

# **Promoting the Health and Safety of Individuals with Developmental Disabilities Employed in Mainstream Settings**

**Report and Recommendations to the National Institute  
for Occupational Safety and Health (NIOSH),  
U.S. Department of Health and Human Services**

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## Executive Summary

Approximately 4.5 million individuals in the United States have developmental disabilities (DD) such as mental retardation, autism, Down syndrome, cerebral palsy, traumatic brain injury, and epilepsy. An estimated 30 percent of working-age adults in this population are employed, either in facility-based settings (“sheltered workshops”) or in the conventional labor market. Over the past several years, there has been less of an emphasis on placing adults with DD in sheltered workshops and more of an effort to integrate these workers into mainstream jobs.

In a study conducted in 1999, the National Institute for Occupational Safety and Health (NIOSH) assessed the health and safety hazards present in sheltered workshops and offered recommendations for protecting workers employed in these settings. In 2005, NIOSH contracted with the Labor Occupational Health Program at the University of California Berkeley to conduct a needs assessment, focusing on the experiences of workers with developmental disabilities who are employed in conventional settings. The current project evaluated the extent to which federal agencies and national disability organizations are addressing issues related to the occupational safety and health of workers with developmental disabilities.

Specifically, the project involved (1) conducting a comprehensive literature review; (2) identifying the national organizations and federal agencies with a role related to the employment of adults with developmental disabilities; (3) interviewing key staff from the national organizations and federal agencies to assess interest and involvement in the issue; (4) identifying and interviewing at least one employer who is employing large numbers of persons with DD; and (5) identifying potential candidates for an ad hoc working group to further explore the topic. Results of this study indicate that although researchers have called for increased attention to the occupational safety and health of workers with developmental disabilities, almost no one at the national level is assisting in this effort.

## Introduction and Methodology

The Labor Occupational Health Program (LOHP) is a community services program of the School of Public Health at the University of California, Berkeley. LOHP has provided training, information, and technical assistance on occupational safety and health to workers, unions, joint labor-management groups, health professionals and the general public for over 30 years. For the past several years, LOHP has had an interest in the occupational health and safety experiences of workers with developmental disabilities. This interest builds on work LOHP has conducted during the last twelve years to address the gaps in occupational safety and health training of young workers.

With funding from NIOSH and OSHA, LOHP developed a curriculum (*Youth @ Work: Talking Safety*) for teaching youth basic occupational safety and health skills. Together with a partner -- the Education Development Center, Inc. in Newton, Massachusetts -- LOHP has worked in several states around the country to institutionalize the use of this curriculum in schools and community-based programs that link youth to work. This participatory curriculum includes adapted activities for teaching youth with cognitive disabilities. The activities are hands-on and do not require the ability to read. The LOHP researcher for this project worked closely with staff from California's program for transitioning students with disabilities from school to work (WorkAbility) to develop the adapted activities for the curriculum. As part of this effort she observed a number of WorkAbility students in their job placements and discovered that although there is substantial supervision by job coaches, which probably limits students' risk of injury, these students are exposed to workplace hazards with almost no health and safety training provided by either the schools or the workplaces.

In 2005/2006, NIOSH contracted with LOHP to initiate a needs assessment project that would complement NIOSH's 1999 study of sheltered workshops. The earlier research identified a number of hazards and hazardous conditions inherent in the work being conducted in these facilities and offered recommendations for protecting these workers (NIOSH Report 2000). The 2005/2006 project focused on understanding the health and safety experiences and needs of workers with developmental disabilities who are employed in integrated, mainstream, settings rather than segregated facilities. The research also sought to learn which national organizations and federal agencies might play a role in promoting the health and safety of these individuals in the workplace.

The methodology for the 2005/2006 project included the following elements:

- *Literature review:* We reviewed the literature on workplace injury and illness and occupational safety and health training for workers with developmental disabilities. We identified 25 articles, book chapters and reports on these topics written since 1990. An annotated bibliography of the literature review is attached as Appendix A.
- *Development of a database of key federal agencies and national organizations:* Through website searches and telephone calls we identified 26 federal agencies and federally-funded programs and 21 national organizations with a mission related to the employment of adults with developmental disabilities. Contact information as well as a summary of related activities is provided in the database (see Appendix B).
- *Agency and organization staff interviews:* Of the total number of federal agencies/programs and national organizations we identified, we were able to conduct interviews with staff from 34 of these groups. Questions sought to determine whether the agency or program had any materials or activities related to occupational safety and health for workers with DD and their opinions about the topic as an issue for this group of workers. See the summary outline of the key federal programs and information about their related materials and activities in Appendix C.
- *Interview with a major employer of workers with developmental disabilities:* One major employer was interviewed as part of this project to identify best practices. The selected employer, Walgreens Company, has made a commitment to hire 30% of its workforce in their distribution centers from the DD community. See Appendix D for information about Walgreens' initiative.<sup>1</sup>
- *Identification of candidates for an ad hoc working group on the topic:* Through the interviews conducted with federal agencies and national organizations, a list of 20 groups was compiled who should be represented on a NIOSH taskforce to further explore this issue (see Appendix E).

This report summarizes the information collected, provides a discussion of the issues identified, and offers recommendations for further research and educational activities.

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<sup>1</sup> Since this 2005/2006 project concluded, NIOSH, LOHP/U.C. Berkeley, and Walgreens have partnered to develop a model safety training program for these workers.

## Workers with Developmental Disabilities: An Overview

According to the US Department of Health and Human Services' Administration on Developmental Disabilities, approximately 4.5 million individuals in the United States have developmental disabilities. Developmental disabilities (DD) are severe, life-long disabilities attributable to mental and/or physical impairments which result in substantial limitations in three or more areas of major life activities such as self care, language, learning, mobility, self direction, economic self-sufficiency, and capacity for independent living. Examples of DD include mental retardation, autism, Down syndrome, cerebral palsy, traumatic brain injury, and epilepsy.

### Employment trends among workers with developmental disabilities

An estimated thirty percent of working-age adults with developmental disabilities are employed. Although this percentage has remained fairly constant over the past several decades, the *number* employed increased from approximately 280,000 in 1990 to 400,000 in 1996 (Braddock, 1998)<sup>2</sup>. This growth trend will likely continue given that the number of individuals with developmental disabilities, such as autism, appears to be increasing. In addition, numerous advocacy organizations and the federal government have targeted the employment of persons with disabilities as a national priority.

Adults with developmental disabilities are employed in either community-based rehabilitation programs (sometimes still called sheltered workshops or work centers) or in the conventional labor market. Over the past several years, the trend has been away from facility based settings and toward integration of workers with DD into mainstream jobs. In 1990, approximately 82% (228,000) of these adults worked in sheltered workshops with the remaining 18% (52,000) employed in integrated settings. In 1996, the percentage working in sheltered workshops decreased to approximately 76% (305,000) with the remaining 24% (91,000) employed in integrated settings (Braddock, 1998)<sup>1</sup>. In many cases, individuals with developmental disabilities working in mainstream jobs receive supported employment services from local and state agencies (such as departments of vocational rehabilitation). These programs send job coaches with the individual to assist with initial training and supervision.

There is currently no national data source documenting where specifically workers with developmental disabilities are employed in mainstream settings in the United States. However, studies have found that common types of workplaces for these individuals include warehouses, recycling centers, food service, janitorial and building services, retail, clerical settings, mail rooms,

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<sup>2</sup> Despite an exhaustive search, more recent employment data was not uncovered.

hospitals, laundries and a variety of other workplaces (Holtzberg 2000, [www.thearc.org/faqs/emqa.html](http://www.thearc.org/faqs/emqa.html)). Surveys of employers suggest that the most typical jobs for persons with mental retardation are janitorial/custodial and stocking work (Olson 2001). Some adults with developmental disabilities are also exploring opening their own businesses. For example, a recent newspaper article reported a story of two individuals with mental retardation who own a salvage company in Ohio where they handle forklifts and disassemble telecommunications equipment to extract metals for resale (Sacramento Bee newspaper, April 2, 2006).

### **Injury and illness rates among workers with developmental disabilities**

A comprehensive review of the literature published since 1990 found a limited number of articles about the work-related injury experiences of workers with developmental disabilities as well as other occupational safety and health issues they may have. The researchers who have addressed the topic call for increased attention to the subject. Dr. Martin Agran, of Utah State University, has written most extensively about occupational safety and health issues for this population, including the need for better safety and health training. In a 1995 series of articles in the *Journal of Vocational Rehabilitation*, Agran reports that occupational safety and health has been largely neglected in the transition and supported employment literature. Elizabeth Holtzberg also comments that, with the exception of the Agran series, there has been a significant lack of attention to the topic of occupational safety and health in the vocational rehabilitation and special education journals (Holtzberg 2000). Blanck and Pransky observe that the lack of scientific literature on occupational abilities and risks of workers with disabilities makes it difficult for health care providers to provide input on employability and to recommend accommodations (Blanck 1999).

There is no national data source currently available that specifically tracks work-related injuries among workers with disabilities. However, knowing where these individuals are employed can provide clues about their risk. The work performed in warehouses, recycling facilities, light manufacturing, food service and janitorial settings involves a number of hazards and injury rates are high in general among all employees in these industries and occupations. Examples of such hazards include lifting heavy or bulky objects, reaching overhead, slippery floors, chemical and heavy metal exposures, and trip hazards. The tasks involved are also typically highly repetitive, putting employees at risk of repetitive strain injuries.

Data collected through a survey of vocational rehabilitation facilities in 20 states that was conducted by Agran and his colleagues confirms that workers with disabilities are at least at the same level of risk as their non-disabled peers. He found that the number of injuries sustained by workers

participating in supported employment was “sizable” and that strains and sprains were the injuries most often reported (Agran 1995-*Prevalence*). As the number of individuals with disabilities who are employed increases, he warns, more injuries may occur.

Agran and others argue that workers with developmental disabilities may be at increased risk on the job due to characteristics of their disabilities such as poor judgment, lack of awareness of danger, impulsivity and restlessness, and difficulties communicating (Agran 1995-*Prevalence*). Raising concerns about whether individual characteristics increase risk of work-related injury is a complicated and sensitive area. The advocacy community is understandably concerned that to do so may add to the list of barriers to employment for workers with developmental disabilities. However, addressing this subject proactively with employers and assisting them in building safety support systems that protect the individual needs of employees, that encourage communication between all parties, and that include appropriate and tailored health and safety training is the best approach to this issue. As Elizabeth Holtzberg contends, not empowering workers participating in supported employment with safety skills limits their independence and employability (Holtzberg 2000). It is important to remember as well that the Occupational Safety and Health Administration, the federal agency responsible for workplace health and safety, has expressly stated that “working conditions should safeguard the safety and health of *all* workers, including those with special needs and limitations.” (OSHA 1995 policy, [www.osha.gov](http://www.osha.gov))

### **Health and safety training for workers with developmental disabilities**

Results of this needs assessment project indicate there are very few examples of health and safety training being provided to workers with developmental disabilities. When safety training does occur, it is usually limited to task-specific instructions provided on an as needed basis. This lack of real health and safety training leaves these workers unprepared to be able to identify hazards in a variety of settings, know what to do when something unexpected happens, and advocate for themselves when a problem arises. Agran stresses that any work environment can be potentially dangerous if employees do not know how to prevent accidents and respond appropriately to emergency situations.

The researchers that have written on the topic of occupational safety and health and workers with developmental disabilities call for more training of this population using a hands-on, problem solving approach that is tailored to the needs of the individuals (Madison, Agran, Collins, Holtzberg, Joseph). Agran states that because work environments may have potential risks and support staff may not be present at all times to correct risky situations, these

workers must be taught strategies that will enable them to respond appropriately. Agran, Madison, Holtzberg, and Martella all warn that failure to provide them with such skills not only limits their employability but may put them in a potentially dangerous situation.

There are several high school transition programs for youth with disabilities around the US that have taken this hands-on approach to safety training. The Labor Occupational Health Program (LOHP) at the University of California, Berkeley and its partner, the Education Development Center, Inc. (EDC) in Newton, Massachusetts have conducted training sessions for transition program staff (as well as for staff from other school- and community-based programs) in a number of states around the country. During the training sessions, staff learn how to teach basic occupational safety and health skills to their program participants, using the LOHP/EDC *Youth @ Work: Talking Safety* curriculum funded by NIOSH and OSHA. During these training sessions they are also introduced to the learning activities adapted for students with cognitive disabilities. To date, hundreds of programs in several states have sent transition program staff for training in how to use the curriculum with their students with cognitive disabilities and have reported training their students. LOHP and EDC report numerous accounts from these staff that they appreciate having a curriculum that specifically includes learning activities that are adapted for individuals with cognitive and learning disabilities.

Although researchers have called for increased attention to the occupational safety and health of workers with developmental disabilities, almost no one at the national level is assisting in this effort. Very few resources appear to exist to help job developers and job coaches from local disability agencies to prepare and support their program participants for safe employment. Interviews with key personnel from federal agencies and national organizations indicate a range of opinions on the need for health and safety training. Some staff agreed that more attention, support and resources are needed. Others indicated they do not consider it an issue at all. One executive director of a well-known national advocacy group cautioned that raising the issue of occupational safety and health concerns for workers with developmental disabilities may be used as a barrier to employment. This concern is particularly timely given the recent US Supreme Court decision upholding the “direct threat” clause of the Americans with Disabilities Act which states that workers with disabilities may be legitimately denied employment if they are perceived to cause a direct threat to the safety of themselves or their co-workers.



## **Federal agencies with a role to play**

This project included conducting a search for federal agencies and federally-funded programs that have missions related to the employment of adults with disabilities. Three major federal departments (Labor, Education, and Health and Human Services) have offices within their agencies (or programs they fund) that have some involvement in the issue of employment of adults with disabilities and therefore maybe called upon in the future to play a role in promoting the health and safety of workers with developmental disabilities. In addition, two independent federal agency programs were identified – the National Council on Disability and the President’s Committee on Employment of People with Disabilities. In all, 26 federal agencies and programs funded by those agencies were located.

Research was conducted by searching websites and interviewing staff to determine which federal office and federally-funded programs address, in any way, the topic of occupational safety and health for workers with developmental disabilities. Only limited involvement in the issue was identified, with the exception of NIOSH’s current project and previous study of sheltered workshops, and the Department of Labor’s two websites on the topic – [www.disabilityinfo.gov](http://www.disabilityinfo.gov) and the Job Accommodation Network’s [www.jan.wvu.edu](http://www.jan.wvu.edu) – which have materials on occupational safety and health issues for workers with disabilities. Programs that are a part of the Department of Education’s Office of Special Education and Rehabilitation Services also provide some information and materials. The Office on Disability in the US Department of Health and Human Services has materials on emergency preparedness in the workplace for this population.

Below is a listing of the key federal offices with a potential future role to play in promoting the occupational safety and health of workers with developmental disabilities. A more expanded list is provided in Appendix C.

- Administration on Developmental Disabilities, US Department of Health and Human Services
- National Institute on Disability and Rehabilitation Research, US Department of Education
- National Institute for Occupational Safety and Health, US Department of Health and Human Services
- Occupational Safety and Health Administration, US Department of Labor
- Office of Disability Employment Policy, US Department of Labor
- Office of Special Education and Rehabilitation Services, US Department of Education
- Office of Special Education Programs, US Department of Education

- President's Committee on the Employment of People with Disabilities
- Presidential Task Force on the Employment of Adults with Disabilities, US Department of Labor

### **National organizations with a role to play**

The project also involved identifying national non-profit advocacy and membership organizations that are concerned with the employment of adults with disabilities and could therefore potentially play a future role in promoting the health and safety of workers with developmental disabilities. For most of the 21 organizations identified, employment is only one of the many issues of concern and is not their primary focus. In addition, many of these organizations serve adults with disabilities in general and are not specifically targeting those with developmental disabilities. Some of these organizations serve local and state agencies that provide community and job support to individuals with developmental disabilities and so also have a role to play.

The following organizations have the most direct focus on employment issues for adults with developmental disabilities:

- Abilities!
- Alliance for Full Participation
- American Association of Mental Retardation
- American Association of People with Disabilities
- American Congress of Community Supports and Employment Services
- American Network of Community Options and Resources
- Association of University Centers on Disabilities
- Best Buddies, International (particularly Best Buddies Jobs)
- Commission on Accreditation of Rehabilitation Facilities (CARF)
- Consortium for Citizens with Disabilities
- Disability Rights Education and Defense Fund, Inc.
- National Association of Councils on Developmental Disabilities
- National Association of State Directors of Developmental Disabilities Services
- National Council on Disability
- National Council on Independent Living
- National Disability Rights Network
- National Organization on Disability
- Network on Employment (formally Association for Persons in Supported Employment (APSE))
- NISH-Creating Employment Opportunities for People with Severe Disabilities
- World Institute on Disability

- The ARC

Interviews were completed with staff from 17 of these organizations to assess involvement in the topic of workplace health and safety and their interest in promoting the issue among their constituents. The only organizations that appear to be addressing the topic of occupational safety and health are those whose members provide supported employment services at the local level. In each of these cases, the staffperson interviewed stated that while their national office didn't provide any health and safety information or training, they thought their members might provide this as a service to their clients. Some of these organizations explicitly reported that they believed workplace health and safety "training" occurred as part of on-the-job training. While contact with the staff from these organizations did not find that any of them are currently addressing occupational safety and health training, they may be in a position to play a future role in promoting occupational safety and health education to workers with developmental disabilities and the staff who support them on the job.

More specific information about the 21 national organizations identified is part of this project is included in the project's database. Please see Appendix B, attached.

## **Discussion and Recommendations for Future Activities**

The results of this needs assessment have found that very few researchers, agencies or organizations in the country have examined the occupational safety and health experiences and needs of workers with developmental disabilities. In fact, because there are no national databases that identify where workers with DD are employed in mainstream settings or to what extent they are being injured on the job, many in federal government or in the advocacy community have not viewed this issue as one of significance. For information regarding employment trends and numbers of work-related injuries and illnesses we must rely on research studies or, possibly, state-based information<sup>3</sup>.

We know from the research studies that have been conducted that workers with intellectual disabilities are experiencing work-related injuries and illnesses. We also know that many of these workers are working in industries with high rates of injury and illness for all workers and would, therefore, presumably be at least at the same risk as their co-workers without disabilities. Reminding federal program staff and advocates that the

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<sup>3</sup> This study did not examine state-based data that may be collected by state agencies such as Departments of Rehabilitation.

available data from research studies indicates that these workers are, in fact, at risk of injury can help bring attention to the topic and the need for targeted initiatives.

NIOSH, OSHA and other federal agencies often refer to certain working populations as “vulnerable” by virtue of the inherent challenges they face in the areas of communication and self-advocacy as well as the kind of work they do. When federal agencies speak of “vulnerable working populations” they typically mean those with limited English skills, immigrant workers, older workers and young workers. Sometimes they include persons with disabilities but when they do, more often than not they are referring to those with physical disabilities. Workers with developmental disabilities are truly a hidden, underserved working population and are almost never included in targeted outreach and education activities. Future discussions about vulnerable working populations and education and outreach efforts should include those with developmental disabilities, considering they are employed in the same kinds of workplaces, conducting the same or similar tasks, and bring to the workplace similar kinds of risk factors (if not greater risk) and needs for adapted training and support systems.

Many in the advocacy community have expressed a concern about raising the issue of occupational safety and health at all for fear of discouraging future employers from hiring workers with intellectual disabilities. Employment is an essential aspect of an independent and fulfilling life and the occupational health community should join the advocacy community in strongly supporting the inclusion of individuals with intellectual disabilities in the workplace. Any efforts to promote job safety for these individuals should acknowledge the sensitive nature of this topic, particularly in view of the US Supreme Court’s recent decision upholding the “direct threat” clause of the Americans with Disabilities Act. Framing this issue as one of empowerment and as a way to build skills that can lead to improved independence and employability, as Elizabeth Holtzberg suggests, is a good approach. This argument has been successful with staff from school- and community-based programs that connect youth to work as well. Including basic occupational safety and health training in a student’s portfolio of employment-related skills has been seen as a marketing “plus” by employers and therefore by program staff, parents and students themselves.

Finally, it is clear from the literature as well as from the results of this needs assessment project that there is a significant gap in the occupational safety and health education of workers with developmental disabilities. A number of researchers discuss the need for curricula and materials on workplace health and safety that are tailored to the specific needs of this population. They call for the development of participatory, hands-on, problem-solving activities (an approach that has been found to be successful for all learners, with and

without learning disabilities) for teaching basic safety skills. The federal agencies with an interest in the employment of workers with developmental disabilities could play an important role in meeting this need.

## Recommendations

1. NIOSH should take the lead in including workers with developmental disabilities in their definition of “vulnerable working populations” (or “special populations”) when planning research, education and outreach activities and should encourage other agencies focusing on underserved working populations to do so as well in order to raise the visibility of this population of workers.
2. NIOSH should fund research into best practices among employers of workers with developmental disabilities, both in facility-based and competitive employment settings, to identify examples of accommodations, tailored training programs, and model safety support systems.
3. NIOSH should assemble a working group to further assess the health and safety issues facing workers with developmental disabilities, the resources needed, and the avenues for outreach and education that can reach these workers as well as the agencies and organizations that serve them and their employers. See Appendix E for a suggested list of organizations and agencies that should be included.
4. Appropriate federal agencies should fund a curriculum developer/trainer to create a model safety training program for teaching workers with developmental disabilities basic occupational safety and health skills. These agencies might include NIOSH, OSHA (through its Susan B. Harwood grants program), the Department of Health and Human Services’ Administration on Developmental Disabilities, the Department of Labor’s Office on Disability Employment Policy, and/or the Department of Education’s Office of Special Education and Rehabilitation. In addition, the best models for delivering this training to workers with developmental disabilities should be identified. This may include targeting agency staff that support these workers or it may focus on supervisors or others from the workplace itself. A training of trainers program should be developed for these groups to facilitate their ability to teach the curriculum.<sup>4</sup>

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<sup>4</sup> Since this 2005/2006 project concluded, NIOSH, LOHP/UC Berkeley and Walgreens Company have partnered to develop a tailored training program for teaching this population of workers basic occupational safety and health skills. The curriculum for the program, called *Staying Safe at Work*, is being disseminated to other employers of workers with disabilities.

5. Appropriate federal agencies such as NIOSH, OSHA, ADD, ODEP and/or OSERS should partner with an employer who hires large numbers of workers with developmental disabilities to evaluate the effectiveness of the model safety training program described above.
  
6. Appropriate federal agencies such as NIOSH, OSHA, ADD, ODEP and/or OSERS should fund a curriculum developer/trainer to create a training program that would prepare supervisors who work with employees with developmental disabilities to better address the safety needs of these workers and to make sure the work environments are safe. These agencies should also fund outreach to the major employers of workers with developmental disabilities around the country in order to deliver this training.

## Reference List

- Agran, M. (1995). Introduction. *Journal of Vocational Rehabilitation*, 5, 3-4.
- Agran, M., & Madison, D. (1995). Prevalence of injuries among supported employees. *Journal of Vocational Rehabilitation*, 5, 5-13.
- Agran, M., Madison, D. & Bown, C. (1995). Teaching supported employees to prevent work injuries. *Journal of Vocational Rehabilitation*, 5, 33-42.
- Agran, M., Marchand-Martella, N. E., & Martella, R. C. (1994). Promoting health and safety. Skills for independent living. Baltimore: Paul H. Brookes Publishing Company.
- Agran, M., Swaner, J. & Snow, K. (1998). Work safety skills: A neglected curricular area. *Career Development for Exceptional Individuals*, 21, 33-44.
- Blanck, P., & Pransky, G. (1999). Workers with disabilities. *Occupational Medicine: State of the Art Reviews*, 14(3), 581-593.
- Braddock, D. (1998). Mental retardation and developmental disabilities: Historical and contemporary perspectives. In D. Braddock, R. Hemp, S. Parish, and J. Westrich (Eds.), *The state of the states in developmental disabilities* (5th ed., pp 3-21). Washington, DC: American Association on Mental Retardation.
- Collins, B., & Stinson, D. (1995). Reflections on "Teaching generalized reading of product warning labels to adolescents with mental disabilities through the use of key words." *Exceptionality*, 5(3), 195-198.
- Collins, B., & Stinson, D. (1995). Teaching generalized reading of product warning labels to adolescents with mental disabilities through the use of key words. *Exceptionality*, 5(3), 163-181.
- Ekstrom, R. B., & Smith, D. K. (2002). Assessing individuals with disabilities in educational, employment, and counseling settings. Washington, D.C.: American Psychological Association.
- Harrison, O. (1998). Employing people with disabilities: Small business concerns and recommendations. *Research to Practice*, 4(5). Retrieved September 15, 2006 from [http://www.communityinclusion.org/article.php/article\\_id=34&type=to pic&id=5](http://www.communityinclusion.org/article.php/article_id=34&type=to pic&id=5)
- Holzberg E. (2002). The best method for improving safety on the job for supported employees. *Work*, 19(1), 81-6.
- Johnson, L. D., Moen, T. E., & Kessel, R. (1989). *Occupational Health Issues Raised by Surveys of Rehabilitation Facilities (Sheltered Workshops) in Wisconsin*. Paper presented at the American Industrial Hygiene Conference, St. Louis, MO.
- Joseph, A. J. (1997). Right-to-know training of workers with IQ less than 70: A pilot study. *American Journal of Industrial Medicine*, 32, 417-420.

- Lax M. B., & Siwinski G. (1998, August). Lead exposure in a developmentally disabled workforce. *American Journal of Industrial Medicine*, 34(2), 191-6.
- Lenhart S. W. (2000, February). Protecting workers with developmental disabilities. *Applied Occupational and Environmental Hygiene*, 15(2), 171-81.
- Madison, D., & Agran, M. (1995). Safety skills training in supported employment: A survey of current practices. *Journal of Education Rehabilitation*, 5, 15-23.
- Martella, R. C. (1991). Using a problem-solving strategy to teach work-related safety skills to persons in supported employment. (Doctoral dissertation, Utah State University, 1991). Retrieved September 18, 2006 from Digital Dissertations, AAT 9132779.
- Martella, R. C., Agran, M. & Marchand-Martella, N. E. (1992, Fall). Problem solving to prevent work injuries in supported employment. *Journal of applied behavior analysis*, 25(3), 637-45.
- Martella, R. C., Agran, and Marchand-Martella, N. E. Teaching individuals with disabilities how to prevent accidents in the work place. (Unpublished manuscript).
- Martella, R. C., & Marchand-Martella, N. E. (1995). Safety skills in vocational rehabilitation: a qualitative analysis. *Journal of Vocation Rehabilitation*, 5, 25-31.
- Martella, R. C., Marchand-Martella, N. E., & Agran, M. (1992). Work-related accident causes: A neglected transitional area. *Canadian Journal of Rehabilitation* 6, 117-122.
- McCann, M. (1987). Teaching art safety to the disabled. New York: Center for Safety in the Arts.
- Mohr, S., Gochfeld, M., & Pransky, G. (1999). Genetically and medically susceptible workers. *Occupational Medicine: State of the Art Reviews*, 14(3), 604-605.
- National Institute for Occupational Safety and Health (1991). *Dow Jones and Company, Inc., Dallas, TX*. (NIOSH Health Hazard Evaluation Report 90-0251-2128). Cincinnati, OH: NIOSH.
- National Institute for Occupational Safety and Health. (1996 October 31). *Developmentally Disabled Worker Dies After Being Run Over by a Front-end Loader in California*. (NIOSH FACE Program : California Case Report 95CA021). Cincinnati, OH: NIOSH.
- National Institute for Occupational Safety and Health. (1999). *Handi-Shop, Inc., Mexico, MO*. (NIOSH Health Hazard Evaluation Report 97-0112-2738). Cincinnati, OH: NIOSH.
- Office of the Surgeon General. (2001 February). *Closing the Gap: A National Blueprint for Improving the Health of Individuals with Mental Retardation*. Report of the Surgeon General's Conference on Health Disparities and Mental Retardation. Rocklin, MD: Office of the Surgeon



- General. Retrieved September 18, 2006 from <http://www.surgeongeneral.gov/topics/mentalretardation/retardation.pdf>
- Rossol, M. (1996). Safety of workers with neurological disabilities [Letter to the editor]. *American Industrial Hygiene Association Journal*, 57(6), 575-576.
- Sacramento Bee newspaper, April 2, 2006
- Sandoz, C.J. (1992). Training the developmentally disabled in the safe use of hazardous chemicals.
- Sandoz, J. (2003 February 20-21). *Reasonable Accommodation in Training Safety*. Paper presented at the annual meeting of the Louisiana Educational Research Association.
- Spieler, E.A. (1999). Legal solutions for the problems of special populations at risk. *Occupational Medicine: State of the Art Reviews*, 14(3), 665-686.
- Unger, D. D. (2002, Spring). Employers' attitudes toward persons with disabilities in the workforce: myths or realities? *Focus on Autism and Other Developmental Disabilities* 17(1).
- Wehman, P. (1995). editor. *Journal of Vocational Rehabilitation* 5, 1-2.
- Winterling, V., Gast, D. L., Wolery, M., & Farmer, J. A. (1992). Teaching safety skills to high school students with moderate disabilities. *Journal of Applied Behavior Analysis*, 25, 217-227.

### **Legislation**

- Occupational Safety and Health Administration (1995): Code of Federal Register Title 1924, Safety Standards Applicable to Workshops and Rehabilitation Facilities Assisted by Grants. Washington, DC: Government Printing Office.

## **Appendices**

## Health and Safety Issues for Workers with Disabilities

### Literature Review

#### Journal Articles

Agran, M.

Introduction.

Journal of Vocational Rehabilitation 5 (1995) 3-4.

Abstract: This special issue of the Journal of Vocational Rehabilitation directly addresses the topic of work safety for disabled workers. The area has been largely neglected in the transition and supported employment literature. Because work environments may have potential risks and staff may not be present to correct risk situations, consumers must be taught strategies that will enable them to respond appropriately. Failure to provide them with such skills not only limits their employability but may put them in a potentially dangerous situation.

Agran, M. and D. Madison

Prevalence of injuries among supported employees.

Journal of Vocational Rehabilitation 5 (1995) 5-13.

Abstract: It is commonly assumed that any work environment can be potentially dangerous if employees do not know how to prevent accidents and respond appropriately to emergency situations. As the number of individuals with disabilities involved in supported employment increase, more injuries may occur. There is presently no available data base on the number or types of injuries persons with disabilities sustain in supported employment. A sample of employers were surveyed to identify potential causes of accidents and the types of injuries sustained by supported employees. Results indicated that a sizeable number of employees sustain injuries. Sprains or strains were the injuries reported most frequently, and the most frequently reported causes of accidents were general carelessness or improper positioning. Results are discussed in terms of providing consumers systematic training in work safety.

Agran, M., D. Madison, and C. Bown

Teaching supported employees to prevent work injuries.

Journal of Vocational Rehabilitation 5 (1995), 33-42.

Abstract: The effects of a problem-solving strategy to teach five supported employees with mild to severe mental retardation safe work behaviors were evaluated. Within two multiple baseline designs across subjects and

behaviors, participants were taught to identify unsafe work conditions, then respond to them appropriately. These findings suggest that all participants made dramatic improvements in their performance of safe work behaviors, and these changes maintained for up to 4 weeks after the training had ended. Results are discussed in light of the implications and safety-skills training.

Agran, M., J. Swaner, and K. Snow

Work safety skills: A neglected curricular area.

Career Development for Exceptional Individuals 21 (1998), 33-44.

Abstract: This study examined the nature and content of work-safety-skills instruction delivered to Utah students with disabilities at the middle and secondary levels. Analysis of 68 surveys completed by school personnel suggest that only a minority of special education personnel provide ongoing safety-skills instruction and the frequency of such instruction is highly variable and erratic.

Blanck, P. and G. Pransky

Workers With Disabilities.

In: Occupational Medicine: State of the Art Reviews (Special Populations).

14(3): 581-593. Frumkin, H.; Pransky, G., Eds. Hanley and Belfus, Inc.

Philadelphia, PA (1999).

Abstract: Individuals with disabilities constitute a sizable portion of the workforce and represent the majority of working-age persons who are unable to work. Historically, barriers to employment have included attitudinal discrimination by employers, lack of workplace accommodations, and inadequate job training. The disability rights movement has achieved considerable success in promoting legislation to remove these barriers and uphold equal employment. Research suggests that many employers actively attempt to incorporate persons with disabilities into the workforce and gain substantial economic benefit from their participation, without incurring burdensome expenses. Occupational health providers are asked by employers and others to provide input on feasibility and safety, a difficult task given the lack of scientific study on the occupational abilities and risks associated with specific disabilities. Providers have an important role in promoting the equal employment of disabled persons, by providing objective opinions on their ability and risks on the job and suggesting workplace accommodations and treatments that enhance the ability to work.

Braddock, D. (1998). Mental retardation and developmental disabilities: Historical and contemporary perspectives. In D. Braddock, R. Hemp, S. Parish, and J. Westrich (Eds.), *The state of the states in developmental disabilities* (5th ed., pp 3-21). Washington, DC: American Association on Mental Retardation.

Collins, B. and D. Stinson

Reflections on “Teaching generalized reading of product warning labels to adolescents with mental disabilities through the use of key words.”

Exceptionality 5:3 (1995), 195-198.

Abstract: Although it is possible to employ safe practices in a controlled environment, it is evident that there are a range of uncontrolled environments filled with potential danger for which the mentally disabled need a generalization of safe responses. The ability to generalize across potentially dangerous products is a key issue. Products vary in size, odor, shape, and color, as do key words on labels. Due to their nature, the instruction of safety skills demands that students be taught to a stringent generalization criterion using the most effective instructional methodology since a single error can be fatal.

Collins, B. and D. Stinson

Teaching generalized reading of product warning labels to adolescents with mental disabilities through the use of key words.

Exceptionality 5:3 (1995), 163-181.

Abstract: Key words from product warning labels were taught to four adolescents with moderate mental disabilities using flash cards and a progressive time-delay procedure. Instruction was conducted in dyads to facilitate observational learning. To enhance generalization, students were presented with nontargeted or incidental information during the feedback statement that included visual and auditory exposure to key word definitions and contextual examples. Students mastered the reading of target key words in a relatively short amount of time with minimal errors. In addition, they demonstrated some observational and incidental learning. However, generalization probe data collected with actual products across settings revealed the need for more instruction using strategies that facilitate generalization before students have a skill that can be considered functional.

Harrison, O.

Employing People with Disabilities: Small Business Concerns and Recommendations.

Research to Practice 4:5 (1998).

[www.communityinclusion.org/publications/text/rpl18text.html](http://www.communityinclusion.org/publications/text/rpl18text.html)

Abstract: A common recommendation from employers is to have employers educating employers. Employers who successfully employ individuals with disabilities can address issues and concerns as well as dispel myths and fears that other employers may have about hiring individuals with disabilities, e.g. matching the individual with job needs; identification of specific safety concerns; legal liabilities and health insurance premiums; and job accommodations.

Holzberg E.

The best method for improving safety on the job for supported employees.  
Work. 2002;19(1):81-6.

Abstract: This article addresses the best method for improving safety on-the-job for supported employees. A survey of common causes of accidents and the opinions of individuals involved in supported employment is presented. This is followed by an evaluation of types of safety skills training that is available. Most of the training programs discussed utilized a problem solving approach.

Joseph, A.J.

Right-to-know Training of Workers with IQ less than 70: A Pilot Study.  
American Journal of Industrial Medicine 32:417-420 (1997).

Abstract: Chemical emergencies occur frequently in the workplace. Laws and regulations have been enacted to reduce the risk of injuries to workers, including workers with an IQ less than 70. These regulations require employers to educate their workers about the nature and hazards of toxic substances in the workplace, about methods to reduce exposure, and about appropriate responses in case of an accident or an emergency. From May to August 1996, a project examined the responses of 58 Goodwill Industries employees before and after their attendance at a mandatory "Right-to-Know" training program. Responses to five questions relating to the safe use of chemicals were analyzed. A combination of quantitative and qualitative evaluations determined that for the 28 subjects with IQ < 70, the program did not achieve its goals. However, the program did provide fuller information for the 30 subjects with IQ > or = 70. The findings of this pilot study show the need to develop training programs tailored to meet the needs and conditions of workers with IQ < 70.

Lax MB, Siwinski G.

Lead exposure in a developmentally disabled workforce.

American Journal of Industrial Medicine 1998 Aug; 34(2):191-6.

Abstract: Over-exposure to lead was identified among developmentally disabled workers engage in furniture refinishing at two separate sites. The index case was identified at the first site by a public health nurse assigned to provide care to some of the workers. Referral to a regional occupational health clinic initiated an exposure assessment and medical consultation at both work sites. Blood lead levels (BLLs) among sanders and helpers at site A averaged 60 micrograms per deciliter of blood (mcg/dl). At site B, BLLs were lower, but 6 individuals had BLLs greater than mcg/dl. Hand sanding of chemically stripped wood previously coated with lead-based paint was determined to be the exposure source. These incidents document potential lead overexposure in an underrecognized setting. They also emphasize the importance of incorporating a workplace health risk assessment in the process of placing and protecting the developmentally disabled on the job.

Lenhart SW.

Protecting workers with developmental disabilities.

Applied occupational and environmental hygiene. 2000 Feb;15(2):171-81.

Abstract: National Institute for Occupational Safety and Health (NIOSH) researchers finished a health hazard evaluation at a sheltered workshop in 1999. A sheltered workshop is a nonprofit business employing predominantly people with developmental disabilities and other chronic mental and physical impairments. The study's findings suggested that sheltered workshop employees would benefit from increased management awareness and a more proactive approach to worker health and safety. A search for occupational health and safety information focusing on workers with developmental disabilities produced few results. Therefore, NIOSH researchers visited 10 additional sheltered workshops to learn more from workshop managers, staff members, and workers. From these visits, issues affecting the health and safety of workers with developmental disabilities were determined. Ten of the issues are discussed in this report. Recommendations for protecting workers with developmental disabilities and issues needing research are also given.

Madison, D. and M. Agran

Safety skills training in supported employment: a survey of current practices  
Journal of Education Rehabilitation 5 (1995), 15-23.

Abstract: Many employees may be working in environments with potential risks and may not know how to respond appropriately to these risks, therefore the need for safety-skills training is critical. However, limited information is available on the extent to which supported employees receive such training. The purpose of this investigation was to identify the type of safety-skills training provided to a sample of supported employees. The findings revealed that the majority of employees received training, but the content and format of the training varied. The results are discussed in terms of providing appropriate safety-skills training to supported employees.

Martella RC, M. Agran, and NE Marchand-Martella

Problem solving to prevent work injuries in supported employment.

Journal of applied behavior analysis 1992 Fall; 25(3):637-45.

Abstract: A problem-solving strategy was used to teach three groups of 3 individuals in supported employment how to prevent work-related injuries. The problem-solving strategy was taught in two training phases. The first training phase involved the use of cue cards, and the second involved the withdrawal of the cue cards. Interviews and staged generalization assessments in the participants' natural work environments were conducted before, during, and up to 12 weeks after training. In these assessments, situations were presented that were either similar or dissimilar to situations presented in training. Results of both the interviews and staged assessments

indicated that the participants' newly acquired problem-solving skills generalized to similar and dissimilar situations.

Martella, R.C., M. Agran, and N.E. Marchand-Martella.

Teaching individuals with disabilities how to prevent accidents in the work place. (Unpublished manuscript)

Martella, R.C. and N.E. Marchand-Martella

Safety skills in vocational rehabilitation: a qualitative analysis

Journal of Vocation Rehabilitation 5 (1995), 25-31.

Abstract: Four individuals associated with vocational training were surveyed to determine their opinions on the importance of including safety-skills training in vocational rehabilitation programs. The respondents included a consumer, a vocational rehabilitation counselor, a business manager, and an insurance agent. Overall, the respondents did not have any major disagreements in terms of vocational training and safety-skills instruction. All respondents indicated that safety skills were critical to include in vocational rehabilitation programs for job success. Respondent opinions are compared and conclusions are drawn in terms of future vocational training issues.

Martella, R.C., N.E. Marchand-Martella, and M. Agran

Work-related accident causes: A neglected transitional area

Canadian Journal of Rehabilitation 6 (1992), 117-122.

Abstract: A questionnaire survey was conducted with 53 employers to identify and socially validate the potential causes of work-related accidents due to environmental circumstances or employee actions. Employers were asked to rate the seriousness and frequency of different causes of work accidents. Employers from service, manufacturing, wholesale/retail, and food industries differentially rated the seriousness and frequency of environmental and employee-related accident causes. The ratings of seriousness and frequency did not significantly correlate with one another. The importance of providing training to individuals with disabilities participating in competitive and supported employment to avoid these potential accident-causing situations is discussed.  
(ordered ILB)

Mohr, S.; Gochfeld, M.; Pransky, G.

Genetically and Medically Susceptible Workers.

In: Occupational Medicine: State of the Art Reviews (Special Populations).

14(3): 604-605. Frumkin, H.; Pransky, G., Eds. Hanley and Belfus, Inc.

Philadelphia, PA (1999).

Abstract: The likelihood of an individual becoming ill from a hazardous material or condition is strongly influenced by both their genetic makeup and their underlying state of health. Although the past decade has seen great



advances in understanding human variation in health and genetic polymorphisms and in the diagnosis and treatment of disease, much less progress has been made in effectively using this information to protect worker health. Scientific evidence for increased susceptibility often is weak and rarely satisfies legal thresholds for sufficient risk to warrant exclusion from a particular job. When public safety is a major concern, many legally mandated exclusions are not well justified. Medical opinions about fitness to work should be based upon a systematic and credible analysis of the condition, its relationship to ability and risk for a particular job, and knowledge of possible accommodations. Conclusions should reflect the limitations of scientific knowledge and guidance from antidiscrimination legislation.

Rossol, M.

Safety of Workers with Neurological Disabilities [Letter to the Editor].

American Industrial Hygiene Association Journal 57(6):575-576 (1996).

Abstract: The author expresses concern that the article "Case Study : Control of Methylene Chloride Exposure During Furniture Stripping," by Estill and Spencer [AIHAJ 57:43-39] discusses the exposure of workers in a sheltered workshop to neurotoxic solvents, and expresses the opinion that neurologically compromised workers should never be exposed to neurotoxic chemicals. Estill and Spencer respond.

Spieler, E.A.

Legal Solutions for the Problems of Special Populations at Risk.

In: Occupational Medicine: State of the Art Reviews (Special Populations).

14(3):665-686. Frumkin, H.; Pransky, G., Eds. Hanley and Belfus, Inc. Philadelphia, PA (1999).

Abstract: Some populations of workers face competitive disadvantages in the labor market and increased risks at work. This paper discusses three areas of law that are relevant to the occupational health concerns of these subgroups of workers. First, laws against discrimination in employment on the basis of race, sex, age, and disability are described. Second, laws that provide universal protection for all workers, including regulatory laws (e.g., OSHA) and social insurance programs (e.g., workers' compensation) are evaluated in terms of the extent to which they provide effective protection for vulnerable populations. Third, the nature of legal protections for people at specific increased risk for disease is assessed. Appendices provide specific summaries of relevant laws.

Unger, DD.

Employers' attitudes toward persons with disabilities in the workforce: myths or realities?

Focus on Autism and Other Developmental Disabilities 17(1): Spring 2002.

Abstract: Reviews 24 studies published during the period 1982-2000 concerning employers' attitudes toward workers with disabilities, and characteristics that affect employer perceptions. Results show that employers express greater concerns over employing persons with mental or emotional disabilities than over employing persons with physical disabilities. Findings of recent studies show that the majority of employers believe that the productivity rates of workers with severe disabilities can be as high as those of workers who are not disabled. Those perceptions contradict the results of earlier findings concerning employer attitudinal research. Findings regarding the social skills of workers with disabilities and their ability to interact with coworkers are inconsistent. It is concluded that decades of employer attitudinal research has generally produced inconsistent findings due to variations in research design.

Wehman, P.

From the Editor.

*Journal of Vocational Rehabilitation* 5 (1995) 1-2.

Abstract: This special issue of the *Journal of Vocational Rehabilitation* directly addresses the topic of work safety for disabled workers. It will help rehabilitation counselors and service providers determine the types of health and safety goals on which to focus and will assist the rehabilitation team to clarify this topic as an important area of consideration for education and rehabilitation. Much of this literature is in the occupational medicine and rehabilitation medicine area and has not crossed over into the vocational rehabilitation and special education fields, yet it is extremely important for professionals to consider.

Winterling, V., Gast, D. L., Wolery, M., & Farmer, J. A. (1992). Teaching safety skills to high school students with moderate disabilities. *Journal of Applied Behavior Analysis*, 25, 217-227.

Abstract: Teaching students with disabilities to respond appropriately to potentially dangerous situations is a useful skill that has received little research attention. This investigation taught 3 students with moderate mental retardation to remove and discard broken materials (plates, glasses) safely from (a) a sink containing dishwater, (b) a countertop, and (c) a floor. A 4th student was instructed on the sink task only. A multicomponent treatment package was used to teach the skills. Simulated materials were used initially and were replaced with broken plates and glasses. A multiple probe design was used to evaluate the effectiveness of the treatment package. The results indicated that the treatment package was effective in teaching the skills. Data were collected 1 week and 1 month following the completion of training, and indicated mixed results. No student was injured during any phase of training. Issues pertinent to teaching safety skills to students with moderate disabilities are discussed.

## Books

Braddock, D. (1998). Mental retardation and developmental disabilities: historical and contemporary perspectives. *The State of the States in Developmental Disabilities*. 5th ed. Braddock, D., Ed. American Association on Mental Retardation, Washington, DC.

Abstract: This chapter, the first in the book, reviews etiology, history, and innovation in the states, especially as it concerns supported community living. Braddock provides an historical and contemporary perspective on mental retardation and developmental disabilities, ranging from Dorothea Dix to the modern era. Braddock's treatment has two advantages over other similar accounts: his grasp of the evolution of service delivery in the last 40 years and his access to the state-by-state expenditures database to paint a rich picture of changes in this system. Braddock et al. use this data to bolster their description of the evolution and current status of mental retardation and developmental disabilities services and provide a comprehensive picture of service delivery yesterday, today, and tomorrow. They state that a dominant trend has clearly been established in the United States and internationally toward family support and community living and away from the segregated institutional model. Braddock et al. note the growth of waiting lists for residential, family support, employment, and personal assistance services. Concurrent with the aging of the general population, the intense need for services will, if left unaddressed, strain state capacities. The authors note further that in the waning days of the deinstitutionalization movement, there is an increasingly vocal and well-organized coalition of parent groups and employee unions that will make the final closure of state facilities more difficult. An examination of the trends present in the data suggests that the return of people with mental retardation to their communities is no longer a matter of if, but when.

Ekstrom, Ruth B., Douglas K. Smith

Assessing individuals with disabilities in educational, employment, and counseling settings / Washington, D.C. : American Psychological Association, c2002. 285 p.

Marchand-Martella, Nancy E

Promoting Health and Safety. Skills for Independent Living. 1994.

Abstract: This book offers a comprehensive examination of health and safety needs for persons with disabilities and discusses curriculum, what to teach (e.g., self-medication skills, fire safety skills), and the methodological framework used to teach these curriculum areas. A full complement of effective behavioral-instructional strategies is offered, as well as guidelines for assessing an individual or the environment in which that individual is likely to function, generalizing specific skills to other environments or to

other untrained skills of a similar nature, and maintaining those skills across time through self-monitoring procedures. The authors cover the full range of age levels and abilities. This text provides teachers, service providers, parents, employers, and others working with people with disabilities a useful list of skills to teach students and young adults. Acquisition of these skills will provide individuals with a functional repertoire of behaviors with which to respond adaptively or avoid or prevent any number of potentially risky situations across school, home, work, or community environments.

McCann, M. (1987): "Teaching Art Safety to the Disabled" New York: Center for Safety in the Arts.

Sandoz, C.J. (1992). Training the Developmentally Disabled in the Safe Use of Hazardous Chemicals. A copyrighted work.

## **Dissertations**

Martella RC.

Using a problem-solving strategy to teach work-related safety skills to persons in supported employment. 1991. Utah State University.

Abstract: A problem-solving program was used to teach nine individuals with mild to moderate mental retardation how to prevent work-related accidents. The participants learned to prevent accidents using a problem-solving strategy which was delivered in two training phases. The first training phase featured cue cards that listed the following criteria components: How could an accident happen?; When would an accident be prevented?; Who would you talk to?; and What would you do or say? The second phase of training involved the removal of the cue cards. Training was conducted in a group format consisting of three groups of three participants and assessed using a multiple baseline design across three groups. Results indicated that all participants employed the problem-solving strategy to prevent work-related accidents. Additionally, generalization probes were conducted before, during, and up to 12 weeks after training. These probes involved interviews and staged assessments in the participants' natural work environments. Situations were presented in these assessments that were both similar and dissimilar to the training situations. Results indicated that, in both the interview and staged assessments, the participants generalized the acquired problem-solving skills to situations that were both similar and dissimilar to those used in training. Furthermore, the participants' acquired problem-solving skills maintained above baseline levels for 12 weeks after the removal of all training components.

## Reports

Johnson, L.D.; Moen, T.E.; Kessel, R.: Occupational Health Issues Raised by Surveys of Rehabilitation Facilities (Sheltered Workshops) in Wisconsin. Unpublished paper presented at the American Industrial Hygiene Conference, St. Louis, MO (1989). (Available from Wisconsin Department of Health and Family Services, Division of Public Health, Bureau of Occupational Health, 1414 East Washington Ave., Room 112, Madison, WI.)

Sandoz, Jeff

Reasonable Accommodation in Training Safety.

paper presented at the Annual Meeting of the Louisiana Educational Research Association; Feb 20-21, 2003.

Abstract: A pictograph and icon-driven training program has been specifically designed for educators who are responsible for teaching the developmentally disabled regarding the safe use of hazardous chemicals. In alignment with the Americans with Disabilities Act, it offers "reasonable accommodation" by those who educate and train this special population in schools within a vocational training center, sheltered workshop, or workers enclave. The purpose of the program is to promote worker understanding of safety issues involving the Occupational Safety and Health Administration "Right-to-Know" specifically for those individuals who have difficulty reading printed text. The presentation of the material includes specifics on understanding labeling systems, the Material Safety Data Sheets (MSDS) and other pertinent topics such as hazard detection, care of the victim of an exposure, and accident simulation drills. The training includes the use of computer software designed to promote understanding of the MSDS with the aid of picture icons. This PC software program is designed to supplement the MSDS with chemical identification, key label words, and picture icons with the following: National Fire Protection Association Code, fire extinguishing media, routes of entry, health hazard icons, personal protective equipment, pictographs, and target organ graphics. An assessment package is provided.

U.S. National Institute for Occupational Safety and Health: NIOSH FACE Program : California Case Report 95CA021. Developmentally Disabled Worker Dies After Being Run Over by a Front-end Loader in California. October 31, 1996.

U.S. National Institute for Occupational Safety and Health: NIOSH Health Hazard Evaluation Report 97-0112-2738, Handi-Shop, Inc., Mexico, MO. NIOSH, Cincinnati, OH (1999).

U.S. National Institute for Occupational Safety and Health: NIOSH Health Hazard Evaluation Report 90-0251-2128, Dow Jones and Company, Inc., Dallas, TX. NIOSH, Cincinnati, OH (1991).

U.S. Public Health Service. Closing the Gap: A National Blueprint for Improving the Health of Individuals with Mental Retardation. Report of the Surgeon General's Conference on Health Disparities and Mental Retardation. February 2001. Washington, D.C.

[www.surgeongeneral.gov/topics/mentalretardation/](http://www.surgeongeneral.gov/topics/mentalretardation/)

In February 2002, the Surgeon General released this Report of the Surgeon General's Conference on Health Disparities and Mental Retardation, which was held December 5-6, 2001. The purpose of the national Conference, held December 5-6, 2001, in Washington, DC, was to identify important issues in health and MR and to develop action steps to address these issues. This Blueprint resulted from a multistep process designed to identify and address the health-related concerns and recommendations of the community of individuals, families, and providers who are concerned with health and MR. The resulting Blueprint presents a consolidation of the problems identified and solutions proposed by participants from the website, the Listening Session, and the Conference.

## **Legislation**

U.S. Department of Labor. Occupational Safety and Health Administration (1995): "Code of Federal Register Title 1924, Safety Standards Applicable to Workshops and Rehabilitation Facilities Assisted by Grants." Washington, DC, Government Printing Office.

## **Some journals that may be of interest:**

American Rehabilitation

Career Development for Exceptional Individuals

Education and Training in Mental Retardation and Developmental Disabilities

Journal of Disability Policy Studies

Journal of the Association for Persons with Severe Handicaps

Journal of Vocational Rehabilitation

Mental Retardation

## Federal Agencies and Federally-funded Programs

Below is a listing of the federal agencies and federally funded programs with a potential role to play in promoting the occupational safety and health of workers with developmental disabilities. More detailed information regarding these agencies and programs can be found in the project's database (Appendix B).

### U.S. Department of Labor

- **Office of Disability Employment Policy.** Federal initiatives sponsored by ODEP that have some relationship to the issue and could potentially be involved in further needs assessment activities or future outreach and education activities include:
  - **Employer Assistance & Recruiting Network.** EARN is a free service, funded by ODEP, that connects employers with skilled job candidates that have disabilities. EARN has recruiting services, tools and resources, employer success stories, and makes the business case for hiring people with disabilities. *EARN's primary focus is on accommodations and legal issues. Their only focus related to occupational safety and health is in the area of emergency preparedness.*
  - **Job Accommodation Network** -- JAN is a free consulting service designed to increase the employability of people with disabilities by providing individualized worksite accommodations solutions; providing technical assistance regarding the ADA and other disability related legislation; and educating callers about self-employment options. *JAN has resources lists and information related to occupational safety and health on their website.*
  - **DisabilityInfo.gov** -- DisabilityInfo.gov is a comprehensive online resource designed to provide access to disability-related information and programs available across the government on numerous subjects, including benefits, civil rights, community life, education, employment, housing, health, technology and transportation. *DisabilityInfo.gov has some occupational safety and health information on its website, including documents prepared by NIOSH.*

- **National Center on Workforce and Disability/Adult**, located at the University of Massachusetts, Boston, NCWD/Adult provides training, technical assistance, policy analysis, and information to improve work access of adults with disabilities through the workforce development system. *NCWD/Adult has never considered that occupational health and safety might be an issue for the DD population.*
- **National Collaborative on Workforce and Disability/Youth**, located at the Institute for Educational Leadership in Washington, DC, NCWD/Youth is charged with assisting state and local workforce development systems to integrate youth with disabilities into their service strategies. *Occupational safety and health is not an issue they have explored before but they may be interested since it relates to empowering workers with disabilities.*
- **Emergency Preparedness and People with Disabilities** -- ODEP staff chairs the Subcommittee on Emergency Preparedness in the Workplace, part of the Interagency Coordinating Council. The subcommittee has developed *Preparing the Workplace for Everyone*, a framework of guidelines for federal agencies related to including employees and visitors with disabilities in emergency plans.
- **Small Business and Self Employment for People with Disabilities** -- The Small Business Self-Employment Service (SBSES) has information for persons with disabilities who want to start their own business. SBSES includes links to other entrepreneurship sites, including the Small Business Administration, and provides information on a variety of technical assistance resources, as well as resources for writing business plans, financing, and other issues specific to developing a small business.
- **Occupational Safety and Health Administration (OSHA)** -- OSHA's mission is to assure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health.



- **National Young Worker Safety Resource Center** -- This OSHA-funded Center has a curriculum for teaching basic skills related to occupational safety and health. The curriculum includes adapted activities for teaching youth with cognitive disabilities. *The YWSRC has conducted numerous trainings to teach teachers and job development staff how to use their curriculum. A number of staff from programs that transition youth with disabilities from school to work have attended.*
- **Presidential Task Force on the Employment of Adults with Disabilities** -- This taskforce is comprised of cabinet-level and other members representing many federal departments, agencies, and commissions. Its mandate is to perform an extensive public policy review, with the goal of increasing the employment of adults with disabilities. Its work has been expanded to include studying how to improve employment outcomes for persons with disabilities by addressing, among other things, the education, transition, employment, health and rehabilitation, and independent living issues affecting people with disabilities.

## **U.S. Department of Education**

- **Office of Special Educational and Rehabilitation Services.** Federal initiatives sponsored by OSERS that have some relationship to the issue and could potentially be involved in further needs assessment activities or future outreach and education activities include:
  - **National Institute on Disability and Rehabilitation Research**
    - **Rehabilitation Research and Training Center on Workplace Supports**, located at Virginia Commonwealth University -- The RRTC on Workplace Supports identifies factors that enhance or inhibit businesses from tapping into a pool of potential employees with disabilities. It collects data and resources related to employment supports.
    - **Disability and Business Technical Assistance Centers** -- The ten regional DBTA centers to provide information, training, and technical assistance to employers, people with disabilities, and other entities with responsibilities under the ADA. The centers act

- **National Rehabilitation Information Center** -- The Center provides information to the disability and rehabilitation community through its web site and call center. The website includes online publications, searchable databases, and timely reference and referral data.
- **Rehabilitative Services Administration** -- RSA oversees grant programs that help individuals with physical or mental disabilities obtain employment and live more independently through the provision of such supports as counseling, medical and psychological services, job training and other individualized services.
- **Office of Special Education Programs -- OSEP**
  - **National Center on Secondary Education and Transition** -- NCSET coordinates national resources, offers technical assistance, and disseminates information related to secondary education and transition for youth with disabilities in order to create opportunities for youth to achieve successful futures. *They are not currently addressing occupational safety and health but have been interested in the topic in the past.*

## **U.S. Department of Health and Human Services, CDC**

- **Administration for Children and Families**
  - **Administration on Developmental Disabilities** -- ADD is responsible for implementation of the Developmental Disabilities Assistance and Bill of Rights Act of 2000, known as the DD Act. Funds four grant programs: State Councils on Developmental Disabilities (SCDD); Protection and Advocacy (P&A) systems, one in each state, which protect the legal and

- **Office on Disability** -- The Office on Disability serves as the focal point within HHS for the implementation and coordination of policies, programs, and special initiatives related to disabilities with the Department and with other Federal agencies, including the President’s New Freedom Initiative. *The only area in which they have focused related to occupational safety and health is in the area of emergency preparedness.*
- **National Institute for Occupational Safety and Health** -- NIOSH is the federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. *NIOSH has funded research into the occupational safety and health needs of workers with developmental disabilities who are in sheltered workshops and competitive employment.*
- **National Center on Birth Defects and Developmental Disabilities** -- NCBDDD conducts and funds research to identify the causes of birth defects, developmental disabilities, mental retardation, etc. *This agency doesn’t look at employment issues and has never explored issues related to occupational safety and health.*
- **Social Security Administration, Ticket to Work Program** -- The Ticket to Work program is a nationwide initiative administered by the Social Security Administration designed to increase job training and employment choices for individuals with disabilities. Employers that offer job training, vocational rehabilitation support, retention or other types of job-related services and/or assistance for individuals with disabilities are eligible for compensation for services. Individuals with disabilities can use “tickets” to obtain employment-related services such as job readiness services, placement services, vocational rehabilitation, training, job coaches, transportation or other supports.

- **President's Committee for People with Intellectual Disabilities** -- The Committee acts in an advisory capacity to the President and the Secretary of The Department of Health and Human Services on matters relating to programs and services for persons with intellectual disabilities.

**President's Committee on the Employment of People with Disabilities** -- The Committee provides information, training, and technical assistance to America's business leaders, organized labor, rehabilitation and service providers, advocacy organizations, and families and individuals with disabilities. The Committee reports to the President on the progress and problems of maximizing employment opportunities for people with disabilities.

# **News From** *Walgreens*

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Walgreens Corporate Communications  
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## **WALGREENS RECRUITS EMPLOYEES WITH DISABILITIES THROUGH NEW, HIGHLY ACCESSIBLE WEB SITE**

DEERFIELD, Ill., July 7, 2006 -- Walgreens (NYSE, NASDAQ: WAG), the nation's largest drugstore chain, has launched an innovative initiative to hire people with disabilities at its new distribution center in Anderson, S.C. and is recruiting through a new, specially-designed Web site.

Walgreensoutreach.com describes jobs available at the Walgreens distribution center and is designed to be accessible by people with sensory, physical and cognitive disabilities.

The center has begun pre-hire training and will open in 2007. Initially, Walgreens will hire more than 200 employees with plans to ramp up to more than 600 employees. Walgreens goal is to have at least one-third of the workforce consist of employees with a variety of disabilities working in a fully-integrated team. This "real work for real pay" environment will be competitive employment in which performance standards must be maintained. Job openings at the Anderson distribution center include a number of management positions.

Walgreensoutreach.com provides information to help potential employees understand what work will be like at the distribution center. The site incorporates audio

messages, photos, video and a large-print text option to depict jobs and worklife at Anderson. The site also is designed to be accessible to blind and low vision individuals who use screen reader technology. Under the jobs section, videos show employees performing various jobs, and the text describes what the workers are doing. Prospective employees unsure if they can perform the essential job functions can take a self-quiz to get an idea of the tasks involved.

From the same page, a series of photos shows an employee arriving at work and going through the daily routine – going to a locker, storing lunch, walking to a work station, taking a break and ending the day.

For potential employees considering relocating to Anderson, the site also has information about Walgreens partnership with 13 local disability agencies. Knowing the difficult challenges faced by people with disabilities who want to work, Walgreens designed the Web site to address concerns such as transportation, housing and the impact of gainful employment on Medicaid, SSI or SSDI benefits.

“We know this requires more than a ‘build it and they will come’ attitude to be successful,” said Randy Lewis, Walgreens senior vice president of distribution and logistics. Lewis, who has a son with autism, knows first-hand the challenges of everyday life for people with disabilities. “Our local partners and statewide officials have worked tirelessly in setting up a support network to make this outreach with the disability community a success,” said Lewis.

Larry Kraemer, human resources manager for the Anderson distribution center, said, “This is a workforce that is underemployed and has not had the same opportunities as others. This is a chance to change that.”

Walgreensoutreach.com also features success stories. One is that of Chuck Studzienko, an employee with Asperger’s Syndrome (a form of autism) who has worked at Walgreens Lehigh Valley distribution center in Pennsylvania since 2004. Studzienko started as a stocker and was promoted to split-case picker, where he has a 100 percent productivity rate.

Walgreens worked with The Paciello Group (TPG) of Nashua, N.H., to make Walgreensoutreach.com accessible for people with various disabilities and to meet the

international Web Content Accessibility Guidelines of the World Wide Web Consortium (W3C).

The Paciello Group was founded by Mike Paciello with a mission to make information technology resources available to the full spectrum of people with disabilities. Paciello has pioneered the field of accessible interface design as a technologist, consultant, author and professional speaker. His internationally best-selling book, “Web Accessibility for People with Disabilities,” remains the definitive reference for accessibility design, implementation and usability.

“The impact of this new Walgreens Web site is immeasurable,” said Paciello. “It will be embraced by the disability community as a critical tool in the employment process. TPG is proud to be a part of this forward-thinking Walgreens initiative.”

Walgreen Co. is the nation's largest drugstore chain with fiscal 2005 sales of \$42.2 billion. The company operates 5,294 stores in 46 states and Puerto Rico. Walgreens also provides additional services to pharmacy patients and prescription drug and medical plans through Walgreens Health Services, its managed care division, which includes Walgreens Health Initiatives Inc. (a pharmacy benefits manager), Walgreens Mail Service Inc., Walgreens Home Care Inc. and Walgreens Specialty Pharmacy. More information on Walgreens is available at [Walgreens.com](http://Walgreens.com) or [Walgreensespanol.com](http://Walgreensespanol.com).

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# Walgreens Distribution Centers

## Case Check-in



## Detrash





## SPS



## A-Frame



## Split Case Picking: AKL



## Key Organizations and Agencies for a NIOSH Advisory Committee

The following organizations and agencies should be invited to serve on such a committee.

1. National Institute for Occupational Safety and Health
2. Occupational Safety and Health Administration
3. Office of Disability Employment Policy
4. National Center on Workforce and Disability/Adult
5. National Collaborative on Workforce and Disability/Youth
6. National Young Worker Safety Resource Center
7. Administration on Developmental Disabilities
8. Office of Special Educational and Rehabilitation Services
9. Commission on Accreditation of Rehabilitation Facilities (CARF)
10. Rehabilitative Services Administration
11. Rehabilitation Research and Training Center on Workplace Supports
12. National Center on Secondary Education and Transition
13. American Association of Mental Retardation
14. Alliance for Full Participation
15. The ARC
16. American Association of Persons with Disabilities
17. National Disability Rights Network
18. The National Association of State Directors of Developmental Disabilities Services
19. Institute for Community Inclusion
20. American Congress of Community Supports and Employment Services (ACCSES)
21. American Network of Community Options and Resources (ANCOR)
22. NISH-Creating Employment Opportunities for People with Severe Disabilities