



## Active Living and People with Disabilities

People with disabilities represent a large and growing segment of the general population, yet are often less physically active than those without a disability. Physical activity is a vital part of a healthy lifestyle for people with disabilities, not only to promote health and prevent disease, but also to reduce the number of secondary conditions that can result from an initial disability. Therefore, it is even more important to promote **active living**, a way of life that integrates physical activity into daily routines, among people with disabilities. The environment plays a key role in encouraging or discouraging physical activity among people with disabilities and **Active Living by Design** promotes environments that offer choices for integrating physical activity into daily life.

## Understanding Disability

There are as many as 49.7 million Americans, or 20 % of the population with some kind of disability or activity limitation.<sup>i</sup> Anyone can be born with a disability, acquire a disability through an illness, chronic disease or injury, or get older and lose some of the abilities of their youth. Disabilities can vary widely in terms of type, severity, and duration. People can experience disabilities that affect their mobility, sight, hearing, understanding, and speech. A disability should be defined by the ability of a person to function in their environment. According to the 2000 Census:

- 9.3 million reported a sensory disability involving sight or hearing
- 21.2 million reported a condition limiting basic physical activities, such as walking, climbing stairs, reaching, lifting, or carrying
- 12.4 million reported a physical, mental, or emotional condition causing difficulty in learning, remembering, or concentrating
- 6.8 million reported a physical, mental, or emotional condition causing difficulty in dressing, bathing, or getting around inside the home
- 18.2 million of people aged 16 and older reported a condition that made it difficult to go outside of the home to shop or visit the doctor
- 21.3 million of those aged 16 to 64 reported a condition that affected their ability to work at a job or business.

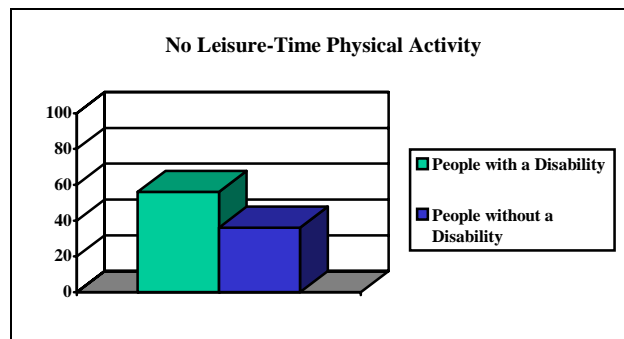
The proportion of people with disabilities is increasing. Medical advances and improvements in health care have increased the survival rates of people whose conditions or injuries were once fatal and as a result more people who acquire disabilities earlier in life are living longer. The number of people who experience some kind of disability or limitation during their lifetime increases as the population ages. As many as 32% of adults reported a one or more limitations in mobility and this number increased to almost 60% for those 65 years and older.<sup>ii</sup>

Despite the universal nature of disability, people with disabilities have traditionally not been included in health promotion and disease prevention efforts including efforts to increase physical activity. The fact is that most people with disabilities are healthy and can improve their health through health promotion efforts.

## Physical Activity Levels among People with Disabilities

Reducing physical activity disparities between people with and without disabilities is a goal of *Healthy People 2010*, a nationwide health promotion and disease prevention blueprint. According to *Healthy People 2010* and other data sources, people with disabilities are less active than the general population.

- According to the 2002 National Health Interview Survey, adults with disabilities were less likely to engage in moderate physical activity, 22%, compared with 34% of people without a disability. Similarly, only 14% of adults with disabilities engaged in vigorous physical activity compared to 25% of people without disabilities.<sup>iii</sup>
- 56% of adults with a disability reported no leisure-time physical activity compared with 36% of people without a disability.<sup>iv</sup>



- According to data from the Behavioral Risk Factors Surveillance System, 25.1% of people with a disability reported to have not engaged in any physical activity in the past 30 days, compared to 13.3% of people without a disability.<sup>v</sup>

In addition to disparities related to physical activity, people with disabilities experience other health disparities that can contribute to physical inactivity.

- Among people with disabilities, 27.4% are considered obese compared with 16.5% of those without a disability.<sup>vi</sup>
- People with disabilities are more likely to report feelings of sadness and depression and 28% of people with disabilities report negative feelings that interfere with daily activities.<sup>4</sup>
- People with disabilities also report lower rates of health behavior counseling such as substance abuse, nutrition, regular physical activity, and smoking cessation.<sup>4</sup>

## Importance of Physical Activity among People with Disabilities

People with disabilities are at risk for the same chronic health conditions as the general population. Yet, people with disabilities are also at risk for additional health conditions that can be attributed to a primary disability. Often called secondary conditions, these conditions can take many forms and are not always medical in nature. A study of people with disabilities in Washington State revealed that 87% reported one or more secondary conditions.<sup>vii</sup> Issues such as social isolation, depression, obesity, pain, sleeplessness, anxiety, respiratory problems, fatigue, muscle spasms, problems getting out/getting

around, problems developing friendships, can all be considered secondary conditions. Many of these conditions can be improved or eliminated with increases in physical activity.<sup>4,8</sup>

In addition to prevention of secondary conditions, physical activity can be important to the day-to-day life of people with disabilities. The strength and stamina that is developed by participating in physical activity can help maintain a higher level of independence for people with disabilities. Increases in physical activity may also affect a person's ability to work, go to school, and participate in all aspects of community life.

## How Much is Enough? Physical Activity Recommendations

The U.S. Surgeon General's Physical Activity Recommendations are:

- In order to reduce the risk of chronic disease, adults should accumulate 30 minutes or more of moderate intensity physical activity on five or more days per week. Moderate activities include a brisk walk, bicycling on level ground, mowing the lawn, etc.
- Alternatively, adults can participate in vigorous exercise for 20 minutes or more on three or more days per week. Vigorous activities include running, bicycling on hills, aerobics classes, cross country skiing, etc.

It is important to note that all people with disabilities, regardless of the severity of the disability can participate in some type of meaningful physical activity. By adapting activities, changing or modifying the environment or using additional equipment that allows greater participation, people with disabilities can fulfill these recommendations.

## The Environment Affects Physical Activity Among People With Disabilities

When disability is viewed as a natural part of human condition with all people experiencing varying degrees of physical, mental and functional capacities, the focus shifts from fixing the person to modifying the environment and removing barriers that can limit full participation. In this way, the environment can either limit or facilitate physical activity among people with disabilities.

To facilitate physical activity among people with disabilities, the environment must be modified to eliminate barriers. Barriers are thought of as only physical in nature, such as an inaccessible building. A recent study cited other barriers including economic issues, equipment barriers, attitudes and perceptions, information-related barriers, policies and procedures, and professional knowledge and training.<sup>9</sup> A broader understanding the range of barriers that can exist is an important step to creating an environment that promotes **active living**. In fact, many of the barriers experienced by people with disabilities relate to the domains established by **Active Living by Design**.

### Transportation

- Lack of transportation is one of the most commonly reported barriers to participation in recreation and other types of physical activity. If unable to drive, people with disabilities rely on accessible public transportation, which can be costly, unreliable, and unavailable in many rural or outlying areas.

- As the use of sidewalks and trails are encouraged as a means of transportation, barriers related to accessibility of sidewalks, greenways and trails become more prominent. Lack of curb ramps at intersections, smooth surfaces, and access to these surfaces may limit use by people with disabilities.

### **Parks, Trails and Greenways**

- The natural environment can be inherently inaccessible for people with disabilities. Rough and uneven surfaces make it difficult to push a wheelchair, maintain balance, or use other devices to help with mobility.
- Signs and information posted along trails and other outdoor recreation areas are often not readable by people with low vision and may not be available in alternate formats such as large print or Braille.
- Many parks and green spaces have equipment, such as playgrounds, which are not accessible or useable by children or parents with disabilities.

### **Land Use**

- The proximity of destinations can be a tremendous barrier for people with disabilities who do not have access to public or private transportation. Inability to get out of the home and move about in the community limits physical activity and contributes to social isolation.
- Some neighborhoods can inadvertently segregate people with disabilities from the community by grouping accessible housing in one area instead of providing accessible housing opportunities throughout the community.

### **Design**

- The built environment represents one of the largest barriers to people with disabilities. Facilities that fail to meet the minimum accessibility requirements create an immediate barrier. For example, people with disabilities cannot use a facility with an inaccessible entrance or restroom.
- Many facilities designed to encourage physical activity, such as health clubs and recreation areas lack the equipment that may be needed by people with disabilities in order to participate in some activities.

### **Communication and Social Marketing**

- People with disabilities affecting hearing, vision, or speaking often face barriers related to communication and marketing efforts. Many promotional and written materials are not available in alternate formats such as large print.
- People with disabilities are often left out of marketing campaigns and community outreach. They are typically not depicted in images and often do not receive any targeted outreach.
- Many people with disabilities do not understand the importance of physical activity or do not know how to become more physically active.

## Creating an Accessible Environment

The first step to creating an inclusive environment is ensuring access to the physical environment and any programs or services offered to the general population. The Americans with Disabilities Act (ADA) is a federal civil rights law that prohibits discrimination against people with disabilities. The law guarantees access to programs and services run by state and local governments and the goods and services offered by private businesses. It also provides equal access to transportation and telecommunications as well as equal opportunities in employment. The ADA has greatly increased accessibility of many community facilities and services, but it has in no way eliminated many of the barriers. The law only requires a minimum level of accessibility that does not always address the needs of people with disabilities.

Universal Design goes beyond the scope of the ADA to create environments that promote full participation and increased physical activity for people of all abilities. **Universal design is defined as the design of products and environments to be useable by all people, to the greatest extent possible, without the need for adaptation or specialized design.** Universal Design benefits people who are young, old, short, tall, male, female, and people with and without disabilities. Examples of universal design include family changing rooms, disability awareness training, providing adaptive equipment, and materials in alternate formats. The goal is to create environments that are welcoming and useable by everyone, including people with disabilities.

### Principles of Universal Design

1. Equitable Use: The design is useful and marketable to people with diverse abilities
2. Flexibility in Use: The design accommodates a wide range of individual preferences and abilities
3. Simple and Intuitive: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skill, or current concentration level
4. Perceptible Information: The design communicates necessary information effectively, regardless of the user's ambient conditions or sensory abilities
5. Tolerance for Error: The design minimizes hazards and the adverse consequences of accidental or unintended actions
6. Low Physical Effort: The design can be used effectively and comfortably with a minimum of fatigue
7. Size and Space for Approach and Use: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility

## Community Solutions

In order to increase the level of physical activity among people with disabilities and eliminate environmental barriers, communities should pursue the following activities:

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## Active Living by Design Calls to Action

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<b>Preparation</b>	<ul style="list-style-type: none"><li>• Assess accessibility of the physical environment using available checklists and guidelines</li><li>• Provide disability awareness training to front line staff, partners, constituents and anyone who may interact with people with disabilities or make decisions related to accessibility</li><li>• Involve disability advocates and organizations in the planning, assessment, and development stages of building or improving facilities or spaces that encourage active living</li></ul>
<b>Promotion</b>	<ul style="list-style-type: none"><li>• Educate the public about the importance of physical activity for people with disabilities</li><li>• Conduct awareness campaigns to promote activities using outlets that have broader reach into the disability community</li><li>• Ensure that existing public education efforts welcome people with disabilities by providing an inclusive message</li><li>• Ensure that promotional materials are available in alternate formats such as large print</li><li>• Educate people with disabilities about the importance of physical activity for their health</li><li>• Seek out editors and reporters to provide media coverage on all aspects of physical activity and disability and promoting active living through environmental changes</li></ul>
<b>Programs</b>	<ul style="list-style-type: none"><li>• Highlight and promote health clubs that are accessible and meet the needs of people with disabilities</li><li>• Organize walking/rolling groups using accessible trails</li><li>• Provide adaptive equipment at parks and trails, such as handcycles, that are available for rental by people with disabilities</li><li>• Develop exercise programs in conjunction with existing support groups that meet on a regular basis</li><li>• Develop mentoring programs that match people with disabilities and people without disabilities to encourage integrated physical activity</li><li>• Promote programs that encourage inclusion of people with disabilities in existing activities instead of developing separate activities</li></ul>
<b>Policies</b>	<ul style="list-style-type: none"><li>• Require facilities comply with ADA guidelines</li><li>• Promote the use of universal design principles when developing new facilities, parks, trails, or greenways or assessing any areas for improvement</li><li>• Review policies and procedures to ensure that they do not discriminate against people with disabilities</li><li>• Ensure that policies allow use of adaptive equipment, personal assistants, service animals or other accommodations that can promote physical activity</li><li>• Designate a staff member or community liaison to address accessibility issues and promote needs of people with disabilities</li></ul>

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## Physical Projects

- Build accessible playgrounds in parks
  - Provide accessible fitness equipment in exercise facilities
  - Build accessible trails that allow access to parts of the natural environment that is typically inaccessible to people with disabilities
  - Ensure public transit systems are accessible and meet the needs of people with disabilities
  - Create crosswalks that are easily accessible to people who are blind and low vision
  - Build sidewalks and crosswalks with curb ramps and smooth surfaces that allow easy access by people with disabilities affecting mobility
  - Integrate universal design features such as family changing rooms, power operated doors and accessible equipment into new projects and improvements
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## Resources

For more information on how to improve accessibility and promote active living among people with disabilities in your community, please see the Active Living by Design website at [www.activelivingbydesign.org](http://www.activelivingbydesign.org). The site is rich with data sources, funding sources, tools, publications, presentations and links to potential partners.

## Active Living by Design

Active Living by Design is a national program of The Robert Wood Johnson Foundation and is administered by the UNC School of Public Health in Chapel Hill, North Carolina. The program establishes and evaluates innovative approaches to increase physical activity through community design, public policies and communications strategies. For more information, please visit our website: [www.activelivingbydesign.org](http://www.activelivingbydesign.org).

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<sup>i</sup> US Bureau of the Census (2003). Census Data Brief: Disability Status: 2000. Washington, DC.

<sup>ii</sup> National Center for Health Statistics (2002). National Health Interview Survey, 1998. *Vital and Health Statistics*, 10(209).

<sup>iii</sup> Centers for Disease Control and Prevention. DATA2010...the Healthy People 2010 Database – July, 2004 Edition. [www.wonder.cdc.gov/data2010/focus.htm](http://www.wonder.cdc.gov/data2010/focus.htm).

<sup>iv</sup> US Department of Health and Human Services (2000). *Healthy People 2010*. Conference Edition, vol. 2. Washington, DC.

<sup>v</sup> Centers for Disease Control and Prevention (In Press). The comparative health status of people with disabilities: State-specific data from the 2001 Behavioral Risk Factor Surveillance System. *Morbidity and Mortality Weekly Surveillance Summary*.

<sup>vi</sup> Centers for Disease Control and Prevention (2002). State-specific prevalence of obesity among adults with disabilities – eight states and the District of Columbia, 1998-1999. *Mortality and Morbidity Weekly Report*; 51:805-808.

<sup>7</sup>Kinne, S, Patrick, D, and Lochner Doyle, D. (2004). Prevalence of Secondary Conditions Among People with Disabilities. *American Journal of Public Health*; 94:443-445.

<sup>8</sup>Rimmer, JH. (1999). Health promotion for people with disabilities: the emerging paradigm shift from disability prevention to prevention of secondary conditions. *Physical Therapy*;79: 495-502.

<sup>9</sup>Rimmer, JH, Riley, B, Wang, E, Rauworth, A, Jurkowski, J. (2004). Physical activity participation among persons with disabilities: barriers and facilitators. *American Journal of Preventative Medicine*; 26(5): 419-425.