

## **“Toward Development Of The Accommodating Workplace: Key Technological And Policy Issues”**

**Presented at**

**The Technology and Persons with Disabilities 2004 Conference  
Los Angeles, CA - March 2004  
March 2004**

Paul M.A. Baker, Ph.D.  
GCATT/Georgia Institute of Technology  
Email: paul.baker@gatech.edu

Andrew C. Ward, Ph.D.  
Rehabilitation Engineering Research Center on Workplace Accommodations  
Georgia Institute of Technology  
Email: andrew.ward@gatech.edu

### **Abstract:**

Key issues critical for crafting effective technological and policy approaches for the implementation of increased workplace accommodation and integration for people with disabilities, are identified and discussed.

### **Introduction:**

Accessibility, accommodation and technology are key concepts in addressing inequities and injustices faced by people with disabilities in the U.S. workforce. As noted in the Americans with Disabilities Act (ACT), "historically, society has tended to isolate and segregate individuals with disabilities, and, despite some improvements, such forms of discrimination against individuals with disabilities continue to be a serious and pervasive social problem." (ADA § 2(a)(2) [<http://www.usdoj.gov/crt/ada/statute.html>]). For example, data collected in wave 5 of the 1996 Panel of the Survey of Income and Program Participation (SIPP) revealed that 7.2 million individuals with a disability, age 15 - 64 years, were able to work, but were limited in the kind or amount of work they could do. The same data set revealed that 11.3 million individuals, age 25 - 64, had a condition that made it difficult to remain employed or find a job. In either case, the important issue is not the amount of wealth people with disabilities possess, nor is it whether or not society has provided programs that offer monetary or other kinds of aid. [1].

The crafting, or even understanding of the conditions necessary for the development of effective workplace accommodations requires the review and assessment of applicable laws, regulations, and policies. The following issues were identified as a first step towards generation of a comprehensive policy framework for initiative development. These issues provide a contextual background for ongoing analyses of policies and practices related to workplace accommodations and for integrating people with disabilities into the U.S. workforce

### **Key Policy Issues:**

A range of disability and workplace accommodations related policy issues were developed from the review of an array of not-for-profit agencies, government resources, and policy journals. While policy issues touching on accommodation, integration and technology are of concern to a number of different communities, the following list details ten issues focusing on issues of workplace accommodation and integration as they apply to people with disabilities:

- Civil Rights
- Data Collection on Employment and Workplace Accommodation and Integration
- Education
- Emergency Preparedness and Homeland Security
- Environmental Control
- Equity in the Costs of Implementing Workplace Accommodations and Integration
- Outcome Performance Measures
- Technology
- Transportation and Telecommuting
- Workplace Accessibility and Universal Design

*Civil Rights:* Title I of the Developmental Disabilities Assistance and Bill of Rights Act of 2000, observes that "disability is a natural part of the human experience that does not diminish the right of individuals with developmental disabilities to live independently, to exert control and choice over their own lives, and to fully participate in and contribute to their communities through full integration and inclusion in the economic, political, social, cultural, and educational mainstream of society." (42 U.S.C. § 15001, sec. 101 (a)(1)). The Americans with Disabilities Act (ADA) requires that employers make workplace accommodations for people with disabilities when such accommodations are reasonable ones. Thus, understanding and anticipating both legal and political decisions relating to the civil rights of people with disabilities continues to be an important policy concern.

*Data Collection on Employment and Workplace Accommodation and Integration:* The National Institute on Disability and Rehabilitation Research (NIDRR) notes that Federal data collection efforts--including the Census, SIPP, and Current Population Survey (CPS) --fail to address important new concepts of disability, and are limited in other ways. Sampling procedures may exclude low-incidence disabilities and generate insufficient information about minority populations. Self-reporting leads to underreporting many conditions, and survey formats frequently are inaccessible to people with cognitive, sensory, or language limitations. [2]. The accuracy of such data is critically important in an era of evidence-based policy, and data lacking statistical validity contribute to misguided or premature public policy decisions. As noted in a recent National Research Council report, valid data and careful statistical research "inform about the circumstances that distinguish persons with disabilities successfully integrated into the work force from those who become unable to work because of their impairments." [3].

*Education:* At least three separate educational issues have some degree of connection to workplace accommodations. First, there is the issue of providing information (in an accessible and understandable form) to people with disabilities about their rights. Second, there is the issue of providing training and awareness of opportunities for people with disabilities that will permit them to enter or re-enter the workplace. Third, successful and comprehensive workplace accommodation of people with disabilities means providing educational opportunities to youths that will enable them to enter the workforce. As noted by the National Organization on Disabilities (NOD), "young people with disabilities are more than twice as likely to drop out of high school, and only half as likely to complete college" as compared with other U.S. youths. [4].

Emergency Preparedness and Homeland Security: The National Council on Disability (NCD) notes that "no discussion of public issues can be complete today without recognition of the imperatives of security." [5]. According to a recent survey, "58% of people with disabilities say they do not know whom to contact about emergency plans for their community in the event of a terrorist attack or other crisis, 61% of people with disabilities say that they have not made plans to evacuate, quickly and safely, their home, and 50% of disabled people employed full or part-time say that they have no plans to evacuate safely their workplace." Further, "these percentages are higher than for those without disabilities, 51% of whom report not knowing whom to contact about community emergency plans, 58% of whom say plans are not in place for evacuating home, and 44% for work." [6]

*Environmental Control:* A necessary condition for people with disabilities to engage in efficient and effective work is that the workplace (internal) environment accommodates their disabilities. The use of Environmental Control Units (ECU's) is one way to realize this goal. ECU's can range from a simple remote control to operate a light to the more sophisticated, voice-activated computer-based systems, which can control fax machines, answering machines, telephones, and room temperature. Typically, an ECU consists of three essential components: an input device, a control unit and an appliance. The input device controls the ECU by sending a signal to the control unit through direct selection (keypad, keyboard, joystick, etc.), switches, or voice control. The control unit receives the input (signal) and translates the information into the desired output. The appliance receives the output signal and performs the intended command. [7].

*Equity in the Costs of Implementing Workplace Accommodations and Integration:* Equitable distribution of costs to the stakeholders is an important consideration in addressing discrimination of disabled workers and workplace integration. Relevant considerations include consideration of costs of inaction and the indirect benefits of various measures and strategies such as evaluation of the role of employment tax incentives for employment of workers with disabilities. Other factors, captured in an industry survey, revealed that nearly all interviewees mentioned cost as an element in their company's decisions. Further, while external UD [Universal Design] advocates sometimes portray it as cost-free, many interviewees saw UD as having some additional costs in design resources or manufacturing that were hard to justify, both internally in the struggle for resources and externally in the market." [8] .

*Outcome Performance Measures:* Practical outcome performance measures are necessary in determining whether a particular policy is working. These include (a) "Procedural Safeguards: Presence of notice, access to records, and a complaint resolution process (including due process hearing and right to appeal) for individuals to supplement the monitoring and enforcement by government agency personnel;" (b) "Monitoring and Enforcement: Presence of processes for government agencies to review policies, practices, and procedures and actual implementation and the ability to respond to findings in a timely and effective manner." [9].

*Technology:* Although many issues concern technology and workplace accommodation/integration, two are especially important. The first relates to limitations in the scope of definitions of 'information technology' and 'people with disabilities' Section 255 of the Federal Communications Act defines "telecommunication services" as services that facilitate and carry voice communication. This definition appears to leave e-mail and data transmission uncovered. The FCC is considering whether to broaden "telecommunication services" to include these other applications. The second issue concerns the lack of incentives for private industry to think in terms of UD for products, evident in an apparent lack of communication between product designers about the benefit of using universal design concepts for new products. Despite the size of the market of people with various disabilities, manufacturers seem to have few incentives to design products to accommodate the needs of the disabled community.

*Transportation and Telecommuting:* A key barrier to the integration of people with disabilities into the U.S. workforce is an inability to travel from home to the workplace. Development of innovative personal

transportation vehicles and assistive technologies addresses at least some of the transportation issues faced by people with disabilities, although it remains unclear whether these innovations optimize the goal of integrating them into the U.S. workforce. According to the NCD, "many U.S. residents with disabilities, that accessible transportation represents one of the chief barriers to participation in economic and community life." [10]. A component of transportation that affects issues of workplace accommodation and integration of the disabled is "telecommuting". The Equal Employment Opportunity Commission (EEOC) (2002) noted that "allowing an individual with a disability to work at home may be a form of reasonable accommodation." Determining whether some sort of work-at-home program (with or without a telecommuting connection) is a reasonable accommodation "should be made through an "interactive process" between the employer and the individual. [11].

*Workplace Accessibility and Universal Design:* Another factor is the trade-off between accessible design and universal design. Accessible designs focus on addressing functional impairments by special additions to an existent workplace environment, while universal design seeks a systemic change in the workplace environment to promote the complete integration of people with disabilities. Affecting a transition from assistive environments to facilitative environments to environments in which "products and building ... are accessible by everyone, including people with disabilities," is critical. [12].

## **Conclusions:**

The perception of a person with one or more disabilities as someone with an obvious physical or cognitive deficiency or impairment is changing into a broader, more inclusive label that applies to a much larger portion of the population. We as a society are currently at a very crucial point in the realization that access is not as equitable with usability as we had previously thought. This paper presents issues which provide a contextual background for ongoing analyses of policies and practices related to workplace accommodations and technologies for, and integration into the U.S. workforce of people with disabilities, and represents a first step toward generation of a comprehensive policy framework for initiative development.

## **Acknowledgments:**

This is a publication of the Rehabilitation Engineering Research Center on Workplace Accommodations supported by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education, grant # H133E020720. The opinions contained in this publication are those of the grantee and do not necessarily reflect those of the U.S. Department of Education

Rehabilitation Engineering Research Center on Workplace Accommodations  
Center for Assistive Technology and Environmental Access · Georgia Institute of Technology  
490 10th Street NW · Atlanta, GA 30318  
Telephone: 800-726-9119 (Voice/TTY) · Fax: 404-894-9320 · Email: [workrerc@coa.gatech.edu](mailto:workrerc@coa.gatech.edu)

## References

1. U.S. Census Bureau. Americans With Disabilities: Household Economic Studies - 1997. Feb.2001. Online at <http://landview.census.gov/prod/2001pubs/p70-73.pdf>. Last accessed 06/24/2003. For data from the 1994 and 1995 Disability Supplements to the national Health Interview Survey, see Loprest Pamela, Maag Elaine. Barriers to and Supports for Work Among Adults with Disabilities: Results from the NHIS-D. October 2001. Online at <http://aspe.hhs.gov/daltcp/reports/barriers.htm>. Last accessed 06/17/2003.
2. NIDRR. 1999. Long Range Plan for Fiscal Years 1999-2003. Washington, DC. [[http://www.ncddr.org/new/announcements/nidrr\\_lrp/lrp\\_dd.html#2lifds](http://www.ncddr.org/new/announcements/nidrr_lrp/lrp_dd.html#2lifds)].
3. Wunderlich, Gooloo S., Dorothy P. Rice, and Nicole L. Amado, (Eds.) 2002 The Dynamics of Disability: Measuring and Monitoring Disability for Social Security Programs . Board on Health Care Services (HCS), Institute of Medicine (IOM), Committee on National Statistics (CNSTAT). Washington D.C.: National Academy Press. [<http://books.nap.edu/books/0309084199/html/index.html>].
4. National Organization on Disability. 2003. "The State of the Union 2003 for Americans with Disabilities." [<http://www.nod.org/content.cfm?id=1293>(Link no longer available)].
5. National Council on Disability (NCD). 2002. National disability policy: a progress report, December 2000--December 2001. Washington D.C. [[http://www.ncd.gov/newsroom/publications/progressreport\\_07-26-02.html#chap13](http://www.ncd.gov/newsroom/publications/progressreport_07-26-02.html#chap13)(Link no longer available)].
6. Harris Interactive. 2001. THE HARRIS POLL #60, December 5, 2001 Many People Unprepared for Terrorist Attacks or Other Disasters. Rochester, NY.. [[http://www.harrisinteractive.com/harris\\_poll/index.asp?PID=272](http://www.harrisinteractive.com/harris_poll/index.asp?PID=272)].
7. Washington Assistive Technology Alliance. 2002. Environmental Control. Seattle, WA. [<http://wata.org/resource/e-control/index.htm>].
8. Trace Center. 1998. Universal Design Research Project. Madison, WI:. [[http://trace.wisc.edu/docs/univ\\_design\\_res\\_proj/udrp.htm](http://trace.wisc.edu/docs/univ_design_res_proj/udrp.htm)(Link no longer available)].
9. National Center on Workforce and Disability/Adult. 2002. "Using the Emerging Disability Policy Framework to Create a Fully Inclusive Twenty-First Century Workforce Investment System." Boston, MA: [[http://www.onestops.info/article.php?article\\_id=146&subcat\\_id=62](http://www.onestops.info/article.php?article_id=146&subcat_id=62)].
10. NCD. 2002. . National disability policy: a progress report, December 2000--December 2001.. [[http://www.ncd.gov/newsroom/publications/progressreport\\_07-26-02.html#summary](http://www.ncd.gov/newsroom/publications/progressreport_07-26-02.html#summary)(Link no longer available)].
11. U.S. Equal Employment Opportunity Commission. 2002. Work At Home/Telework as a Reasonable Accommodation. Washington, D.C.: U.S. Equal Employment Opportunity Commission. [<http://www.eeoc.gov/facts/telework.html>]].
12. Center for Inclusive Design & Environmental Access. 1994. The Concept of Universal Design. University of New York at Buffalo. [[http://www.ap.buffalo.edu/idea/publications/free\\_pubs/pubs\\_cud.html](http://www.ap.buffalo.edu/idea/publications/free_pubs/pubs_cud.html)(Link no longer available)].