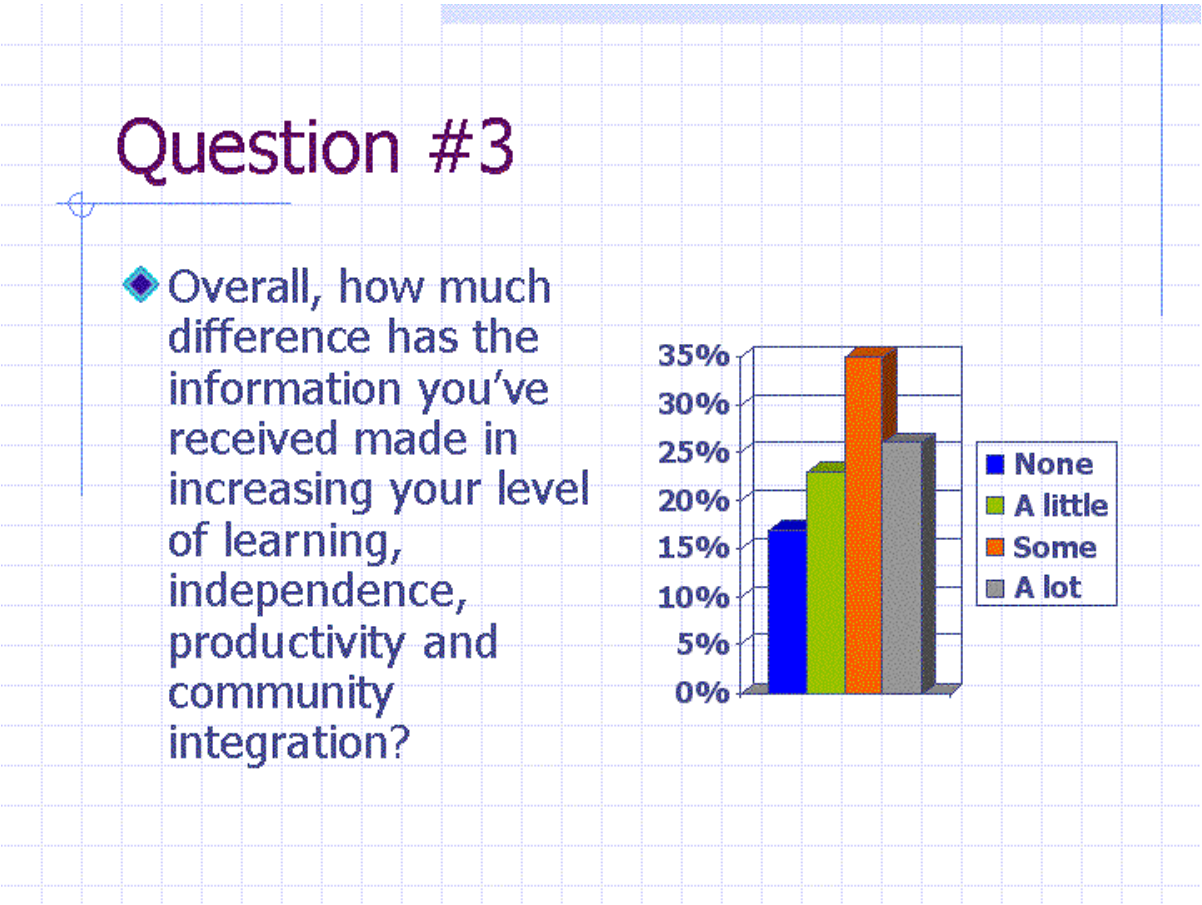
- Forty (40) percent of the responding persons with disabilities reported having received “some” or “a lot” of information about AT, while sixty (60) percent reported receiving “a little” or no information about AT.



- When asked how much information focusing on how to obtain AT had been received, slightly fewer respondents (37.4 percent) said that they received “some” or “a lot.”

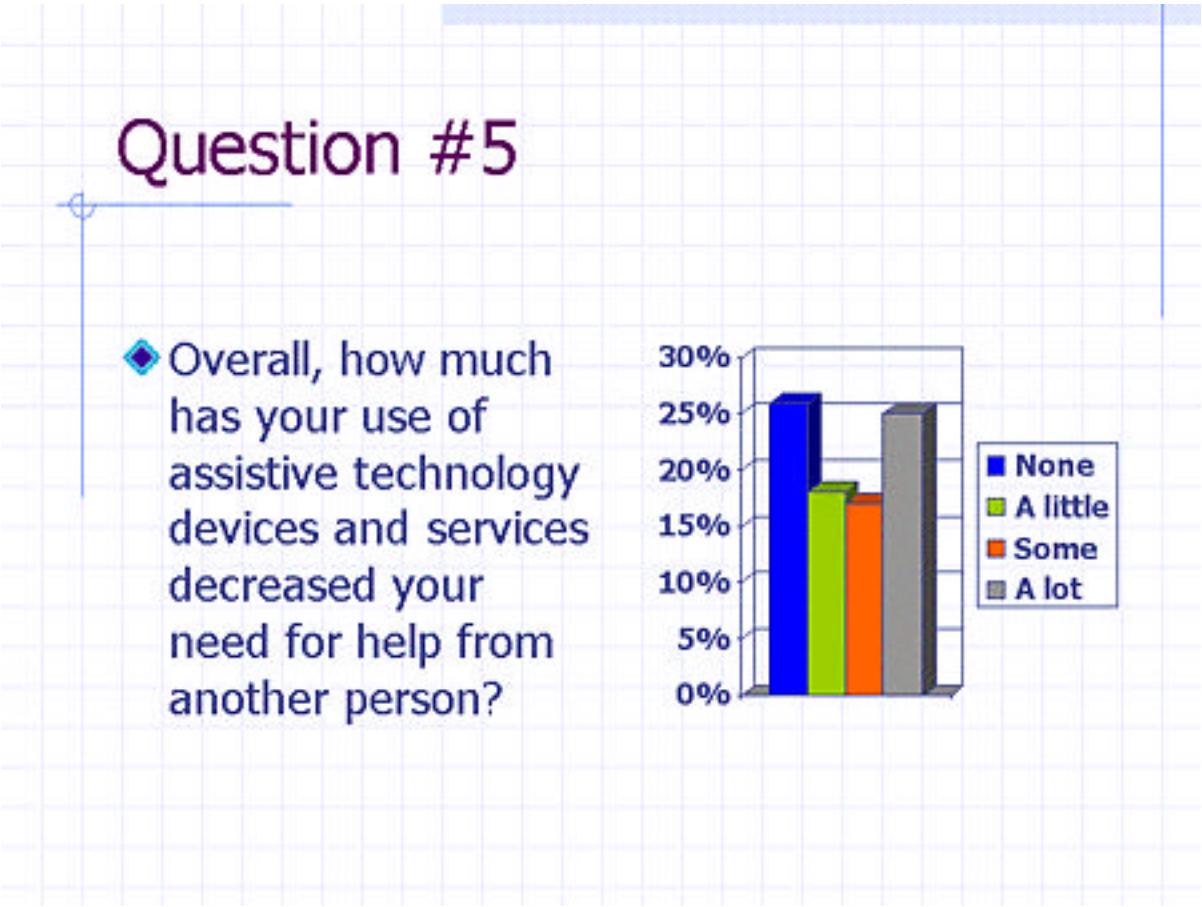


- Sixty (60) percent of the respondents with disabilities reported the information received about AT and obtaining it had helped “some” or “a lot” to increase their level of learning, independence, productivity, and community integration.



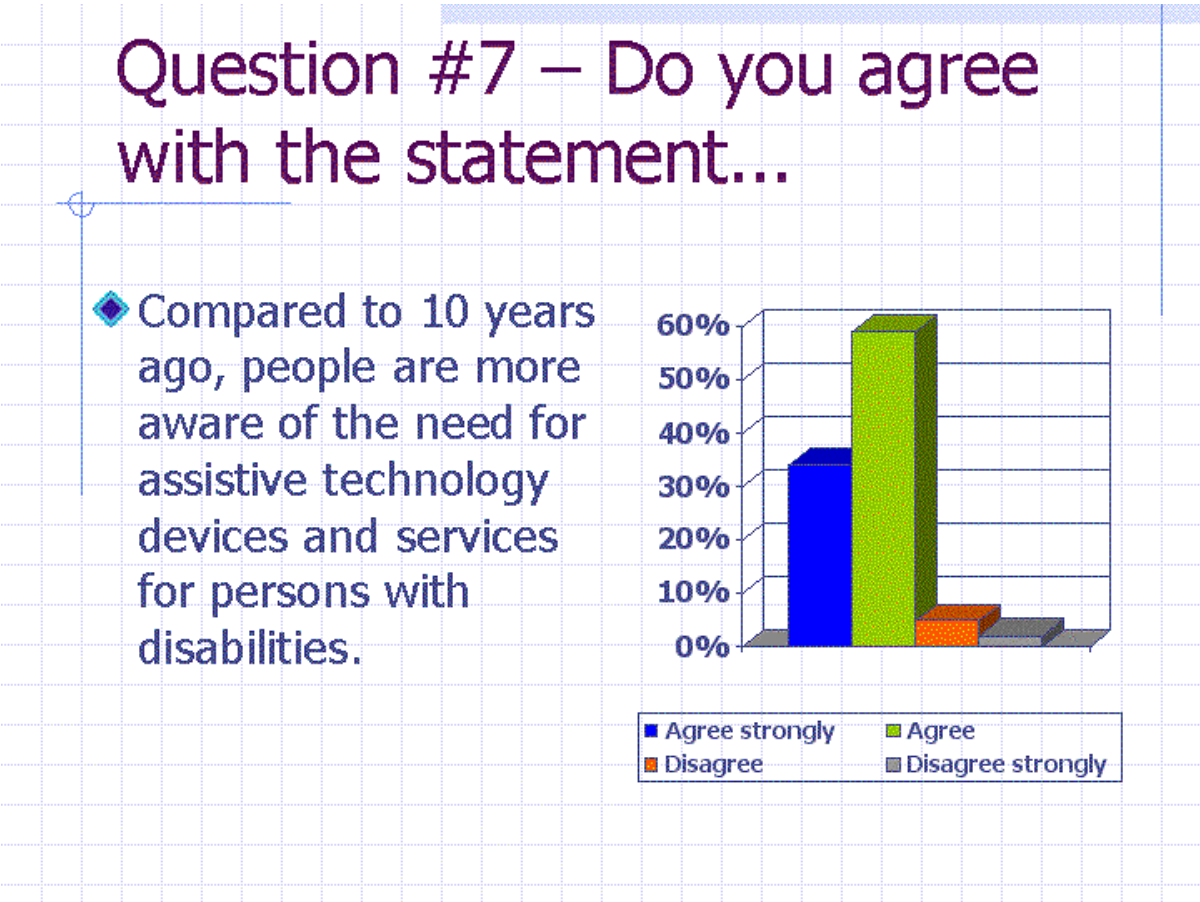
- Fifty-seven (57) percent of the responding persons with disabilities expressed benefits in terms of increased awareness of their rights, through AT information shared with them.

- Forty-two (42) percent of the respondents felt that AT devices and services had decreased their need for help from another person “some” or “a lot.”



- Better designed products and environmental access features reduced the need for AT devices and services “some” or “a lot” for 52 percent of the respondents.

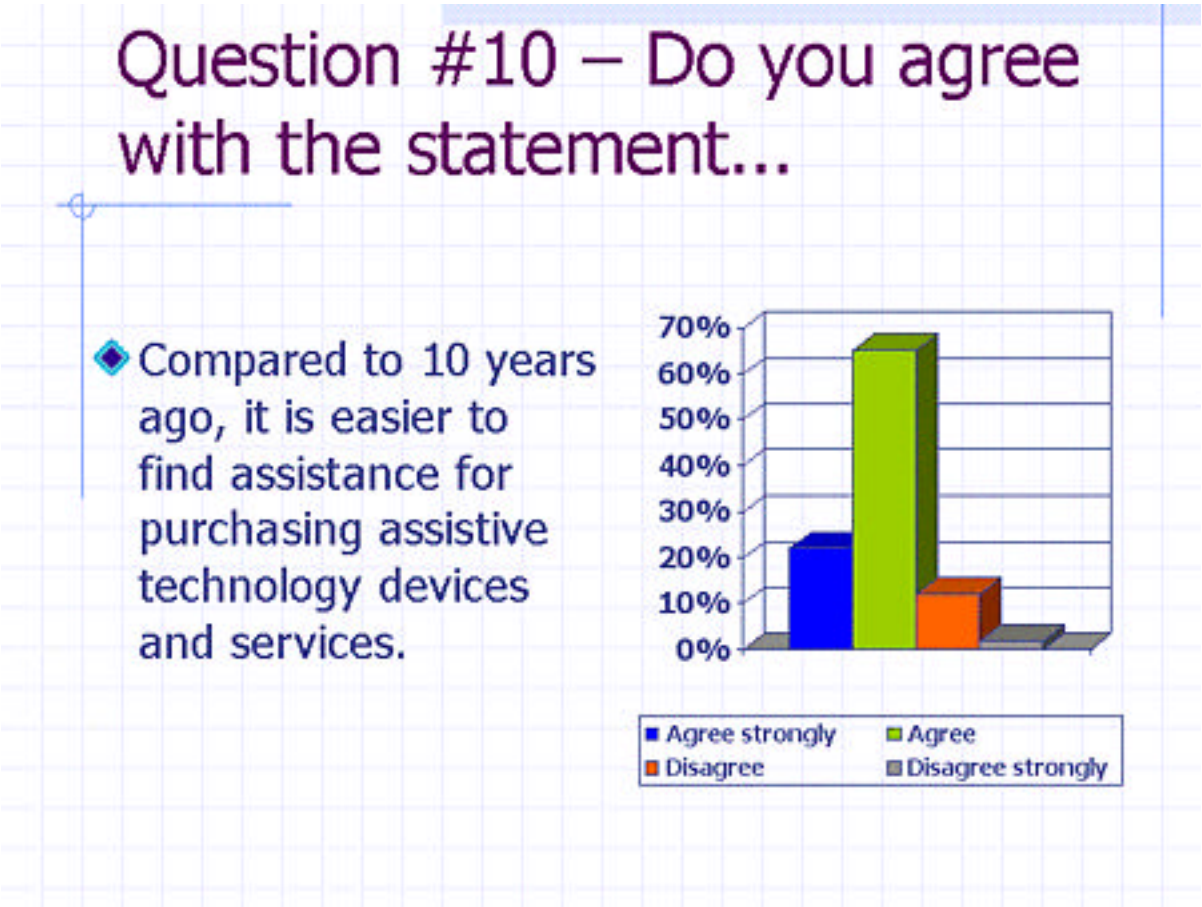
- When asked in comparison to ten years ago, if people are more aware of the need for and benefits of AT devices and services for persons with disabilities, 93 percent of the respondents “agreed” or “strongly agreed.”



- Ninety (90) percent of persons with disabilities “agreed” or “strongly agreed” with the statement that compared to ten years ago, laws or program policies have been changed to help persons with disabilities to get assistive technology.

- Over ninety (92) percent of survey respondents “agreed” or “strongly agreed” with the statement that compared to ten years ago, more Americans are aware of assistive technology and how it can benefit persons with disabilities.

- Eighty six (86) percent of persons with disabilities participating in the survey “agreed” or “strongly agreed” that compared to ten years ago, it is easier today to get assistance to purchase AT devices and services.



Discussion

Data on assistive technology use and need in the United States are scarce (Carlson, 2001). In view of rapid advances in technology, the limited information that is available is quickly becoming outdated (Kaye, Kang & LaPlante, 2000; Russell, Hendershot, LeClere, Howie & Adler, 1997). To meet the need for more complete and up-to-date information on AT need and use, this analysis--the first of a series--shows how persons with disabilities in the United States manage their assistive technology needs.

The responses to the survey's ten knowledge and opinion questions about AT indicated that, on one hand, general awareness about availability of AT-related information and assistance was high (about 90 percent of the respondents expressed agreement). The vast majority of respondents perceived AT to be helpful, and when compared to ten years ago, more information on AT is available for use today. However, the amount of information and help specific to obtaining AT devices and services available to persons with disabilities was perceived to be limited (about 40 percent of the respondents reported to have actually obtained some type of AT related information).

It is difficult to measure the full impact of the AT Act regulations in the absence of substantive baseline information. For example, how much did persons with disabilities in the United States actually know ten years ago about obtaining AT-related information and help. Advocacy efforts of disability organizations and effective media campaigns have, undoubtedly, contributed to the perceived, generally high AT awareness indices. Agreement among 90 percent of randomly selected persons with disabilities suggests that public programs assisting persons with disabilities have had a substantial and positive impact as well. The lower level of specific knowledge about how to obtain AT-related information or help in 40 percent of randomly selected persons with disabilities suggests that many persons with a disability may not be adequately informed about AT devices and services.

More targeted efforts at the State and local levels appears to be necessary to address the AT information and assistance needs of Americans with disabilities. Meeting this need, however, offers new pathways to increase participation in all aspects of home, school, work, and community life.

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This study was funded through NIDRR grant H224B990005-01A, and is published in collaboration with the National Center for the Dissemination of Disability Research (NCDDR). The NCDDR is operated by the Southwest Educational Development Laboratory (SEDL). SEDL is an Equal Employment Opportunity/Affirmative Action Employer and is committed to affording equal employment opportunities for all individuals in all employment matters. Neither SEDL nor the NCDDR discriminate on the basis of age, sex, race, color, creed, religion, national origin, sexual orientation, marital or veteran status, or the presence of a disability. The NCDDR is funded under grant H133A990008-A from the National Institute on Disability and Rehabilitation Research (NIDRR) in the U.S. Department of Education's Office of Special Education and Rehabilitative Services (OSERS). However, these contents do not necessarily represent the policy of the U.S. Department of Education, and you should not assume endorsement by the Federal government.

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