

A Conceptual Framework for Improving the Accessibility of Fitness and Recreation Facilities for People With Disabilities

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Access to fitness and recreation facilities is an important issue for people with disabilities. Although policy and legislation have helped to remove various environmental barriers, there remain a substantial number of inaccessible features in fitness and recreation facilities. This article presents an approach for improving the accessibility of fitness and recreation environments that enables participation and input from members of the community, as well as persons with expertise in accessibility. Through a collaboration between facilities, persons with disabilities and accessibility consultants, the approach provides a process of incremental change through readily achievable barrier removal and by providing an information and educational resource concerning barrier removal, disability awareness, and economic and information resources. Technology is incorporated to facilitate accessibility assessment, interaction between various stakeholders, and the creation of an accessibility solutions database. Policy implications of this approach are discussed.

Keywords: Americans With Disabilities Act, fitness facilities, environment, physical activity

Access to fitness and recreation opportunities encompasses 2 important issues affecting people with disabilities. The first issue concerns health disparities associated with disability and the tendency of persons in this population to be physically inactive. The second is the need and right of people with disabilities to participate independently in various community activities including physical activity and recreation. Efforts to address these issues have taken the form of individual and policy-level initiatives, namely, the creation of assistive technologies and the development and passage of legislation and guidelines protecting the rights of people with disabilities. Although each approach has helped people with disabilities become more integrated, there are still many structural and attitudinal barriers that continue

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to limit full participation in society. Furthermore, the use of assistive devices as a solution to environmental barriers places the burden of accommodation solely on the person with the disability. These devices are often costly and are useful for only a narrow range of activities.

Policy and legislation aimed at improving accessibility are also not without their limitations.^{1,2} The Americans With Disabilities Act (ADA) is an antidiscrimination law that sets forth *minimal* standards for equal access. Many guidelines within the ADA are primarily intended for newly constructed facilities. The ADA focuses heavily on access to the built environment and does not address other types of barriers (eg, equipment, programs, attitudinal). Finally, accessibility guidelines are general principles or strategies for creating a barrier-free environment, which might or might not apply to the specific needs of the individual with a disability. Guidelines also do not take into account the specific set of environmental circumstances in which modifications must be made.^{1,2}

Although there is little doubt regarding the need for individual-level and policy-level approaches to improving environmental access, the aim of the proposed framework is to produce change at the community and facility levels. Community-based interventions can best take into consideration the accessibility needs of community members with disabilities, the specific barriers to access in community fitness and recreation facilities, and both the needed and the available resources to remove these barriers. A community-based model of accessibility would provide a process for determining how various accessibility guidelines should be implemented in response to specific access barriers in fitness and recreation facilities. The term *community-based* does not simply refer to a specific environment or geographic region. It also refers to the collaboration and direct participation of various community members in the accessibility-improvement process, including individuals with disabilities, facility owners, and staff residing in the community. In this article, we propose a community-based model for improving access for people with disabilities to fitness and recreation facilities and describe the theoretical perspectives underlying the proposed model.

Background

There are an estimated 54 million Americans with disabilities, or approximately 1 out of every 5 individuals.³ Many of these individuals fail to obtain the level of physical activity necessary to confer health benefits, increasing their risk for secondary conditions.⁴⁻⁹ Research has identified several factors that contribute to the inactivity of individuals with disabilities,¹⁰ but 2 of the most powerful are the influences of the built and social environments. As people with disabilities make increasing use of their communities, there is a growing recognition of the need for accessible environments that accommodate their physical activity and recreation needs. *Accessible* has been defined as “approachable, functional and usable by persons with disabilities, independently, safely and with dignity.”^{11(p151)}

Despite passage of the ADA and the more recent publication of accessibility guidelines specific to recreation areas by the US Access Board,¹² a great many community environments continue to be largely inaccessible for persons in this population.¹³ A qualitative study by McClain et al¹³ found that respondents reported

that they continued to experience barriers in the built environment and considerable variability in adherence to ADA guidelines in their communities. Respondents also reported that these barriers contributed to feelings of isolation, having to settle for less, depression, and physical inactivity.

Limited physical functioning coupled with environmental barriers often results in a greater rate of social isolation than in the general population.⁹ This isolation has resulted in a lack of social networks and diminished social capital, which potentially has contributed to their higher levels of obesity.^{14,15} Mounting evidence suggests that there are social, health, and economic consequences to isolated and sedentary lifestyles associated with barriers in the built environment.¹⁶

Accessibility of Fitness and Recreation Facilities

Several descriptive studies conducted in the United States and England have revealed that fitness and recreation facilities remain inaccessible environments for people with disabilities.^{1,17-23} In all of these studies, compliance with the ADA and similar guidelines concerning the accessibility of the built or natural environment and exercise equipment was examined. Consistently, few, if any, facilities were found to be in complete or near complete compliance with these guidelines. According to Cardinal and Spaziani,¹⁷ none of the 50 facilities surveyed in western Oregon were in 100% compliance with ADA guidelines. Whereas exterior entrances or doors (90%) and telephone accessibility (88%) were the areas with the highest compliance, accessibility to and around exercise equipment (8%) and the customer-service desk (37%) were lowest in compliance. Another study found that lack of access to exercise equipment and bathrooms were major barriers among facilities surveyed in Kansas.²² In a study of 35 health clubs across the United States,²³ facilities had combinations of accessible and inaccessible features. The majority of facilities in the study had accessibility features consistent with the ADA Accessibility Guidelines pertaining to elevators, bathrooms, entrance doors, water fountains, and parking areas. Most facilities, however, did not have adequate access routes and curb cuts; power-assisted or pushbutton-operated doors; visual and audible signals in elevators; access routes free from cracks, gaps, and raised edges; hand-held showerhead units; and obstacle-free paths to lockers. Furthermore, several facilities that were contacted to participate in this study declined because they feared it would expose them to possible litigation. Thus, the latter findings might actually overestimate the level of accessibility of fitness centers in the United States.

Not all of the barriers encountered in health clubs and recreation areas are related to aspects of the built environment. Poor attitudes of staff and other users of the facility, as well as lack of facility staff who have received training in disability awareness and adapted physical activity, have been identified as common barriers in fitness and recreation facilities.^{1,20} As French and Hainsworth²⁰ pointed out, many facility providers feel that there is little demand for accessible sports and recreation by persons with disabilities as evidenced by the lack of use. That is, the absence of these individuals from fitness clubs and recreation areas has been interpreted by fitness and recreation professionals as reflecting a lack of interest. Many individuals with disabilities, however, are interested in participating in fitness and recreation activities but are either unaware of available and accessible facilities or perceive

facilities in their community to be inaccessible.²⁰ Furthermore, health-club operators are only moderately aware of ADA guidelines and accessibility issues.²¹

Facility owners might also be resistant and express negative attitudes toward accessibility.^{19,24,25} In a study of 5 public buildings in a Swedish community,²⁴ occupational therapists provided advice to building owners concerning the improvement of the building's accessibility. At an 18-month follow-up, 2 of the 5 building owners had made use of the accessibility recommendations and had made minor improvements to accessibility in those buildings. The study also revealed lack of knowledge concerning accessibility, as well as negative attitudes on the part of building owners and managers regarding accessibility evaluation. These misperceptions, poor attitudes, and lack of knowledge on both sides of the issue can stifle efforts to create accessible environments in which people with disabilities can participate in various forms of physical activity. These results suggest that marketing and advertising targeted at the disability community, improved availability of accessible transportation, and offering tours of facilities and programs to disability groups might be necessary to increase facility use by this population. Even with these efforts, changes in participation rates among individuals with disabilities might not be immediate. Oliver and Barnes²⁶ observed that there is a danger in relying on statistics and "head counting" in order to justify the adoption and support of disability-related policies. The authors contend that the emphasis in evaluating policy decisions should be on the effect the policy has on the accessibility of the environments, rather than on the frequency of use by persons with disabilities.

A Community-Based Framework to Fitness and Recreation Facility Accessibility

Lack of awareness on the part of facility owners concerning accessibility, misconceptions about the need and interest of individuals with disabilities to participate in fitness and recreation, and economic and resource issues indicate the need for interventions at the facility and community levels. The specific objectives for a community-based model for fitness and recreation facility accessibility should include (1) dispelling misperceptions regarding why people with disabilities do not participate in fitness and recreation facilities; (2) fostering collaborative relationships among consumers with disabilities, facility owners, and facility staff; (3) developing effective and readily achievable solutions for barrier removal that are tailored to the specific facility; (4) addressing the specific needs of individuals with disabilities who would like to use the facility and participate in its programs; (5) identifying the cost of removing barriers to accessibility; and (6) providing a mechanism for monitoring compliance.

The framework presented in this article is based on 2 theoretical perspectives: the social model of disability²⁷ and participatory action research.^{28,29} The social model of disability asserts that environment- and society-effective ways shape the disability experience and seeks to change and challenge beliefs, attitudes, norms, policies, and environments that have excluded people with disabilities. Participatory action research has been advanced as a means of involving residents in assessing community needs and assets.²⁸ Participatory action research, though originally developed as a research methodology, has been described as a "social

action process that facilitates empowerment of consumers.^{29(p1106)} With careful preparation and sensitive attention to individual needs, underserved segments of the community, including members of the disability community, can successfully participate in community planning and problem identification activities to promote positive environmental change.²⁸

Improving the Accessibility of Fitness and Recreation Facilities

Although much of the research and discussion concerning accessibility has focused on attaining full compliance with ADA and similar guidelines, achieving accessibility is a process that frequently occurs over several stages, including assessment, planning, plan adoption, and implementation. In contrast, some facility owners are under the false impression that compliance with the ADA requires *immediate* removal of all barriers. Thus, facility owners and managers might regard the achievement of accessibility as a daunting and costly task. It is, therefore, important to emphasize that accessibility is a systematic process involving incremental changes and not merely compliance with the law. This process should take into consideration the functional ability and interests of the person with a disability, as well as the environmental barriers and facilitators of the fitness or recreation facility. This information could then be used to identify practical and achievable strategies for removing barriers and increasing participation.

Jones³⁰ referred to the concept of readily achievable barrier removal as barriers that can be removed without great cost or effort. Examples of readily achievable barrier removal include rearrangement of exercise equipment, modification of facility policies, removal of obstacles, and adding or replacing signage. Although many barriers can be removed with little or no cost or effort, what is considered readily achievable will depend to some degree on the facility's size, financial condition, and the existing site conditions.³¹ This is not to say that barriers requiring resources that are beyond what is available in a given facility are not considered. Removal of such barriers might require breaking the task into a more manageable set of objectives. For instance, placing a wheelchair ramp adjacent to the front entrance might require setting initial objectives related to raising the necessary funds for the project.

An important consideration with respect to a community-based approach to facility accessibility is how the facilities are brought into the process of accessibility review and change. Historically, community agencies supporting people with disabilities have been instrumental in this process, sometimes through legal action and at other times through a more collaborative process with business owners. Although forcing businesses to comply with ADA guidelines through legal action has been effective, it is not without its problems.³² This is particularly true for agencies that advocate for the disability community, such as centers for independent living. Knowing that an agency advocates on behalf of consumers with disabilities for greater accessibility and will do so through legal means might make businesses disinclined to seek out the agency for accessibility consultation. Businesses, including fitness facilities, that are forced to make accessibility modifications through legal action might make only the minimal changes necessary for

ADA compliance and not seek consultation with outside agencies or organizations for technical assistance. Crosson³² contends that serving as an educator and as an information resource for accessibility can over time make business owners more receptive to tackling accessibility issues in their own facilities.

The strategy proposed in this article extends the ideas put forth by Crosson³² by using technology to provide consultation, education, and information to all stakeholders. Technology allows greater access to necessary information and also provides an opportunity for active participation by a broad range of individuals, including people with disabilities and accessibility experts, in a cost-effective manner. These individuals or groups of individuals might be involved at different points during the accessibility-improvement process. The use of available technologies such as teleconferencing and cell-phone cameras allows rapid, even real-time, sharing of information and collaborative problem solving even though some participants are not located in the same geographic region.

Step 1: Accessibility Assessment

The first step in the process is to conduct an accessibility assessment. Although professionals can take part in this assessment, it is important in the philosophy of the social model of disability and participatory action research to obtain input from persons with disabilities. The process typically begins with selection of the facility or consumer evaluator. Facility selection is frequently the more challenging of the 2 tasks. Most business owners do not welcome fault-finding surveys, especially if they believe the results might expose them to litigation or legal penalties. Others decline being surveyed because they believe accessibility-related modifications will be too costly. We have had considerable success by identifying a member of the community who can serve as a “gatekeeper,” that is, someone who is familiar with facility staff or management and can gain his or her cooperation and trust. Confidentiality regarding assessment is of course critical to maintaining the trust and investment of facility staff and management in the process. Attempting to become an “ADA watchdog” and force the facility to comply with ADA and other regulations will only alienate and threaten representatives of the facility.

We have developed an instrument specifically for the purpose of conducting an accessibility assessment of fitness and recreation facilities. AIMFREE (**A**ccessibility **I**nstruments **M**easuring **F**itness and **R**ecreation **E**nvironments)¹ measures 6 major domains of accessibility related to built environment, equipment, information, policies, swimming pools, and professional behavior (attitudes and knowledge). The instrument was developed from the ADA guidelines for the built environment, and the remaining sections were developed from extensive national focus-group research involving individuals with disabilities, fitness and recreation professionals, architects, engineers, and city and park-district managers.¹⁰ A detailed discussion of the instrument’s development, reliability, and validity has been published in a previous article.¹ The AIMFREE instrument and set of administration and scoring manuals can be obtained from the National Center on Physical Activity and Disability’s Web site at http://www.ncpad.org/yourwrites/fact_sheet.php?sheet=481§ion=2485 or by phone at (800) 900-8086.

There are 2 forms of the AIMFREE instrument: a professional version, which focuses on specific ADA criteria requiring measurement of the physical environment

(eg, doorway clear space, ramp slopes), and a consumer version that attempts to capture the accessibility of the facility from the perspective of the person with a disability. This latter version is ideal from a participatory action research perspective and helps to include people with disabilities in the assessment process. The AIMFREE includes sections requiring observation of facility staff. For instance, in evaluating professional behavior and attitudes, the evaluator is asked to observe facility staff interacting with individuals with disabilities. Although consumers with disabilities can evaluate interactions between facility staff and themselves, professional evaluators might be limited in their ability to make these observations unless the facility already has members with disabilities. Otherwise, professionals and consumers might have to work together in evaluating staff–consumer interactions and staff attitudes related to disability. Nevertheless, the advantage of having both versions of the AIMFREE instrument is that it enables the accessibility-improvement process to be initiated either by the consumer with a disability or by the facility owner. Because both versions of the instrument are similar with respect to the content areas they cover and their scoring procedures, assessments made by professionals and consumers can be directly compared.

Additional information is needed about the context and specific nature of each barrier identified during the accessibility assessment. This is particularly crucial when people not directly involved in the assessment are asked to take part in the solution-generation process. Photographs offer one effective way of sharing such information. Specifically, we provided consumer evaluators with a digital cell-phone camera that allows images of barriers to be uploaded to a Web site where they can be viewed remotely by a member of the accessibility-review team in near real time. This ensures that the images contain sufficient information concerning the nature and context of each barrier to facilitate the development of solutions. That is, if there are any problems or questions concerning the images, the review team members can also use the cell phone to contact the consumer evaluator to request that additional photographs be taken. Furthermore, after the assessment, the evaluator or review team is able to annotate images on the Web site with descriptions or further information regarding the identified barriers, thus providing an easy and effective means of conferencing team members around specific issues. Our work to date using the camera cell-phone approach has demonstrated that, with some initial instruction and practice, consumer evaluators are able to use the device effectively to record and upload images during the facility evaluation.

Step 2: Accessibility Review

After the accessibility assessment, the accessibility-review team, consisting of individuals with experience in the area of accessibility and disability, would meet to review the assessment information collected by the consumer with a disability. The review team would include 1 or more accessibility consultants who are knowledgeable concerning ADA and related guidelines related to architectural or structural barriers. Consultants with experience in the areas of disability and physical activity would provide important information regarding programmatic, equipment, facility policies, and needed knowledge and experience of staff. These consultants could be identified through organizations such as the National Center for Physical Activity and Disability or the National Center on Accessibility. Consumers

with disabilities who assessed the facility would also participate in this meeting to share their views on the accessibility of the facility. Payment of accessibility team members would be the responsibility of the facility or could be provided through local community grants.

In our current work, accessibility-review meetings are conducted as a teleconference so that persons from various geographic locations can participate. During the meeting, the team will review the accessibility-assessment data to develop solutions to identified barriers at varying cost levels. For instance, if the second floor of a facility is not accessible (no elevator) and exercise equipment is located on the second floor, the less expensive alternative would be to place some equipment on the first floor, whereas the more expensive solution would be to install a chair lift. Both options would be presented to the facility for consideration.

Step 3: Accessibility Transition Plans

The information obtained from the initial assessment is used by the review team to arrive at a plan for improving facility access. An accessibility transition plan (ATP) represents a blueprint for businesses, government agencies, and service providers to follow in the identification and removal of barriers in the business or agency. Essentially, an ATP is a systematic program of change for an organization; it provides a structured way to work through the development of strategies to remove direct (eg, structural barriers, lack of accessible equipment) and indirect (eg, lack of economic resources to make facility-accessibility improvements, lack of opportunities for disability awareness education for fitness-facility professionals) barriers. A comprehensive ATP contains the following components: (1) a list of prioritized objectives targeting the barriers and identifying needed facilitators to promote access, (2) solutions or processes for removing each barrier, (3) goals and targets to measure the plan's success and progress, and (4) the person or persons responsible for implementing the plan. The accessibility-review team can provide the first 2 components of the plan. The accessibility-review team can also make recommendations concerning the prioritizing of accessibility-improvement objectives, as well as methods for assessing progress toward meeting these objectives. Identifying who will be responsible for implementing the plan is up to the facility management. The accessibility-review team can serve as a resource by providing subsequent accessibility assessments as a means of monitoring progress, as well as providing consultation concerning plan implementation.

To increase the likelihood of plan adoption and implementation, the review team should convey to facility management that implementing an action plan will (1) enhance the image of the facility; (2) improve customer service for consumers without disabilities (eg, older individuals), as well as consumers with disabilities; (3) reduce the likelihood of accessibility complaints; (4) increase the likelihood of successfully defending complaints and avoiding legal action; (5) help plan and manage change to the facility and its services and operation; and (6) open up new markets and attract new customers.³³ Although empirical support for the benefits of accessibility to businesses is limited, a recent report by the General Accounting Office (cited by Rhoads³⁴) indicates that implementing the access provisions of the ADA has increased revenues in the hotel and hospitality industry by 12%.

Development and Implementation of a Solutions Database

Solutions developed by the accessibility-review team, particularly those that have been demonstrated to be successful, can be stored in a searchable database and keyed to specific items in the assessment instrument, as well as specific categories of barriers. Because many barriers are common across a variety of different facilities, it is possible to automate some elements of the process by allowing solutions to be retrieved from the database directly and reserving the use of the review team for more complicated barriers requiring customized solutions, thus making the process more efficient. The solutions database can also include entries regarding information and product resources, such as accessible exercise equipment manufacturers. As more solutions are added to the database, it will be possible to upload assessment data to a remote server and have a report generated that includes a list of solutions for each identified barrier. The National Center on Physical Activity and Disability is currently developing a database that can be used for the storage and retrieval of accessibility solutions. This database will be made available online through the National Center on Physical Activity and Disability's Web site: <http://www.ncpad.org>.

The Broader Policy Perspective

The conceptual framework outlined in this article is designed primarily to produce achievable solutions to barrier reduction in a given facility. With the development of a solutions database, however, and subsequent research concerning the efficacy of generated solutions, such an information repository is not without policy implications. First, barriers not currently addressed by legislation or current accessibility guidelines might be identified through the assessment process. Second, solutions to barriers are not static. For instance, whereas the development of specialized recreation programs might have been considered an acceptable solution in the past, the push today is toward integrated and universally accessible programs. Exercise equipment is periodically updated or replaced by newer and more accessible machines. New types of sports and recreation activities are constantly being developed that require new access guidelines and adaptations. The process of addressing these barriers has the potential for providing solutions that might eventually become integrated into current accessibility policy.

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