



Multiple perspectives on accessibility to physical activity for people with long-term mobility impairment

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ABSTRACT

Background: Accessibility to physical activity in the form of sport and recreation for people with disability has been investigated primarily from the perspective of service consumers. This study aimed to increase insights into the factors that influence accessibility to sport and recreation activity for people with long-term mobility impairment from multiple perspectives. *Methods:* We interviewed participants with mobility impairment, service providers, and service planners and funders in five locations across New Zealand. The interviews underwent thematic analysis into four levels of the social ecological framework. *Results:* In total, 53 participants were interviewed. People with mobility impairment were challenged by physical and financial circumstances, social attitudes, and the built environment. Service providers experienced fiscal and organizational constraints to providing an inclusive environment. Funding and planning organizations removed planned accessibility features to save money. *Conclusions:* The barriers perceived by people with disabilities are sustained by financial, administrative, and attitudinal constraints. Such knowledge should allow generation of strategies to transform the barriers into facilitators.

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Introduction

Physical activity is promoted nationally and globally because of its benefits for health and well-being, both for people with and without disability (Heath et al. 2012; Kesaniemi et al. 2001; Kohl et al. 2012; World Health Organization 2012). Despite the known benefits of physical activity on physical and mental health and well-being, levels of physical activity remain insufficient in New Zealand (Sport New Zealand 2007/2008) – where this study was sited – as well as internationally (World Health Organisation 2008). People with disability are even more likely to be physically inactive than the general population (Boslaugh and Andresen 2006; World Health Organization 2011) regardless of physical activity being particularly important for this group because of their higher rates of deleterious ‘lifestyle’ diseases (Rimmer and Wang 2005) and comorbidities (Kinne, Patrick, and Doyle 2004; Marge 2008; Santiago and Coyle 2004).

Nearly a quarter of the New Zealand population live with disability, with physical limitation the most commonly reported impairment (Statistics New Zealand 2014). In terms of mandatory policy supporting the idea of inclusive accessibility within New Zealand, the Human Rights Act 1993 allows challenge to, and demands remedy for failures to maintain equitable rights for all of the population, and the Building Act 2004 imposes construction requirements for new buildings to ensure

accessibility for all. Additionally, governmental objectives within the New Zealand Disability Strategy 2001 set out the direction towards a more inclusive society (New Zealand Disability Strategy 2001), with organizations, such as the Hillary Commission and the Halberg Disability Support Foundation charged with providing support and education towards an inclusive and accessible society. Internationally, the idea of accessibility for all has been enshrined in the United Nations Convention on the Rights of Persons with Disabilities, 2008 (Article 9), which New Zealand signed and ratified in 2007 and 2008, respectively. Legislative, strategic and support systems, such as these, should allow an environment that promotes and enables all individuals in society to be included in sport and recreation opportunities. Yet, like elsewhere, people with disability in New Zealand report barriers to being physically active, and mainstream environments and social attitudes continue to exclude people with impairment from being truly valued and included within society (Imrie 2014).

The ideal of a user-friendly environment and the identification of barriers to physical activity participation have, in the main, been investigated from the perspectives of individuals with disability (Damush et al. 2007; Rimmer et al. 2004; Scelza et al. 2005; Stroud, Minahan, and Sabapathy 2009). A review of these studies indicates that barriers to participation arise not only from the individual, but also from the built and social environments (Mulligan et al. 2012). The International Classification of Functioning, Disability and Health framework (World Health Organization 2001) has been a preferred framework to share health information and measurement of functioning (Madden et al. 2012) by taking into account both individual and environmental factors. Here, we wished to understand the two factors precisely in the contextualized system layers in New Zealand in order to answer why and how functioning and participation in physical activity is affected. Hence, we employed a social ecological perspective to gain perspectives and understanding from the issues, structures and systems underlying accessibility to inclusive sport and recreational activity for people with mobility impairment in the New Zealand context. Bronfenbrenner's ecological model (Bronfenbrenner 1979) posits concentric layers that influence human development, from the individual or microsystem through to the socio-cultural or macrosystem. Bronfenbrenner's model has been applied to health promotion (McLeroy et al. 1988). It has also been applied to determinants of physically active leisure by Ainsworth (Ainsworth et al. 2007). Using an adaptation of Ainsworth's model, our objective was to tap all the levels relating to personal, interpersonal, community and policy systems to gain multiple perspectives on the determinants of accessibility to sport and recreational activity for people with mobility impairment.

Methods

Study design

This qualitative study gathered interview data from three groups of participants: Group 1 consisted of persons (aged 18–64 years) who identified themselves as physically disabled because of mobility impairment (difficulty getting around); Group 2 was composed of service and facility providers (from 14 organizations), that is, support workers who aided people with disabilities, and providers of sport and recreational opportunities, such as managers and staff at public swimming pools and gyms; Group 3 involved planners and funders (from 15 organizations), such as personnel from New Zealand government agencies responsible for funding health and support services for persons with disability, personnel from municipal organizations with responsibility for planning of recreational services and facilities, and personnel from national and regional sports trusts.

Recruitment and participants

We recruited participants from three metropolitan areas and two rural towns to obtain a spread of urban and rural living contexts across New Zealand. Group 1 participants were recruited from disability organizations in the respective locations via newsletters or outreach personnel. Participants for

Groups 2 and Group 3 were purposively sampled to represent a wide range of organizations across the five locations. We approached 31 organizations by email and invited them to participate in the study. With two exceptions, all were willing to participate. Ethical approval for the study was granted by the University of Otago Human Ethics Committee and participants provided written consent.

Data collection

We used semi-structured face-to-face individual interviews or small group interviews with participants (See Table 1). We used open-ended questions to explore participants' views about sport and/or recreational opportunity for persons with disability in the New Zealand context (see Appendix). The interviews were scheduled at a venue and time that was convenient for participants. HM conducted the interviews and AN-D took field notes. The interviews ranged from 40 to 90 minutes, were audio-taped and then transcribed by HM or AN-D.

Before the interviews, we also collected publicly available information (e.g. from internet web sites or pamphlets) about the provider and funder organizations, to understand the context and nature of the service or facility. During the interview visits, we asked recreational providers for site tours of their facilities. Data were collected over one year (2012/13) with analysis beginning concurrently. Because the data from participants with disability over the first three locations were so consistently similar, we decided not to collect more data from this group in the last two locations. Instead we focussed data collection efforts on participants from the other two groups so that our three participant groups were about the same size to achieve wider representation of perspectives.

Data analysis

We used a staged process of inductive and then deductive thematic analysis (Fereday and Muir-Cochrane 2006). Firstly we used inductive thematic analysis to interpret the interview data in a series of tiered steps, using computer software NVivo as an organizing tool. Two researchers (HM and AN-D) independently identified and coded categories from the transcripts (Thomas 2006) that enabled or hindered accessibility to physical activity. During this inductive process, these two researchers met together on a weekly basis to discuss and agree on the emerging categories. At two different times during this part of the analysis, two transcripts were independently coded by a third researcher (MM) and then discussed by the research team. This served as a methodological audit to examine the credibility of conceptual interpretation of the data (Krefting 1991; Lincoln and Guba 1985). Secondly, the entire team collaboratively sorted the categories into themes, following which we deductively sorted the themes into the ecological framework modelled on Ainsworth's

Table 1. Participants by location in order of data collection.

Group	Group attributes	Location					Sub-total
		Met area 1	Town 1	Met area 2	Met area 3	Town 2	
Group 1. People with disability	Cerebral palsy (6), spina bifida (3), traumatic brain injury (3), arthritis/pain (3), spinal injury (1), stroke (1), amputation (1), other (3)	7	7 ^a	7 ^a	0	0	21
Group 2. Service/facility providers	Disability support workers (5), disability support organization management (3), recreation facility management and staff (9)	2	7	3	3 ^a	2	17
Group 3. Planners/funders	Local and regional (10) National (5)	4	2	3	4 ^a	2	15
Sub-total		13	16	13	7	4	Total 53

Note: Met area – metropolitan area.

^aData collection included one group interview with two to three individuals.

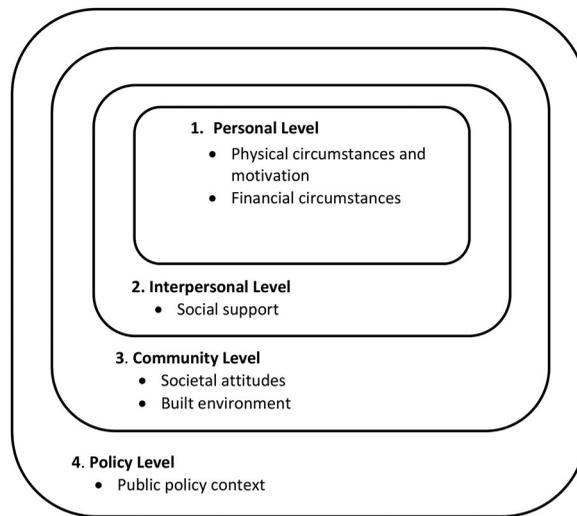


Figure 1. Six themes sorted into four levels of the social ecological framework.

model (Ainsworth et al. 2007) (Figure 1). Following Joseph et al. (2015), we first categorized any meaningful units with multi-level connotations into multiple levels and then, through discussion, decided on where they best fitted within the ecological model, thus resulting in categorization into only one level.

Results

Most participants elected an individual interview. As shown in Table 1, the participants included 21 participants with disability, 17 provider participants and 15 funder participants. Both males and females were represented in about equal numbers across a wide age range.

The categorization of data resulted in six themes (i) Physical functioning and motivation, (ii) Financial circumstances, (iii) Social support, (iv) Societal attitudes, (v) Built environment, and (vi) Public policy context. We describe the essence of the six themes below with representative quotes. Each theme fits within one of four levels of Ainsworth's ecological model: 1. Personal level, 2. Interpersonal level, 3. Community level, and 4. Policy level (see Figure 1).

Level 1: personal level

Theme (i) –physical functioning and motivation

This theme encompasses the role of physical functioning and personal motivation for being or becoming physically active. Many of our participants with disability voiced awareness of their need for external motivational support to take up sport; they had needed 'a bit of a push' at times. Participants in this group reported a range of emotions that impacted on their motivation to engage in physical activity in public facilities. Some felt self-conscious and afraid that they might be a nuisance to others because they were slower or more cumbersome in a swimming pool, for example, and this had affected their participation. The feeling of being self-conscious did not necessarily, however, result in withdrawal; a participant with cerebral palsy believed that people needed to 'just do it and know it's good for you, just get over issues that you may have'. A different perspective, as highlighted by a participant with a prosthetic leg, was that the issue lay within the able-bodied world. He stated that 'personally I couldn't care what they think. I can do most things still, except that I've had to change how I do a lot of them'. For those participants

with disability who had to adapt to a sudden and life-changing event, such as acquiring a brain or spinal cord injury, the altered individual conditions required them to focus on 'the here and now', such as to get home from hospital, and to get to grips with a change in daily life. Some participants in this group adapted quickly, and wanted to become physically active early on, while for others adaptation took time. For example, one young participant with spinal cord injury reported that he had had to wait until life in general 'became a lot easier' before he could contemplate participation in sport or recreation. Therefore, despite challenges to functional ability and/or feelings of being different, some participants seemed able to persist with recreational activity, but for other participants, functional ability or their emotions had a negative impact on motivation for physical activity.

Theme (ii) –financial circumstances

A recurring topic for participants with disability was an issue with the costs associated with living with disability. This had required them to prioritize their spending to afford the transportation and other costs associated with accessing sport and recreational activity. As an example, a participant with an acquired brain injury who mobilized in a powered wheelchair enjoyed and derived physical and mental benefit from physical activity. However, he expressed his dilemma and explained why he was not more physically active as follows:

I have [going to the gym] high up in my priorities. I know my one session a week [at the gym] is [not] enough – it's all I can afford anyway ... It's the next thing to take the chop if required [because of an increase in necessary daily expenses, such as rent, food, medication].

This quote suggests he was struggling to balance his wants, recommendations for his health and rehabilitation, and his resources. It highlights that even if a person with disability prioritises physical activity, it may not be possible to meet recommended activity levels because of personal financial circumstances.

Level 2: Interpersonal level

Theme (iii) –social support

This theme identified the importance of social support for people with disability to meet their practical needs for being physically active, and how provision of such support can be beneficial or challenging. Reported social supports came from a wide network and included family, friends and people within their close community, as well as paid or volunteer support workers, recreation and fitness personnel, and health professionals. A participant who mobilized in a wheelchair noted this for aquajogging:

I don't go by myself. I always go with a friend ... getting out of the pool is not the easiest thing to do, so if I need a help ... she could go and get somebody to help me, so I don't feel like I'm stranded in the pool.

Participants from some disability organizations reported providing support or accompanying individuals with disability to recreation facilities. However, some of our participants with disability, despite being a member of such an organization were not aware of this type of support. For example, a participant with spina bifida explained that he had become involved in sport, and eventually competed at the Paralympics, not because of support from his disability organization, but thanks to a chance invitation to 'come on, we'll have a go' from an employee (who, incidentally, lived with disability) at a place where his wheelchair was fixed.

Our data showed that recreation and fitness personnel could be powerful instigators for people with disability to take up sport or recreation. For example, a participant with disability, who was unable to walk and who had never previously participated in sport or recreation activity, recounted how an instructor in a gym had encouraged and expected her to join in a strength training class when she had sat on the sidelines watching a friend take part, had adapted the exercises to suit her ability

and how she had subsequently gained sufficient upper body strength to be able to stand and exercise. She noted:

Someone had the gumption to say 'let's get you out [of your motorised wheelchair] and let's try it [on the mat]'. And [when I found I] can do it, then things can happen. So one person's attitude to what I can or can't do made a massive difference to my life.

In contrast, there appears to be a knowledge gap between educational training for recreation and fitness staff and the reality of the needs of people with disability. Many of the recreation and fitness providers confided that they were neither initially trained nor ready to work with people with disability when called upon to do so. For example, staff members at two different facilities explained how they had felt early in their career:

... had a tetra[plegic] ... pretty freaked out, I was only like 19, and my boss just said to me, 'you've got [name], the tetra today' ... but he didn't tell me that that all came with it!

Yeah [working with people with disability] was new for me, coming out of uni[versity], [working with people with disability] was something I hadn't done before. Some of my background was exercise prescription, but in terms of physical impairment, it was pretty new to me. [With my first client with disability] it was a learning curve for both of us.

In summary, although social support may be necessary for many people with disability to be physically active, our data demonstrated that this is not always easy to provide, thereby raising a barrier to participation in physical activity by people with mobility impairment.

Level 3: community level

Theme (iv) – societal attitudes

This theme encompassed the societal attitudes which affect people with disability participating in sport or recreational activity. The data suggested visibility of people with disability was integral to improving societal attitudes and expectations towards people with disability because visibility may be the first step to meaningful interaction.

If the public see that you're willing to try, and they see that it's a bit hard for you, but you keep going until you succeed then they're quite accepting, you know, because this guy's an achiever. He wants to try and do.

A participant from a New Zealand sporting trust, which has a role of facilitating the inclusion of people with disability in mainstream recreational environments, pointed out the effectiveness of their recent initiative to ask people with disability to serve as trainers, because it offered opportunity not only to trial the environment in a tangible manner but also to discuss societal expectations for including people with disability and to problem-solve strategies for improvement:

We used to do things like simulating impairment and going into a wheelchair and putting a blindfold on, all sorts of crazy things, but it's so much more powerful when [named trainer, a person with disability] rocks up and says, 'Hey, can I get into your facility? Can I get into your pool?'

Societal attitudes are not always positive, however. Our data also identified scenarios in which people with disability were discouraged from physical activity because of being treated as a 'special' case. A powerful example came from a pool manager who said that few people with disability used the facility despite it was 'welcoming' people with disability and 'providing' for their needs. He reflected during the interview on the procedure which people with disabilities had to go through before swimming because the accessible change room for people with disability was kept locked.

They pick up a [special] key at the front desk, unlock the [special] changing room, get changed, lock it again, and there's a [special] hook round here on the pool side where you can hang the key up. I guess it's a bit of a pain [long pause], but I've never heard anybody actually complain about that.

Many of our participants with disability felt service providers neither appeared to grasp the impact of being singled out as a special case, nor did they realize how it marked individuals with disability as

different in negative ways. Indeed, they described how being a 'special' case was 'tedious', 'belittling' and 'irritating'. Some had opted out of this 'special' treatment by avoiding these situations, or, in one case, opting to pay for a personal trainer to smooth the way.

Although our participants with disability expressed the wish to be included in society like anyone else, this was not always the reality, as increased societal visibility/inclusion had its drawbacks. Most of our participants with disability just wanted 'to be left alone to get on with' their physical activity, but for some, unwanted offers of help were common place. A participant with spina bifida shared her experience of receiving unsolicited assistance from the able-bodied public:

If I'm there [in the pool] by myself, I'm obviously capable of doing it. I don't need you to ask me, and I will ask you if I need help ... Especially do not just grab at me when I'm getting out of the pool.

This theme highlights different societal attitudes towards accessibility and inclusion for people with disability in sport and recreational activity. This theme links with social support at the interpersonal level of the ecological model. Positive societal attitudes and expectations certainly influenced opportunities for individuals with disability. It was however the resultant tension from differing world-views between people with and without disability regarding the needs of people with disability, highlighted by use of the ecological model, that made participation and inclusion sometimes challenging.

Theme (v) –built environment

Some of the built environment which we discussed so far were owned and operated as public recreation and fitness facilities. The extent to which these facilities met the needs of people with disability was largely expressed as an issue of funding by all groups of participants across the four system layers of the ecological model. For example, all of our funder and planner participants viewed the design features that would enable accessibility for people with disabilities as expensive add-ons. This view sets up an expectation that the 'add-ons' could be removed to contain costs. However, one facility manager explained his frustration at this attitude:

They[council planners]ve got to make some savings somewhere even if it's actually compromising on what the end product's going to be ... ramps and [other universal design features] are seen as the easy savings ... It gets frustrating when you see a building that fits the budget versus something that's fit for purpose.

Funders and planners identified that consultation with end-users was essential in order to reduce the chance of mistakes during the planning and design process for new facilities and all said that they consulted with disability groups to this end. However, here a participant with disability expressed the disappointing reality of insufficient consultation for the choice and purchase of specialized equipment.

They put a hoist in for the spa ... which is okay for people who can stand and weight bear, but[it's not suitable] for people [like me] who can't [stand to transfer from a wheelchair on to a hoist chair].

Our data suggested therefore that until there is an attitude that full consultation with all groups within society is required, then the built environment will not be fully accessible for all of society.

Level 4: policy level

Theme (vi) Public policy context

This theme included how policies at governmental, regional and local funding levels shaped accessibility and affected opportunities for sport and recreational activity for people with disability. The concept of inclusion emerged as the ultimate facilitator to this with many of our participants identifying the New Zealand Disability Strategy as the governmental policy document on inclusion. However, three participants believed that government policy for inclusion was not mandatory:

We've got this New Zealand's Disability Strategy, but if you don't do it ... not too worried, because nothing's going to happen [to said organisation].

Nevertheless, provider and funder participants acknowledged that, more recently, there had been an increase in funding for education and adapted equipment for local, regional or national sports bodies, with support through government initiatives after a 'long hard road of advocacy' as participants from disability support organizations put it. There is also an increase in funding at governmental level for promoting recreational or sporting activity for people with disability in general. However, disability funding from the government on an individual level was purely focussed on the provision of direct support to enable the individual to live or work, and did not include personal or financial support to participate in sport or recreation activity, according to participants in government funding agencies.

None of our services [for individuals] are targeted directly at physical activity as such.

Use of the ecological model has demonstrated the challenges to inclusive sport and recreation in a society where physical activity for people with disability has not yet been prioritized or funded.

Discussion

Our objective of this study was to tap all the levels of Ainsworth's ecological model, ranging from personal, interpersonal, and community to policy systems, via interviews with a wide range of stakeholders, to gain multiple perspectives on the determinants of accessibility to sport and recreational activity for people with mobility impairment. We found this ecological model a useful framework to map out our data, as well as a template on which to base our discussion. The strength of our study lay not only in the identification of multiple-level barriers and facilitators, but also in the multiple perspectives, including people with disability, service providers, and planners and funders. Thus, we could paint a comprehensive picture of accessibility for people with disability.

Consistent with the review of previous studies that have examined barriers to physical activity participation by people with disability (Mulligan et al. 2012), our participants with disability identified personal circumstances, as well as issues within the built environment and societal attitudes that were challenging to their participation in sport and recreation. Furthermore, our study revealed fresh perspectives from service providers, planners, and funders that shed light on potential reasons why the built and social environment could be daunting to people with disability. Our data suggested reasons behind inaccessible facilities as insufficient consultation with end-users, a perception that features that would make a facility user-friendly are too costly, insufficient education and training for staff, and a misconception that facilities and services were welcoming to people with disability.

Such a scenario is against the contemporary policies for inclusion and accessibility for all of society. If inclusive accessibility is valued so little that it becomes optional, then many service providers and planners and funders do not seem to fully comprehend the policy of inclusion. Nor do they acknowledge physical activity as a means for individuals with disability to participate in society (van de Ven et al. 2005), maintain a fundamental level of health and well-being (Rimmer et al. 2004), and also as a potential way to save health-care-related costs in the long term (Rosenberg et al. 2012).

To improve accessibility of new buildings in accordance with the Building Act of 2005, consultation with end-users for planning and design activity for recreational facilities is clearly needed, and as part of the consultation, practical simulation should be conducted with a full range of potential users. Extensive consultation would be useful if the findings from the consultation are actualized. Unfortunately, the planners and funders attributed the current funding structure as a reason for not being able to afford suggested/required equipment and facilities and services to accommodate the needs of all potential users. For example, the facility manager we quoted was well aware of the disjoint between policies, laws and their realization into practice, and therefore how the removal of accessibility features would compromise the end product and thus exclude people. What concerned us most were the decision-making processes around removal of access features to save money, thus impacting on usability of the end product. Allocated funding for public resources will remain tight but

a question remains as to why it should be people with disability who need suffer from the consequences of inaccessible public facilities.

In addition to the removal of accessibility features, insufficient knowledge of disability issues and practical training by recreational facility employees rendered the facilities inadvertently unwelcoming and the atmosphere segregating to consumers. Clearly there is a need for broader education for those who work in recreational facilities, so that they can provide a welcoming and supportive environment for all users. Until New Zealand has mandatory policy for inclusion and attitudes change, so that persons with disability are truly valued and catered for within society, then funders will continue to ignore the needs of people with disability. After reviewing literature exploring physical activity for people with disability in their everyday lives, Kissow (2015) recommended that visibility of people with disability in society could promote inclusive attitudes. Indeed, increased visibility and voice of people with disability, even though it could be perceived as an unfair onus, would help people without disability to learn about the needs and wishes of people living with disability in the same society. Until advocacy enlightens all stakeholders, New Zealand, as a nation which signed the United Nations Charter on the Rights of Persons with Disabilities (United Nations 2006), needs to monitor and reinforce such policy to ensure public facilities are accessible for all in society (United Nations 2015). It also must observe domestic laws, such as the Human Rights Act 1993, the New Zealand Disability Strategy 2001, and the Building Act 2004.

We recognized similarities and differences across the four system layers of the ecological model. The reality of an inaccessible built environment is the same no matter whose eyes one looks through: unusable, unwelcoming, and segregating. On the other hand, the planners and funders, and the service providers without disability continue to enjoy their access to sport and recreational facilities, and of course, their jobs. What differs between the three groups is the consequences of inaccessibility.

The major limitation to this study is that people with disability were represented by people with mobility impairment. The findings do not therefore necessarily pertain to people with disability as a population group in itself. However, we did not explicitly identify that we were interested in accessibility to sport and recreational activity only for people with mobility issues when interviewing funder and provider participants. Indeed, many of these participants provided their views or their experiences with people with wide-ranging impairments during their interviews.

Another limitation is the way we asked open-ended questions to explore participants' views, which resulted in more diverse, idiosyncratic, and less determinable data than anticipated on the same themes across the four system levels. Future research may be designed to include directive questions to focus across the levels on the issues identified in this study.

Conclusions

Our study extended the conventional singular perspective of people with disability to multiple perspectives of stakeholders based on Ainsworth's ecological model. Thus, we provided insight into the complexity involved in accessibility to physical activity participation, many aspects of which are not under the control of persons with disability. The reality of an inaccessible built environment combined with challenging societal attitudes and lack of suitable support results in unusable, unwelcoming, and segregating facilities for physical activity participation.

Although our data are pertinent to people with physical disability in New Zealand, similar issues may exist in other countries. In every walk of life, we face the dilemma of reality (priorities under constraints) versus the ideal (the desire to meet everyone's needs fairly). This dilemma could be reconciled in future research by analysing the cost of accessibility features against the long-term effects of people with disability having healthy physically active lifestyles. Meanwhile, disability policies and strategies need to be adhered to when physical activity environments are being planned and built.

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No potential conflict of interest was reported by the authors.

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Motohide Miyahara studied psychology and health education in Japan, and movement therapy, public health, and kinesiology in the US. After completing PhD, he was engaged in post-doctoral research in UK and Germany, and taught in a postgraduate program in Norway. Since 1996 he has been teaching and researching in the areas of development and disability, while directing the Movement Development Clinic in New Zealand. He conducts disability research with a main focus on developmental disabilities by taking advantage of a wide range of methods, including qualitative interviews, case study research, psychological experiment, systematic review and meta-analysis.

Allison Nichols-Dunsmuir was educated in the US. She received a Fulbright Scholarship to study culture and disability in New Zealand for a medical anthropology PhD, and she has resided in New Zealand since 1989. Her qualifications include degrees in psychology, counselling, public health policy and management. She currently works for the Canterbury District Health Board's Community and Public Health Department, as a Health in All Policy Advisor. She therefore plays a strong advocacy role for an inclusive environment of access to recreation and sports facilities and the built environment.

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Appendix. Interview questions

1. Questions for participants with disability

- (1) What recreational activity do you participate in?
- (2) Where do you do this?

Prompt: distinguish private (including home) vs. public

- (3) When you do take part in public facilities, how do you feel?
- (4) Tell me about some of your experiences around recreation
- (5) Do you need any support to be physically active?
- (6) What extra support do you get? Or would you like?
- (7) What types of opportunities have you found that are (a) suitable and (b) available for you?
- (8) Do you perceive any barriers to being physically active? Are there things that hinder you?
- (9) What motivates you to be physically active? What strategies do you use? What has helped you?

2. Questions for staff and management in recreational facilities and for personnel from support agencies

- (1) What is your role in your facility/service?
- (2) Tell me about some of your experiences around recreation for people with disability?
- (3) What have you done/are you doing to assist people with disability to undertake physical activity in your facility?
- (4) How do you respond when an individual with disability approaches you for assistance?
- (5) How have you found other people respond to individuals with disability using the same facility?
- (6) What types of opportunities do you provide that would suit individuals with disability? What types of opportunities could be provided for individuals with disability to assist them to be physically active?
- (7) Why do you think these specific examples would suit individuals with disability?
- (8) Is there anything you would like to do for individuals with disability in the future?

3. Questions for local and national government organizations that plan and/or fund services for people with disability and that plan and fund recreation facilities

- (1) What is the role of *your organization*?
- (2) What is *your role* in planning and/or funding recreation opportunities or facilities?
- (3) How does your organization support people with disabilities to be physically active?
- (4) How do you think people with disability could be helped to be physically active?
- (5) Do you think people with disability experience barriers to being physically active in the public domain? If so, why is this so?
- (6) What do you think planners/funders should do/are doing to increase physical activity levels of people with disability?