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**FROM VISION TO REALITY: BUILDING COMMUNITY-BASED ADAPTIVE
SPORTS AND FITNESS FACILITIES ACROSS THE UNITED STATES**

By

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B.S., Physical Therapy, Russell Sage College, 1989
M.S., Health Education, University of New Mexico, 2006

DISSERTATION

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Doctor of Philosophy
Physical Education, Sports, and Exercise Science

The University of New Mexico
Albuquerque, New Mexico

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Dedication

*I dedicate this dissertation to Cam, my beautiful wife,
for always believing in me and bringing sunshine to my world.*

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ABSTRACT

People with physical disabilities face multiple barriers to activity and sports participation. This study aims to fill a gap in the literature by describing how community-based adaptive sports and fitness facilities are built in communities in the United States. Structured interviews of 11 participants, facility tours, and review of documents and photographs, are incorporated in the data collection and analysis. Understanding the necessary components for facility accessibility for people with disabilities also assists in ease of use by other community members. Three main concepts emerged from the analysis: incorporating viewpoints of people with disabilities in planning stages, use of universal design concepts, and planning for contingencies. The three projects studied differed in design, target population, and organizational structure and are evidence of sustainable, fully accessible facilities. The information learned through this research may be important to community planners, advocates for programs for people with disabilities, and sports and fitness professionals.

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Chapter 1 – Introduction

This dissertation focuses on the design and development of adaptive sports centers in the United States and how these centers originated. People with physical disabilities who strive to be physically active or to compete in sports locally, regionally, nationally, or internationally have specialized needs for training—equipment, facility access, and training programs all need to be modified to meet their needs—but the barriers they encounter in meeting those needs can be insurmountable to many (Buffart et al., 2009; Junker & Carlberg, 2011; Mulligan & Polkinghorne, 2013). The intent of this dissertation was to discover how community-based adaptive sports and fitness facilities were designed and developed in communities in the United States. Measures employed to do so included identifying initial influential stakeholders, acquisition of funding, discerning the steps necessary to move the project from vision to reality, and how decisions were made regarding the location and type of facility.

People who have disabilities are a growing percentage of the population of the United States, with an increase noted from 12.1% in 2012 to 12.6% in 2018 (Erickson, W. et al., 2017). This is, in part, due to the aging of baby boomers, as well as advances in medicine that have allowed people to live longer or survive injuries and diseases that previously would have hastened or led to death. In my experience as a physical therapist, people who have disabilities often have concurrent medical issues that can be exacerbated by lack of physical activity. The benefits of physical activity for people who have disabilities have been well documented (Groff et al., 2009; Lastuka & Cottingham, 2016). Participation in athletics by people who have disabilities has been shown to have a positive impact on employment status,

quality of life, and limiting secondary complications of disease (Groff et al., 2009; Lastuka & Cottingham, 2016; B. Smith et al., 2016).

A wide variety of developmental sports programs are available to the general public, ranging from organized sports for toddlers to Senior Olympics. But for people with physical disabilities, limited opportunities exist for participation in organized sport. A growing number of adaptive sport organizations operate under the umbrellas of national organizations, such as Paralympic Sports Clubs, Disabled Sports USA, or Special Olympics, though most are found in metropolitan areas and many are run by volunteers. A huge discrepancy exists between sporting opportunities for people with disabilities and people without disabilities. For example, according to the 2017-2018 Athletic Participation Survey of the National Federation of State High School Associations (NFHS), 11,439 high school athletes participated in adapted sports in the United States, from among almost 8 million high school athletes reported, equating to 0.14% of this population reporting participation in adapted sports (NFHS Participation Statics, 2018). Thirteen adaptive sports and 64 nonadaptive sports were reported in the NFHS survey. Through extensive searches and discussions with representatives of national disability sport organizations, I discovered that program opportunities are limited, and I located only about 20 adaptive fitness and training facilities in the United States that were developed to specifically meet the needs of people with disabilities. These facilities ranged from local fitness centers renovated to meet the needs of people with disabilities, such as the West Gray Recreation Center in Houston, to the Paralympic Training Center Colorado Springs, Colorado, which operates specifically for the training needs of Paralympians. The facilities I researched were stand-alone, multiuse facilities open to the general public and that were designed specifically to meet the needs of

people with disabilities. Paralympic training centers do not fall into this category because access is reserved for Paralympians and to athletes training to become a Paralympian.

Title II of the Americans with Disabilities Act (ADA) of 1990 addresses access to public fitness and recreation centers for people with disabilities, but it does not specify that communities must have facilities specifically built and dedicated primarily for use by people who have disabilities (ADA Standards, United States Access Board, 1990). The ADA also includes guidelines for accessibility to fitness facilities but does not specify the extent to how facilities must comply with the guidelines beyond accommodations made to gain passage through a front door (ADA Standards, United States Access Board, 1990). In addition, to compel enforcement of the ADA, a person with a disability would have to file a complaint, potentially hire a lawyer, and/or file a lawsuit. These options are costly and time consuming and would also mean time away from training for athletes with disabilities. I agree with Jaarsma et al. (2014) and Rimmer (2005) that most people make do with what is available rather than try to change a facility to meet their needs. Inaccessibility and lack of adaptive equipment for people with physical disabilities continue to be major barriers across the country, 30 years after the ADA was signed into law (Rimmer, 2005; Rimmer et al., 2005; United States Access Board, 1990).

While the ADA is a basic guideline for accessibility, universal design principles take accessibility a few steps further. The website of the Centre for Excellence in Universal Design contains the following explanation of universal design:

Universal design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability. An environment (or any building, product, or

service in that environment) should be designed to meet the needs of all people who wish to use it. This is not a special requirement, for the benefit of only a minority of the population. It is a fundamental condition of good design. If an environment is accessible, useable, convenient, and a pleasure to use, everyone benefits. By considering the diverse needs and abilities of all throughout the design process, universal design creates products, services, and environments that meet peoples' needs. Simply put, universal design is good design (National Disability Authority, 2020).

Meeting basic ADA guidelines is required for any new building or for the renovation of any existing building in the United States. Universal design takes the ADA to a higher standard by incorporating design principles that attempt to facilitate ease of use for all people (Björk, 2009; Connell et al., 1997; North Carolina State University, 2019). However, incorporating principles of universal design in construction of facilities is solely at the discretion of builders, designers, funders, or organizations, and can present additional costs for a project. A more in-depth comparison of ADA and universal design will be presented in Chapter 2.

The right to physical activity and sport participation is an issue that is addressed internationally. Article 1 of the International Charter of Physical Education, Physical Activity and Sport published by the United Nations Educational, Scientific and Cultural Organization (UNESCO), states that “the practice of physical education, physical activity and sport is a fundamental right for all” (2015, p. 2). For athletes with disabilities who dream of competing at an elite level, having access to appropriate adaptive equipment, accessible training facilities, and knowledgeable fitness or coaching staff, will help propel them to a higher level, helping them attain their goals and aspirations. As mentioned, a limited number of

community-based adaptive sports and fitness facilities are available in the United States yet their impact can be significant because they give those with mobility and disability challenges access to a full-service facility, minus the worry that a facility will have the equipment and support they need. Little is known about the process of funding and building community-based adaptive sports and fitness facilities. Through site visits, interviews, and reviews of documents that guided the design of these facilities, this research investigated the methods used in the development of these facilities. The purpose of this research was to shed light on how communities can provide more opportunities for people who have disabilities to access health and wellness facilities.

Significance of the Study

Increased access to adapted sports and recreation facilities is needed to provide social equity to people with disabilities, allowing for increased opportunities to meet their physical activity, recreation, and training needs. Hearing directly from those involved in the process is important to document the steps taken to bring this vision to reality in communities across the United States. The information I discovered might help to establish a blueprint for others who wish to pursue development of adaptive sports facilities in their community—informing developers, architects, and community members of various practices that led to successful completion of this type of a project and the difficulties some faced in bringing this type of a vision to reality.

Research Questions

The literature is clear that the lack of accessibility of recreational, fitness, and training facilities, in conjunction with the many barriers present in social structures, inhibit the inclusiveness of fitness and recreational facilities (Dolbow & Figoni, 2015; Junker &

Carlberg, 2011; Manuel Sá et al., 2012; Mulligan & Polkinghorne, 2013; Rimmer, 2005; Rimmer et al., 2005; Stoelzle & Sames, 2014). Limited research exists regarding the building of community-based adaptive sports and fitness facilities in the United States. My dissertation attempted to bridge this existing gap in the literature and to focus on identifying the process in which communities engage to build community-based adaptive sports and fitness facilities, by answering these questions:

- What steps are taken to make the vision of community-based adaptive sports and fitness facilities become a reality?
- What challenges and successes are encountered when building community-based adaptive sports and fitness facilities?
- Who are the key people involved in designing, funding, and building community-based adaptive sports and fitness facilities, and what is the importance of their roles in these projects?
- What design features of facilities are key components to meet the physical activity, recreation, and training needs of people with disabilities?

To investigate these questions, I interviewed individuals instrumental in the design and building of adaptive sports centers in the United States; I reviewed documentation of the design and funding process; and I attempted to find themes, commonalities, and discrepant information among the data collected from these facilities. My dissertation topic and questions have been iterated numerous times to match the type of research I conducted—qualitative, multisite case study inquiry—that will be more succinctly detailed and more specifically delineated in Chapter 3. My original plan for inquiry focused on the perceptions of facility accessibility by competitive and elite athletes with disabilities, but after further

review and discussion with colleagues and potential participants, it became more clear that the broader issue, and the issue that would potentially have a greater overall impact, is determining how community-based adaptive sports and fitness facilities came into existence, with the ultimate goal of providing guidelines and processes for other communities to duplicate in their quest to design and develop community-based adaptive sports and fitness facilities.

My Position as a Researcher

I have a strong commitment to finding ways to facilitate the participation in sport and physical activity by people with disabilities. I have seen the outcomes of participation in sport for the athletes with whom I have worked. I often tell people that as a physical therapist, I cannot do as much for youth with physical disabilities as they can do through participation in a sport or a week-long sport camp, where they work on personal goals and keeping up with their peers. My intent in pursuing this research was to provide a voice for people with physical disabilities and those who support them (Denzin & Lincoln, 2005). I hoped to shed light on the lived experiences of those instrumental in designing and building community-based adaptive sports and fitness facilities and to provide information to assist in the development of fitness and recreation facilities that would meet the needs of people who have disabilities in other communities. It was my opinion that utilizing these voices, the people who saw a dream become a reality, would foster social change through the education of my colleagues, community members, and developers of fitness facilities.

My research interest stemmed from the many years I have spent as a physical therapist for children with physical disabilities and my own experiences as a life-long athlete. I heard from many of my patients that they felt left out because they wanted to play sports

just like their siblings and friends, but were afforded opportunities to participate only in sports under the auspices of Special Olympics, where everyone receives a participation ribbon on the basis of their disability. They wanted to play with the same competitiveness of everyone else. To that end, I dedicated many hours over the past 25 years organizing adaptive sports events, coaching adaptive sport teams, and advocating for youth and young adults who wanted to pursue competitive adaptive sports. My life's work has been to work toward removing walls that prevented athletes with physical disabilities from reaching their athletic goals. I have had many conversations with youth and adults with physical disabilities and their family members, who would like to pursue more competitive sports but have limited resources to be able to accomplish this. These conversations led me to develop the first adaptive sports camp in New Mexico for youth with physical disabilities and to strive to find other professionals with a similar passion to develop additional opportunities in sport for athletes with physical disabilities. I believe that all people deserve equal access to sport and physical activity, as supported by the ADA and the UNESCO charter, to allow for equal opportunity and to improve status in society, self-concept, and economic and social capital (United Nations Educational, Scientific and Cultural Organization, 2015; United States Access Board, 1990).

As an athlete, I know the benefits of training and competition and how such benefits have impacted my life, helping to build my self-confidence, my social capital, and my ability to persevere in the face of difficulty. Sports continue to play a crucial role in my social life and in my ability to stay healthy as an adult. I am a product of Title IX, though the benefits of this legislation have been realized more by athletes who are 5-10 years younger than me (United States Department of Justice (USDJ), 2015). I went to school during a time when the

girls' teams were given practice space and times, but typically after the times for the boys' teams' practices were scheduled. There continues to be inequality in the programming and funding for sports for girls and women and even greater inequity in programming and funding for sports for people with disabilities. I have designed, coached, and advocated for a variety of athletic programs for youth with physical disabilities in New Mexico, I have lectured at conferences and professional education programs on the benefits of adaptive sports, and I have served on committees to explore the future of adaptive sports in New Mexico. I am knowledgeable of the needs of the disability sport community in New Mexico, and I have contacts throughout the United States who keep me informed of the needs elsewhere. One of the common themes I hear from athletes, and one that I experienced when directing an adaptive sports camp, is that they spend a great deal of time trying to find practice and workout spaces. While I know that my knowledge base is not all inclusive, it allows me the ability to investigate this topic with more than a basic understanding of the impact of community-based adaptive sports and fitness facilities in communities.

It was my desire that this study provide information on the development of community-based adaptive sports and fitness facilities in a variety of locations across the United States. Chapter 2 reviews literature related to the benefits of and barriers to physical activity for people with disabilities; accessibility and universal design, including laws related to the provision of services for people with disabilities; current trends in funding and development of recreational and fitness facilities; and the social model of disability that is the theoretical framework I used to undergird this study. Through attention to detail and the use of rigorous research methods as described in Chapter 3, I shed light on the development of community-based adaptive sports and fitness facilities in the United States. I describe the

methods that best fit my research, including the conceptual and methodological frameworks, research contexts, research settings, and definitions and limitations of the study, as well as data collection and data analysis.

Chapter 2 – Literature Review

Barriers of accessibility in the design of a fitness facility are a topic found in the literature related to the physical activity of people with disabilities, such as that described below. However, as previously stated, there are minimal references in the published literature that describe the steps involved in designing, funding, and building sports centers that focus on the needs of people with disabilities. For example, research has explored (a) the accessibility of existing facilities for people with disabilities (Dolbow & Figoni, 2015; Fänge et al., 2002; Rimmer et al., 2005); (b) barriers faced by people with disabilities who wish to be more active (Buffart et al., 2009; Junker & Carlberg, 2011; Mulligan & Polkinghorne, 2013); and (c) the benefits of physical activity and sport for people with disabilities (Groff et al., 2009; Lastuka & Cottingham, 2016). Several studies also found that many existing recreational facilities and privately owned gyms do not meet the accessibility needs of people with disabilities, pointing to poor facility design, lack of education of staff, and other socially constructed barriers that hinder or prevent participation in physical activity by people with physical disabilities (Buffart et al., 2009; Craike et al., 2013; Rimmer et al., 2005; Wiart et al., 2015). The purpose of this chapter is to review all of the existing literature related to my research questions. Included with this review are sections on the impact of disability, laws and statistics on development of accessible facilities, the benefits of physical activity and sport for people with disabilities, accessibility of facilities and equipment, trends in fitness facility funding and development, and a discussion of the social constructs of disability.

Disability, Laws, and Statistics

In the United States, it is estimated that 12.7% of the population lives with a disability; in New Mexico, that prevalence climbs to 15.7% percent of the population, or

more than 323,000 people (Erickson, W. et al., 2017). In addition, a growing population of people in the later stages of life, approaching late adulthood, due to the aging of the baby boomer generation, suffers from some sort of disability. In the population of people 65 and older, 34.7% self-identify as having a disability that affects their vision, hearing, cognition, self-care, ambulation, or ability to live alone (Erickson, W. et al., 2017). More than 54% of people who have disabilities report no participation in physical activity, as compared to 32% of people without disabilities (Krahn et al., 2015). This discrepancy can be partially explained by the lack of access and appropriate activities to engage people with disabilities in existing fitness facilities (Rimmer, 2005; Rimmer et al., 2005). Limited physical activity is one of the primary factors leading to secondary complications of disease and disability, and according to the government report Healthy People 2020, even small changes in physical activity levels can have positive health impacts (Rimmer et al., 2005; U.S. Department of Health and Human Services, 2019). Currently, there are about 20 adaptive, full-service, fitness facilities across the United States, and, as I discuss later in this chapter, there is a paucity of community-based fitness and recreation facilities that currently meet the needs of people who have disabilities (Buffart et al., 2009; Manuel Sá et al., 2012; Rimmer, 2005; Saebu & Sørensen, 2011). The programs and adaptive equipment available at an adaptive sport and recreation facility could be of benefit to the people in these populations, as they might more easily find an activity that could help keep them active while meeting their specific needs.

Over the past century, people who have disabilities in the United States have become increasingly active in demanding equal access and accessibility (North Carolina State University, 2019; Oliver, 1990). This movement gained momentum in the 1940s, when many

service members returned from World War II with disabilities and then attempted to gain access to colleges and universities to take advantage of their GI Bill benefits (Barnes, 2011). Limitations on these campuses related to accommodations for physical mobility issues, led to activism on the part of those impacted, in an attempt to gain redress for these issues. In great part, due to the social justice work of the independent living movement (ILM), this change began legislatively with the enactment of the Architectural Barriers Act (1968) (Barnes, 2011; Connell et al., 1997; Oliver, 1990). Section 504 of The Rehabilitation Act of 1973 barred discrimination based on disability, the Amateur Sports Act of 1978 brought the Paralympic games under the umbrella of the United States Olympic Committee, and the Fair Housing Act Amendments (1988) and the Americans with Disabilities Act (1990) established minimum guidelines for the built environment to further include people who have disabilities in the planning and construction of buildings (USDJ, 2009). While these minimal guidelines carried the weight of being enforceable, they did not create an environment that was accessible by all. Today, many societal barriers to full participation by people who have disabilities remain in place, causing the inequities we see in physical activity, employment, and health (Dolbow & Figoni, 2015; Iezzoni et al., 2000; Rimmer et al., 2005). In an attempt to decrease the barriers in the built environment, universal design principles were developed in the 1970s (Connell et al., 1997). The seven principles of universal design:

- Equitable use: The design is useful and marketable to people with diverse abilities.
- Flexibility in use: The design accommodates a wide range of individual preferences and abilities.
- Simple and intuitive use: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

- Perceptible information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
- Tolerance for error: The design minimizes hazards and the adverse consequences of accidental or unintended actions.
- Low physical effort: The design can be used efficiently and comfortably and with a minimum of fatigue.
- Size and space for approach and use: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility. (Connell et al., 1997).

According to Björk (2009), product designers and manufacturers who choose not to utilize universal design principles may be missing out on potential revenue. She stated that “user intervention is missing” in most product development departments, causing inhibition of the ability to truly make products that adhere to the principles of universal design (Björk, 2009). Lack of end-user involvement also might impede the ability of community planners and facility designers or architects to develop buildings that fully comply with universal design principles, resulting in people who have disabilities continuing to be marginalized by their built environment.

Benefits of Physical Activity and Sport

Often, the barriers perceived by people who have disabilities related to physical activity prevent them from acting on the knowledge they possess that physical activity would be beneficial to their overall well-being. Actual and perceived psychosocial and physiological benefits from increased physical activity are well documented (Buffart et al., 2009; Craike et al., 2013). Quality of life, productivity, and improved employment outcomes

are related to sport participation by people with physical disabilities (Groff et al., 2009; Lastuka & Cottingham, 2016). For athletes with cerebral palsy—who are often the outliers within disability sport, as some are ambulatory and some have more-significant disabilities than those typically seen in wheelchair sport—perceived quality of life improvements are seen in as few as three months after beginning participation in sport (Groff et al., 2009). Lastuka and Cottingham (2016) showed that employment rates of athletes with disabilities rose an average of 4% with each year of participation in sport by people with disabilities, up to the 10th year of such participation.

Sport participation also has a transformative potential, as documented by Lundberg, Taniguchi, McCormick, and Tibbs (2011). The study by Lundberg et al. looked at adaptive sports and recreation program participation and found that although participants continued to feel stigmatized and marginalized by society, participating in sport helped to develop social and cultural capital through expansion of available networks (2011). Participants described personal improvements, such as building social networks, increased freedom, development of the feeling of success, and the ability to compare their accomplishments to others in the community without disabilities through participation in sport alongside people without disabilities (Lundberg et al., 2011). In addition, some of the participants demonstrated even greater boosts to their self-confidence through the realization that in some sports, they can perform at higher levels than those without disabilities (Lundberg et al., 2011). In this way, society's tendency to attach negative labels on people who have disabilities can be mitigated through participation in sport, allowing people who have disabilities to move from a place of negativity and devaluation to a place of capability and vibrancy. For example, the book *Hoop Dreams on Wheels* chronicled the experiences of 13 athletes who played wheelchair

basketball at the University of Wisconsin-Whitewater (UWW) (Berger, 2008). The UWW athletes were also able to build social and cultural capital through their participation in elite wheelchair basketball competition (Berger, 2008). The interactions of improved fitness, social connectedness, and self-esteem that result from athletic participation have a positive impact on the economic and social well-being of people with disabilities.

Accessibility of Facilities and Equipment

While the importance of health and wellness is evident throughout the United States society—television advertisements, health and wellness fairs, and increases in the number of custom-tailored fitness facilities are examples of this phenomenon—accessing these programs can be difficult for people with disabilities. In a study of the provision of programs for children with motor disabilities, Wiart et al. (2015) identified 236 fitness facilities and programs in Edmonton and Calgary, Alberta, Canada. Sixty-one of those 236 facilities and programs were willing to participate in their study. Wiart et al. found that 15 were not wheelchair accessible; therefore, individuals with mobility limitations that required use of a wheelchair would not even be able to get in the front door. Limited facility access is seen throughout many cultures by people who have disabilities who seek out programs and activities (Fänge et al., 2002; Manuel Sá et al., 2012; Mulligan & Polkinghorne, 2013; Rimmer et al., 2005). Overt and covert facility policies are additional barriers. People with mobility impairments have identified limited hours, such as at many swimming pools where lap swim time is early in the morning, and large membership numbers as factors that made them less comfortable in those settings (Buffart et al., 2009; Mulligan & Polkinghorne, 2013). In a national sample, it was found that only half of the community-based facilities surveyed advertised the accessibility features of their facility or utilized people who have

disabilities in their promotional materials (Rimmer et al., 2005). Lack of visibility can be a barrier not only to starting a fitness journey but also to the aspiring competitive athlete. The lack of community-based adaptive sports and fitness facilities, in addition to facilities that do not advertise their willingness to accommodate people who have disabilities in their programs or at their facilities, may prevent many from even knowing they would be welcome.

Rimmer et al. (2005) designed and used the Accessibility Instruments Measuring Fitness and Recreation Environments (AIMFREE) to evaluate the accessibility of existing, community-based health and fitness facilities across the United States. This instrument was based on the ADA standards for accessibility of sport facilities (United States Access Board, 1990). Facilities assessed with the AIMFREE meet most of the basic standards of the ADA, but when it comes to more expensive equipment provision and physical design features such as power-assisted doors inside the facility or audible cues in elevators—which are above and beyond what is required by the ADA—facilities scored poorly (Rimmer et al., 2005). A commonality in the literature is that these studies were performed using existing facilities and existing programs, without looking at adaptive sport and recreation facility usage for this information. In my opinion, this is most likely because community-based adaptive sports and fitness facilities are a relatively new phenomenon, most having been built in the past 20 years. Meeting the accessibility needs of people who have disabilities beyond the guidelines of the ADA and local building codes requires additional financial investment on the part of the builders and facility owners, an expense that may not be justified in the minds of the facility owners and developers.

The expense of adaptive equipment for individual use is another barrier faced by people with disabilities. A basic handcycle or wheelchair used for wheelchair basketball can cost thousands of dollars, whereas a standard two-wheeled bicycle can be purchased for a few hundred dollars. The cost of this type of equipment is prohibitive for many people with disabilities, who are often at a disadvantage for employment, have a lower average household income, and have additional expenses related to their disabilities, such as ongoing medical care (U.S. Department of Health and Human Services, 2019). However, when this equipment is provided through community resources and dispersed to areas of need, the barriers to participation in physical fitness programs are decreased (King et al., 2013). Having access close to one's home increases the likelihood that people will try new activities, will develop greater independence, and will live more fulfilling lives (King et al., 2013).

Current Trends in Fitness Facility Funding and Development

As I have described, the literature on accessibility of fitness facilities focuses on existing sport and recreation facilities. Little is available in published literature regarding the cost of modifying existing facilities or building new facilities to meet ADA guidelines or universal design concepts.

An example of a public-private partnership has been described by Elwell Bostrom, Shulaker, Rippon, and Wood (2017), to promote the perspective of a city partnering with a national nonprofit organization to provide accessible outdoor spaces for physical activity (2017). In this case report, the authors described the model for the park, the strategic planning process, and the funding structure used to build this integrated space (Elwell Bostrom et al., 2017). The city of Chattanooga, Tennessee, partnered with the Trust for Public Land, focusing on the outdoor, built environment, to encourage physical activity

within close proximity to neighborhoods that were shown to have little access to physical activity opportunities and to potentially higher levels of health-related complications secondary to inactivity (Elwell Bostrom et al., 2017). Other examples of public-private partnerships were reported in the magazine, “*Club Business International*,” a publication of the International Health, Racquet and Sportsclub Association (IHRSA) (Hale, 2011). Hale described communities in Ohio and Nevada that used public funding to finance construction of recreational facilities while engaging in agreements with the local YMCAs to manage the facilities after construction (Hale, 2011). These management agreements resulted in minimization of the overall expenditures by municipalities for operations (Hale, 2011). By demonstrating the minimization of the financial burden borne by the municipality, taxpayers accepted a small tax increase for construction of the facility, and program management then was under the purview of the YMCA, an organization more familiar with revenue generation practices, which brought more stability to day-to-day operations than the more service-oriented public recreation department would have been able to accomplish (Hale, 2011).

In his 2005 article, Rimmer stated, “Increasing access to physical activity for the more than 50 million Americans with disabilities will take a cohesive and structured plan that emphasizes equal access for everybody” (Rimmer, 2005, p. 329). To date, no evidence exists that a cohesive and structured plan has been put forth by any entity even though the fitness and recreation industry in the United States has grown to reporting annual revenues of \$30 billion (IBISWorld US - Industry, Company and Business Research Reports and Information, 2019). Some evidence exists that the fitness industry is paying attention to the growing population of aging adults and people who have disabilities, or the post-rehabilitation needs of people, as the American College of Sports Medicine (ACSM) named these groups in its

top trends for fitness business in 2019, nationally and internationally (Howley, 2018; Thompson, 2018). However, as Rimmer pointed out, a more concerted effort is needed to show people who have disabilities in the advertisements for facilities and in the programming at the facilities in order to draw them in as consumers (Rimmer, 2005). In a recent article in *Club Business International*, an IHRSA publication, facilities were described that provided inclusive fitness programming and activities, and although they were on a limited basis and involved relatively few patrons, the initiative of the facilities was a good start in providing inclusive fitness programming (Black Larcom, 2018). These programmatic offerings were provided in conjunction with fitness industry initiatives aimed at broadening the opportunities for people who have disabilities in their communities, through grant funding from the IHRSA Foundation, and initiatives such as ACCESS Health (Black Larcom, 2018). The ACCESS Health initiatives provide education for fitness professionals and support “to facilitate the structural and cultural changes required to make a club inclusive and welcoming” (Black Larcom, 2018, p. 69). These initiatives are seen as new and innovative because typical fitness and recreational facilities do not cater to the 13% of the population who lives with a disability because that population is often not viewed as a source of revenue generation. Fitness facilities are starting to pay more attention to the ways in which accessible facilities could increase their membership, especially with the aging of baby boomers who are a portion of the population who have increased potential for disposable income.

Social Model of Disability

Often, it is society, through peoples’ attitudes and prejudices, the built environment, and social barriers that causes people with physical differences or impairments to be

disabled. As has been discussed, physical barriers in facilities and other societal structures can prohibit or discourage people who have disabilities from participation in physical activity, increasing their experiences related to the disparities and inequities of access and opportunity. The social model of disability suggests that the barriers people who have disabilities experience are imposed on them by the society in which they live through the built environment, attitudes of others, and lack of programs that address their specific needs (Oliver, 1990). The seeds of this theory were originally presented by the (this organization is not listed in the reference list) Union of Physically Impaired Against Segregation (1976) in the United Kingdom, the group that made the distinction between impairment and disability. The social model of disability was used to advocate for the rights of people with physical impairments, providing a separate argument on the effects of impairment on the individual (Oliver, 1990). Advocates of the social model of disability contend that most people have some level of impairment, such as wearing glasses for better vision; it is up to each member of society to help remove barriers to full participation that cause people with impairments to be disabled (Oliver, 1990). In a perfect society, everyone's different abilities would be accommodated; each person would have equal opportunity and access to all facilities, with the features that make the facilities usable to all integrated into their original design. These features go beyond what is required by ADA guidelines and incorporate universal design. By building with universal design on the front end, not only are the facilities more easily accessed by a greater number of people, but the cost of providing that access is potentially decreased (Björk, 2009; Staeger-Wilson & Sampson, 2012). Societal barriers are most evident when one observes how people with mobility impairments access buildings with stairs, heavy doors, or tightly spaced equipment in a recreation facility. Over time, people

with impairments have demanded more fair treatment in society, as well as greater accessibility—hence, the existence of ramps, automatic door openers, and chirping street crossing signs, among other adaptations (Oliver, 1990). While athletes with disabilities are knocking down barriers through their exceptional fitness and social connections (Lundberg et al., 2011; Moola & Norman, 2012), most people who have disabilities are fighting to gain access, become employed, make friends, or to be involved in planning for facilities and services that more closely meet their needs. These discrepancies have perpetuated the marginalization of people who have disabilities, because full participation in society cannot be realized.

Purdue and Howe (2013) found that Paralympic athletes felt marginalized in different ways. The authors asked athletes if they considered themselves to be a symbol of empowerment to others with disabilities. Most of the participants reported that they empower each other (elite and competitive athletes), and they feel empowered in their own lives, but they do not believe they can pass the feeling of empowerment to others with disabilities as they believe that the differences in their life experiences are too great (Purdue & Howe, 2013). Many elite athletes with disabilities do not see themselves as having a disability or as being able to relate to the general population of people who have disabilities due to the great achievements that they have accomplished, which separates them from the social milieu that affects nonathletes with disabilities (Purdue & Howe, 2013; Purdue & Howe, 2012; Taub & Greer, 1998); therefore, these athletes say they do not feel marginalized by society. This image has been coined “supercrip” by DePauw (1997). The supercrip is described as an athlete with a physical disability who, after intense training and achievement at higher levels of competition, nationally or internationally, distances themselves from people who have

disabilities who are not athletes (DePauw, 1997). The self-descriptions of these athletes include being able to overcome any obstacle, pursue any endeavor, and accomplish whatever they set out to do (DePauw, 1997; Moola & Norman, 2012; Purdue & Howe, 2013). These separations add to the socially constructed barriers faced by people with disabilities. As the Paralympics event gains more mainstream media coverage, we see more examples of this type of athlete, ranging from Amy Purdy performing on the “*Dancing with the Stars*” television show to sprinter Oscar Pistorius, who went from challenging the very structure of Olympic track and field competition to being convicted of murder in the death of his girlfriend (Hume et al., 2016).

Other studies related to the outcome of an athlete’s training experiences have examined the development of the supercrip and its paradoxical effect on the social model of disability (Moola & Norman, 2012; Purdue & Howe, 2012). The feeling of superiority and normalcy felt by the supercrip leads that person further away from feeling like he or she is disabled and suggests to society that this person should be held to a higher standard of ability (Moola & Norman, 2012; Purdue & Howe, 2012). In this view, the supercrip takes on less and less of a disability identity, while society at large looks to other people who have disabilities to “keep up.” As a different entity and a person who is more able-bodied in their own eyes, the supercrip is then less likely to identify with barriers faced by people who have disabilities and might not even notice the lack of accessibility experienced by others (Moola & Norman, 2012).

A study of a Swedish town’s accessibility found “teenagers with functional limitations experience many accessibility problems in public environments” (Fänge et al., 2002, p. 323). This town is home to a school specifically designed to meet the educational

needs of students with disabilities. It would be possible to extrapolate, without an actual research study, that accessibility problems exist in nearly any city or town in the world. One might think that a town that housed a school designed to meet the mobility needs of the students it had enrolled would be more accommodating of the needs of these students. The study exposed the need for students with mobility impairments to use back door access to a shop in the town (Fänge et al., 2002). Similar dehumanizing limitations, such as being forced to use a back-door entrance or being unable to gain access to a public place, are most unwelcoming, demeaning, and all too often are a regular and routine obstacle for individuals with disabilities. I believe most people, with or without disabilities, desire to be independent and to have easy access to the places they wish to visit.

Patron attitudes also affect the feeling of welcome that people who have disabilities perceive when accessing facilities and retail settings. In a study of perceived “welcome” in retail establishments, participants identified other customers’ words or actions as part of why they felt unwelcome (Baker et al., 2007). Mulligan and Polkinghorne (2013) have echoed this statement:

Participants also identified that although the children’s pool at public facilities has a warmer water temperature, which would be more suitable to their needs, adults are not allowed to use childrens pools, which, in any case, are too shallow for adult use. Participants also report feeling stigmatized when they used public pools, and that the social environment at public pools often felt chaotic, unwelcoming, and unhelpful. (p. 388)

Taub and Greer (1998) interviewed 19 men with disabilities who participated in a community-based recreational sport program. These men felt the other participants without

disabilities were condescending and patronizing, leading to feelings of disempowerment (Taub & Greer, 1998). Even with these negative feelings, the participants expressed increased self-confidence and self-perception after participation in the sport program, a boost that could lead to more independence, autonomy, and self-reliance. Misperceptions of the abilities of the participants with disabilities by able-bodied participants can, in turn, lead to the perpetuation of these ideas to a greater proportion of society, furthering the divide between people who have disabilities and the general population (Taub & Greer, 1998).

Summary

A commonality in the current literature is that many studies were based on programs that occur in facilities that are open to the general public. If existing facilities that are following ADA and other legislative guidelines are not improving the health and physical access of people with disabilities, how can communities encourage organizations to provide better accessibility in fitness facility design or is this going to continue to be the responsibility of people with disabilities, a minority and marginalized portion of the population? On the other hand, how can communities build facilities that are more specifically designed with people who have disabilities as the primary audience? This was the basis for my interest in this topic. Interviews of individuals who were instrumental in the design and building of community-based adaptive sports and fitness facilities, in addition to reviews of records related to the process of designing and building these facilities, may offer a new perspective on how community-based adaptive sports and fitness facilities can be built in other communities to meet the physical activity, recreation, and training needs of people with disabilities, as well as to reduce some of the inequities they face in society on a daily basis.

Chapter 3 – Methodology

Conceptual Framework

My research fell within the interpretive tradition of qualitative inquiry, which assumes a social construction to reality (Merriam, 1998). As Schwandt (2015) discussed, an individual's interpretation of events is fundamental to participation in the world. It is how society affects the personal interpretation of the events that most interested me—those that shaped the participants' realities, as discussed previously in relation to the social model of disability (Oliver, 1990). Therefore, interpretivism, as a conceptual framework, fit well with my research (Creswell, 2013; Schwandt, 2015).

There also was a basis in social change and social justice in my research (Glesne, 2016). I already had established that the research found marginalization that people who have disabilities face when pursuing participation in physical activity and sport (Lundberg et al., 2011; Purdue & Howe, 2013). While my study did not fully fall within the strict definition of participatory-action research, there is a component of social change, in that I hope to effect positive change within communities, by describing potential ways to improve access to training, physical activity, and athletic competition for people who have disabilities (Denzin & Lincoln, 2005). As Chase stated, "Thus, collective stories . . . become integral to social movements" (Denzin & Lincoln, 2005, p. 669). It was important to me to listen fully to the words and ideas of the participants in this research to gain a better understanding of their perception of the impact of social structures on the process of building a facility to meet the specific needs of people with disabilities.

Context

While an increasing range of programmatic opportunities is available to people with physical disabilities to be physically active, there are only approximately 15 adaptive sport and recreation facilities in the United States. My research focus was to investigate and describe how communities gathered the resources to develop these accessible facilities. I wanted to determine who the people with the vision were in a variety of communities, how they acted upon their vision and made it a reality, what steps they took to begin the process of conceptualizing an adaptive sport and recreation facility, what went into the design process, and how they funded the building.

My dissertation aimed to answer the following questions with regard to adaptive sport and recreation facilities across the United States whose focus was on meeting the physical activity needs of people with physical disabilities:

- What steps are taken to make the vision of community-based adaptive sports and fitness facilities become a reality?
- What challenges and successes are encountered when building community-based adaptive sports and fitness facilities?
- Who are the key people involved in designing, funding, and building community-based adaptive sports and fitness facilities, and what is the importance of their roles in these projects?
- What design features of facilities are key components to meet the physical activity, recreation, and training needs of people with disabilities?

The goal of my dissertation was to explore the challenges and successes involved with building adaptive sport and recreation facilities in order to provide others with the

information they need to begin such a project. The information learned through this research can be important to community planners, advocates for programs for people with disabilities, disability studies, and sport and recreation professionals. Though sustainability of adaptive sport and recreation facilities is imperative to the overall functioning and availability of programs, my research focused more on the processes undertaken to bring an adaptive sport and recreation facility from concept to reality.

Setting

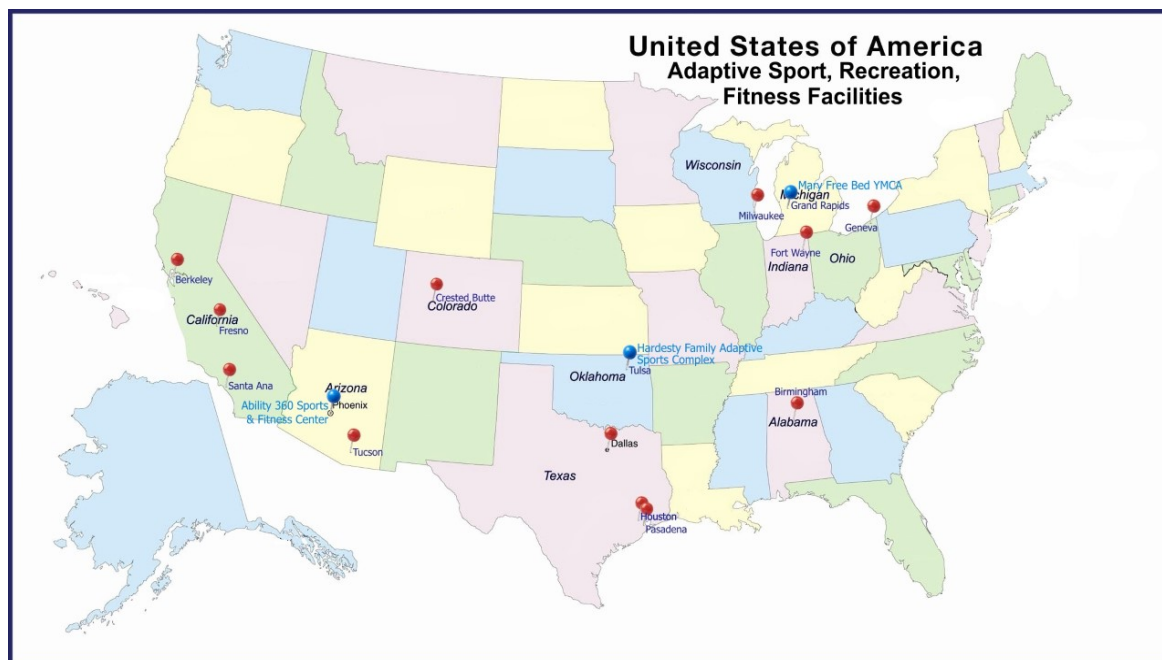
My research plan was to visit adaptive sport and recreation facilities across the United States, tour the facilities, and interview individuals involved in the design and building processes. To gain entry into the facilities, I contacted administrators of adaptive facilities via electronic mail and/or phone call. I already had an association with administrators at an adaptive sport and recreation facility in the Southwest as a result of my years of involvement in regional adaptive sports. According to the National Institute of Building Sciences website, a “Fitness Center is a health, recreational, and social facility geared towards exercise, sports, and other physical activities” (Mion, 2017, paragraph 1). For purposes of this research, I defined an adaptive sport and recreation facility as a full-service, stand-alone facility with indoor courts for team sports such as basketball and wheelchair rugby, areas for individuals to work out with weights and aerobic equipment, multipurpose fitness rooms, aquatic area, changing and dressing areas with showers and bathroom facilities, and programmatic support of fitness and sport designed specifically to meet the needs of people with disabilities. I planned to choose different sized facilities, in different locations, throughout the United States. Facilities built within the past 10 years were the focus, as in my opinion, the information I would solicit from these participants during interviews would be of more recent

memory in matters such as the processes related to political affiliations, funding resources, and building principles of the participants' project and because such information would be more informative of what might be helpful in future development of facilities. I also planned to look at facilities still in the design and building phases to investigate the challenges they faced and the processes they employed to bring their project to completion, however, no facilities were identified to be in these stages during my preliminary investigations.

After defining the scope of the research, community-based adaptive sport and recreation facilities were identified across the country by using on-line web searches, word of mouth, consultation with experts in the field, and personal knowledge. Fifteen large, full-service facilities and eight smaller, more specialized facilities were identified and investigated more closely. This investigation consisted of on-line review and telephone calls to the facility manager or director to determine facility features, design, programs, year built, and accessibility to the public. This investigation was completed in 2019 by a student in the University of New Mexico Physical Therapy program under my guidance, in fulfillment of a course requirement (Figure 1) (Edwards, 2019). This list of fifteen large, full-service facilities in Appendix A was narrowed down to facilities that met the research inclusion criteria as previously stated. The potential sites were then stratified based on location.

Figure 1

Location of adaptive sport, recreation, and fitness facilities in the United States. Red pins indicate location of adaptive fitness facilities; green pins indicate chosen research sites.



Note: Infographic credit K. Edwards, DPT.

The sites that I chose to visit are the Ability360 Sports and Fitness Center (Ability360) in Phoenix, Arizona, the Hardesty Family Adaptive Sports Complex (Hardesty Complex) in Tulsa, Oklahoma, and the Mary Free Bed YMCA (MFBY) in Grand Rapids, Michigan. Visits were made between December 2019 and February 2020. Prior to contacting any facility to request participation in this study, approval for the research was obtained by the University of New Mexico Institutional Review Board. Access to the facility and key participants was acquired in response to an initial contact via phone call and/or electronic mail. I identified key participants prior to setting up in-person visits to each selected site. At two sites, key participants were identified by the facility CEO's and at the third site through the architect who designed the facility. Utilizing purposeful selection through a snowball

approach, I identified individuals to interview who were closely involved in the design and building of the adaptive sport and recreation facilities (Bloomberg & Volpe, 2012). These individuals provided me with a depth of knowledge that comes from long-term involvement in this type of project. Ideally, the key participants would have knowledge that spans from conceptualization of the adaptive sport and recreation facilities to the building and opening of the facility. Merriam described the need for information-rich cases and participants who can be accessed through purposeful selection to provide a depth of knowledge for case-study research (Merriam, 1998). I then contacted the potential participants to request interviews. I also asked the individuals I contacted for names of others intimately involved in the process of bringing the concept of their facility to life. By asking multiple people, I believe I reached a saturation point where the same names were offered multiple times. By limiting my search to facilities built within the past 10 years, my hope was that many of the identified individuals would still be involved with the facility and be available for interviews.

Prior to sharing contact information with me, the facility directors and architect requested permission from each participant for me to contact them to set up interviews. The participants I contacted were excited to participate and were accommodating with scheduling interviews. Of those initially identified, three people who were recommended did not participate. One person was out of the country and not available and two people did not respond to contact via phone or electronic mail. I planned site visits for each location, ranging from three to five days, with interviews and facility tours occurring during this time.

At each facility I interviewed key people who were involved in committee work throughout the design and building processes, see Table 1. The participants included facility directors, committee members/volunteers, architects, and construction managers. Interviews

were scheduled with the participants based on the days that I would be visiting their location and their availability. I made every attempt to be accommodating to the people who agreed to participate in this research. Interviews were blocked for up to two-hour time frames, with none exceeding ninety minutes. Telephone interviews were completed with two participants who were not available for in-person interview during my site visits. Each participant signed a consent to participate form that was approved by the Institutional Review Board at the University of New Mexico, see Appendix D. At Ability360, I participated in a tour with the chief executive officer, at the Hardesty Complex with the executive director and architect, and at MFBY with the facility director. While touring the facilities, photographs were taken.

Table 1

Research sites and participants.

Ability360 Sports & Fitness Center Phoenix, AZ	Hardesty Family Adaptive Sports Complex Tulsa, OK	Mary Free Bed YMCA Grand Rapids, MI
Phil Pangrazio, Executive Director	Lori Long, Executive Director	John Butzer, MD former board president*
Gus LaZear, VP and General Manager*	Jim Boulware, architect	Mike Perry, architect
Jo Crawford, construction committee	Megan Meussner, former board president, construction committee	Maria Besta, construction advisory committee
	Jaime Thomas, Project Manager, Infrastructure committee	Shelly Mishler, donor, construction advisory committee
		Staci Chambers, facility director (tour only)

* = telephone interview

Participant Inclusion Criteria

Participation was based on these inclusion criteria:

- Sites were identified using my working definition of an adaptive sport and recreation facility: a full-service, stand-alone, facility with indoor courts for team sports such as basketball and wheelchair rugby, areas for individuals to work out with weights and aerobic equipment, multipurpose fitness rooms, aquatic area, changing and dressing areas with showers and bathroom facilities, and programmatic support of fitness and sport that is designed specifically to meet the needs of people with disabilities.
- Facility designed and built within the past 10 years (2009 or after).
- Participants to be interviewed were key informants, those who had an active involvement in the process of designing, funding, and building the adaptive sport and recreation facilities.
- Participants needed to have knowledge that spanned from the conceptualization of the adaptive sport and recreation facility to the building and opening of the facility, to provide information-rich descriptions of the processes and activities involved with development of the facility. I used screening questions to determine appropriateness of participation, with questions such as level of involvement in the adaptive sport and recreation facility building project, time frame of direct involvement, and amount of knowledge related to the facility design, funding, and building activities. Only one person was identified who was not involved in these processes at her facility, therefore, she was not chosen as a participant.

- Participants could be employees, board members, specialists (i.e., architect, contractor), or community members involved in the ongoing processes for designing and building the adaptive sport and recreation facility.

Study Design

Methodological Framework

This research was qualitative and descriptive in nature. Using qualitative research allowed me to gather information directly from the experiences of participants, through interview and observation, and to allow the participants to address what has happened (Creswell, 2013; Maxwell, 2013; Miles et al., 2014). I utilized a multiple-case study methodological approach because I wanted to explore and document the processes that had occurred related to building adaptive sport and recreation facilities in communities in the United States (Merriam, 1998; Miles et al., 2014; Yazan, 2015). The case study approach utilizes interviews as a method of data collection, with results reported using the words and thoughts of the participants in reporting the data (Creswell, 2013; Maxwell, 2013; Miles et al., 2014).

My study focused on the information contained in the cases, as reported by the participants, as observed during the site visits, and as recorded in the document reviews—because this offered a rich description of the cases, allowing me to mine the data for similarities and differences across cases (Creswell, 2013; Maxwell, 2013; Merriam, 1998; Miles et al., 2014). The case study also placed me, as the researcher, as a part of the instrumentation and data collection methods. As Maxwell explained, “[T]he researcher is the instrument of the research, and the research relationships are the means by which the research gets done” (2013, p. 91). This can be a beneficial relationship or a hindrance. I took

steps to ensure this was beneficial to my research by identifying participants who were key informants, through networking with colleagues in disability sport to identify beneficial participants, and by meeting the participants on their own ground. I also nurtured these relationships through my expression of appreciation to those who participated in this research, and assured, wherever possible and practical, this information was utilized to help benefit development of future programs. I administered the semi structured interviews personally. The open-ended questions used were vetted by critical friends and experts in the fields of disability and facilities research (Creswell, 2013; Miles et al., 2014). It was my hope that these questions would lead to an open dialogue with the participants based on their experiences in assisting with the process of building an adaptive sport and recreation facility. Semi structured interviews in case study allow for flexibility in lines of inquiry with the potential to delve deeper into topics important to the participants (Denzin & Lincoln, 2005; Merriam, 1998). I drew on my experiences within the disability sport community throughout the process of developing interview questions, interviewing, observing, and interpreting data.

The ontological assumption within qualitative research best fit my study because I am documenting relationships and discrepancies between cases (Merriam, 1998). A multiple-case study best fit my research because I intend to illuminate a bounded unit or phenomenon, the design and building of adaptive sport and recreation facilities across the United States (Bloomberg & Volpe, 2012; Merriam, 1998, p. 43).

My passion for this topic and line of inquiry formed the basis for an axiological bias (Creswell, 2013). I informed the participants of this bias—my passion for equality and accessibility in provision of sport, recreation, and fitness opportunities for people with disabilities—in my introductions, in initial contacts, and at the beginning of each interview.

My goal in interviewing the participants was to hear their perspectives and experiences, take the information they generously shared with me, and use their words to develop rich descriptions of their experiences (Bloomberg & Volpe, 2012; Connelly & Clandinin, 1990).

Definitions and Limitations

While I understood that a potential criticism of a case-study inquiry is the memory of the participants for relating stories that occurred in the past, the ontological assumption was that the responses were based on the participants' realities. The assumption I made was that they were relating the truth to the best of their knowledge (Creswell, 2013). The information I sought to interpret were the events that led to the completion of each facility, as well as the perceptions of the participants regarding the process of building an adaptive sport and recreation facility. Maxwell (2013) stated, "Validity in qualitative research is not the result of indifference, but of integrity" (p. 124). The first step in dealing with validity threats is to acknowledge that they exist (Maxwell, 2013). I identified the threats and developed ways to deal with them and to rule them out within my study. Maxwell's (2013) checklist of seven items was helpful in identifying the possible threats to validity in my research (pp. 125-129).

According to Maxwell (2013), validity threats "are made implausible by *evidence*" (p. 121). The methods of research gather the evidence to be used in analysis, but the evidence alone is not the threat (Maxwell, 2013). The threats lie in the interpretation of the data, the conclusions drawn from the interpretation, and the reported results of the research (Maxwell, 2013). Bias and reactivity were the two main validity threats described by Maxwell (2013). If not properly addressed and mediated, my entire dissertation would have been deemed invalid and, therefore, worthless. Because it was my intention to produce a quality, valid, and impactful dissertation, I addressed validity threats during the process of data collection,

analysis, and reporting through careful diligence; attention to detail; verbatim transcription of interviews and member reflections; and thoughtful recording of field notes, report writing, and memo writing (Maxwell, 2013; Smith & McGannon, 2018). I utilized member reflections, comparison of related documentation provided by the participants, and site visits to improve the validity of this research (Bloomberg & Volpe, 2012; Maxwell, 2013; Smith & McGannon, 2018). The chart, in Appendix B, shows the potential validity threats in my research.

By developing a relationship with the participants, through correspondence prior to interviews including answering any questions they had about the research procedures and processes, and through in-person visits to their sites the validity of my research improved. I believe I mitigated the threat of minimal relationship building with the participants by utilizing known relationships to introduce me to key participants and by sharing my personal interest in the topic I am researching as well as my history of involvement within the disability sports community (Maxwell, 2013). This hopefully encouraged participants to speak more freely with me about the processes, both the challenges and the successes, of building an adaptive sport and recreation facility.

I gathered data for this research through a variety of means, as previously described. Through triangulation of data collection, the risk of developing chance associations or systematic biases from the use of one specific method was decreased (Miles et al., 2014). With permission from the participants, I audio-recorded the interviews and transcribed them verbatim. I wrote a detailed report immediately following interviews and kept field notes related to research activities. I acknowledge my lack of control of the responses of the participants, i.e., in their answers interview questions and in releasing relevant documents

(Miles et al., 2014). I utilized member reflections from each participant to avoid misinterpretations of their words during the interviews and in my reports of the documentation they shared with me (Creswell, 2013; Maxwell, 2013; Smith & McGannon, 2018).

I revisited potential threats to the validity of my conclusions throughout my study to ensure that what I reported was what occurred. Acknowledging that I addressed these threats as thoroughly as possible aided my ability to convince readers of my research that I have performed due diligence in making my research as strong as possible (Maxwell, 2013; Merriam, 1998; Miles et al., 2014).

Methods of Data Collection

I utilized a variety of data collection methods in this research—in-person interviews, notes taken during interviews, member reflections, review of relevant documents, site visits, field notes from site visits, and photographs. I scheduled interviews at a time convenient for the participants and myself, with each interview preferably occurring during site visits. If someone identified as a key participant was unavailable during my site visit, I requested to interview that person via telephone or an electronic platform. All participants read and signed a consent-for-participation form approved by the University of New Mexico's Institutional Review Board. Participants were informed that their participation was voluntary, they could withdraw their agreement to participate as well as ask to have their information de-identified at any time. They also were informed that any material they shared with me could be removed from consideration and review at any time. I wrote reflections on the interviews and site visits and reflective memos of my research activities. I used a semi structured interview format, with questions written as a guide, and with the flexibility to vary those questions as

the situation warranted, in order to gather the information most relevant to the participant's experiences. I provided a copy of these questions to the participant prior to the interview.

Each interview was set-up similarly. A process was developed prior to the first set of interviews and revised slightly for the remaining sets. This process included set up of the space, documentation that needed to be reviewed and signed (consent forms), and materials to have on-hand (pens, extra copies of consent forms, interview questions, recording devices and extra batteries/chargers, notes pages, tissues, and hand sanitizer). Prior to beginning the interviews, consent was obtained for their participation, for use their real name or a pseudonym for identification in my reporting, and for recording their interviews. The same was true for those interviewed via the telephone, with the documentation sent via electronic mail prior to the scheduled interview for signatures. An electronic application was used for recording the call after permission was received. I downloaded interview recordings from my cell phone and digital recorder after each session and saved them to a secure drive on my password-protected laptop. The recordings were then erased from those devices. Two recording devices were used to ensure that one recorded each interview completely. I found the different recording devices had different sound quality, allowing for increased accuracy in determining specific words in the transcriptions when needed. During the interviews, documents that were related to the information discussed were identified and the participants were asked to provide those for review. On occasion, other documents were identified after the site visits, during the transcription and data analysis phases. I requested those documents, such as organizational charts, via telephone call or electronic mail.

I visited each site one time for three to five days, setting up interviews at convenient times for each participant during those visits as well as offering to meet the participants at a

location that would be convenient and offer privacy. By spending the time and making the effort to travel to each site, I immersed myself in the research process without distractions. I hope that the participants today will recognize the efforts I took to meet them on their own ground, showing my intent to conduct research with a commitment to excellence (Maxwell, 2013). My intent in travelling to the sites was to better afford myself an understanding of the participants' involvement in the overall process of building an adaptive sport and recreation facility, allowing me to tour the facility and to take notes and photographs related the design features and the layout of the facility. In addition, any artifact or documentation identified by the participants as relevant to our discussions would hopefully be more readily available, as I would be physically present to review and/or make copies.

Each participant was interviewed one time. After each interview, and after the tours of the Hardesty Complex and MFBY, recordings were transcribed verbatim. I transcribed the interviews from Ability360 participants using playback on my computer and typing them myself. After those initial transcriptions, an on-line, electronic transcription service was utilized. I then edited those transcripts for accuracy and completeness while listening to the recordings. This enabled the transcripts to be available much more quickly than if I were to personally complete each one. I spent many hours on each transcript during this stage, in transcribing and editing. The time spent during this phase of data analysis allowed me to become familiar with the information provided by the participants.

I reviewed documents related to the building of the adaptive facilities that the participants identified as instrumental in the process of conceptualization to reality.

Documents I reviewed were related to planning and design, committee meetings, community involvement activities, budgeting, marketing, and fundraising. The documents were scanned

and placed in an electronic file on my password-protected laptop, with copies also stored in a file on a cloud-based storage site. Paper copies of materials gathered were placed in files with information related to each site. Photographs were taken throughout each facility, with an emphasis on key features related to functionality of the spaces, accessibility, and unique design elements. These were categorized in relation to the codes and themes to offer visual support of the analysis.

Methods of Analysis

Organization of Data

The physical data I collected that was on paper were placed in individual files organized by each facility. I put all of the documents related to one participant and facility together. I scanned documents and placed them in the appropriate file on my laptop. I typed my field notes and kept all copies of written field notes. I have maintained typed, scanned, and electronic data in a file on my password-protected laptop and in a cloud-based storage that is password protected. All participants agreed to use of their real names and the facility directors agreed to allow me to use the facility information without de-identification.

I developed and maintained a rigorous data management system to the best of my ability to support my goal of completing a reliable and valid research. I wrote memos to document my data analysis activities to help paint a clearer picture of what I was seeing (Miles et al., 2014). To assist in viewing my data analysis more concisely, I organized it organized by codes, categories, and themes. Miles et al. (2014) suggest using “analysis episodes” to document what I did in a step-by-step manner (p. 51). This was another tool used to ensure data analysis was timely and expedient. Planning and organization were my greatest assets and my most formidable adversaries during my dissertation work. My data

analysis processes were interrupted for a period of a few months due to the COVID19 Pandemic and the effect that had on my responsibilities in other parts of my life. This caused me to have to refamiliarize myself with the data upon my return to analytic activities. This deep dive included listening again to interview recordings, reading transcripts, and resumption of coding, categorizing, and theming activities.

Coding Scheme

I began data analysis immediately after transcription of interviews. I embarked on data mining with great trepidation, as if walking along the edge of a cliff with many obstacles in my path. I first looked over the data I had and read through each piece several times. Field notes, documents, and artifacts were analyzed with descriptors and jottings. I stepped over the first obstacle into data mining—open coding—by marking repeated or significant words and phrases and by making notes in the margins of the printed transcripts, looking to find discrepancies, similarities, and exceptionalities (Miles et al., 2014). I looked for repeated information within a piece of data and then across different pieces, circling, highlighting and/or underlining these words. The codes I focused on were in-vivo, attribute, and narrative (Creswell, 2013; Maxwell, 2013; Miles et al., 2014). In-vivo codes referred to the participants' own words and how they presented their story, their experiences, and their perceptions (Creswell, 2013; Maxwell, 2013; Merriam, 1998). This was important because I tried to relate the lived experiences of key people involved in development of the adaptive sport and recreation facility . I wanted to bring out the attitudes, values, and beliefs of the participants so I also used attribute codes (Miles et al., 2014). In addition, because I employed a multiple-case study with narrative inquiry, my codes followed in this tradition by re-storying the data as presented to me (Miles et al., 2014).

Multiple iterations were completed of each transcript. I completed initial coding manually on printouts of each transcript and again after uploading to the Dedoose CAQDAS software (Version 8.0.35). During the transfer of codes into the Dedoose software, some codes were deleted, moved, merged, or changed. The main methods I employed were lump coding and simultaneous coding to assign meaning to the excerpts. The 128 codes generated during this process were printed out and loosely categorized. After second and third cycle coding of the excerpts, I reduced the number of codes to 98 and 55 respectively. Any code with fewer than ten excerpts was evaluated in second cycle coding and codes with approximately twenty excerpts were evaluated during third cycle coding to determine similarities or differences in the codes utilized. Codes that were eliminated included those that could be included in broader categories or those that were duplicative. I reviewed each interview again after third coding cycle to investigate the appropriate use of codes for each excerpt. After this process, each codes' excerpts were printed out, re-read, and operational definitions developed for each. The codes were then categorized according to relationships of their operational definitions. During this time, I did not choose to use sub-coding though this might have been a good way to relate excerpts more directly to one another rather than using as much simultaneous coding as I did.

Categories and Themes

After I made a list of the main words and ideas, I moved into axial coding by sorting the ideas and words into categories (Miles et al., 2014). Through selective coding, themes emerged from synthesis of the data, see Appendix E (Creswell, 2013; Miles et al., 2014). I then turned my attention to themes that emerged from these categories and how they related to my research questions, my experiences, and my assumptions about designing and

developing adaptive sport and recreation facilities (Miles et al., 2014). Discussions with critical friends during the process of analyzing the data aided in the reliability of my reporting (Smith & McGannon, 2018). I then summarized each theme in one to two sentences to present to the participants. In addition, I turned to summarization of each interview in relation to the themes. I provided each participant with a summary of their interview along with an explanation of the themes, requesting them to review those documents for accuracy and/or clarifications. I used this as another opportunity for the participants to add or delete information they shared with me. I received clarifications or confirmation of the overall themes and agreement with my summarizations from nine of the participants. I received no feedback from two participants.

Summary

I employed rigorous research methods and attention to detail throughout the research process to increase the trustworthiness of my study. I took steps to improve the validity of the data analysis. The data I collected revealed information that provides a basis to answer my research questions as well as information to help inform others who wish to embark on building a community-based adaptive sports and fitness facility. The following chapter will enumerate the themes, categories, and codes from the data as reported by the participant's own words and experiences.

Chapter 4 – Results

“... [W]e’re like, I don’t like being in the basement. No one can even see us. I feel like we’re being tucked away. So that’s the one great thing about being in a community-based center is other people are seeing you. And that’s really another part of it is visibility, educating someone knowing they can go there.”

— Maria Besta, MFBY

This study was designed to investigate how community-based adaptive sports and fitness facilities were designed and built in the United States. I addressed the following research questions:

- What steps are taken to make the vision of a community-based adaptive sports and fitness facilities become a reality?
- What challenges and successes are encountered when building a community-based adaptive sports and fitness facilities?
- Who are the key people involved in designing, funding, and building community-based adaptive sports and fitness facilities, and what is the importance of their roles in these projects?
- What design features of facilities are key components to meet the physical activity, recreation, and training needs of people with disabilities?

The previous chapter described the steps taken in this study to answer these questions, including multiple iterations of the data and analysis of the relationships between excerpts. From this analysis, the five themes that emerged are:

- Involvement of the people: courage and joy and optimism and future.
- Involvement of the people: building networks to accomplish a common goal.
- Involvement of the people: planning for an accessible future.
- Putting it all together: logistics, utilization, and operations.

- Building equity in the community for people who have disabilities.

Boiling that down further, the people involved and the visions for what was needed in a facility were the most important components that emerged from the data. The people possessed the intention, the motivation, and the ability to collaborate with each other and with other interested people who were important in visioning the facility. Those visions led to what was structurally needed to build facilities that would allow for ease of use, would provide the needed amenities, and that would be sustainable long-term. What follows is a description of the facilities and the participants in this study, all of which paint a picture of the locations and the people involved in the processes of building these facilities. Additionally, I delve into the evidence to support and answer the research questions and to support the themes that emerged from this analysis.

Description of Research Sites and Participants

I visited three facilities during my research (Table 2). The Ability360 Sports & Fitness Center (Ability360) and the Hardesty Family Adaptive Sports Complex (Hardesty Complex) are membership only facilities for people who have disabilities and their family members. The Mary Free Bed YMCA (MFBY) is a community-based fitness facility open to the public. These facilities were all opened within the 10 years prior to my research. Each facility provides a universally designed center with the amenities that one would look for in a full-service fitness facility. While Ability360 and the Hardesty Complex grew their membership slowly after opening, the MFBY membership base expanded quickly, immediately after opening.

Table 2*Facility demographics.*

Facility	City, State	Date opened	Size (ft²)	Construction budget (millions)	Funding
Ability360 Sports & Fitness Center	Phoenix, AZ	2011	45,000	\$13 (Incl. FFE)	Government Obligation (GO) Bond Capital campaign Private funding Grants
Hardesty Family Adaptive Sports Complex	Tulsa, OK	2019	27,000	\$11.5 (Incl. FFE, 3 years operations)	Capital campaign Private funding Grants
Mary Free Bed YMCA	Grand Rapids, MI	2015	120,000	\$24 + \$9 (FFE)	Capital campaign Private funding Loan Grants

Figure 2*Ability360 Sports and Fitness Center, Phoenix, Arizona.*

Ability360 opened in October 2011 on the campus of the Disability Empowerment Center in Phoenix, Arizona (Ability360 Campus, 2021, para. 13). When it opened, it was named the Virginia G. Piper Sports and Fitness Center, due to a large donation from the Piper Family Foundation. At that time, the parent organization was named Arizona Bridge to Independent Living (ABIL). The fitness facility was initially nicknamed SpoFit by administration and members. This name was used during interviews with the participants in this study. ABIL has been in existence since 1977, providing support to people who have disabilities to allow them to live independently in the community (About Ability360, 2021, para. 3). ABIL and all of its subsidiaries rebranded as Ability360 in 2015. In addition to the \$13 million sports and fitness center, Ability360 campus includes a conference center, offices for a variety of disability-related organizations, and the center for independent living resource center headquarters. The sports and fitness center is a 45,000 square foot facility designed primarily for use by people who have disabilities and their families. Amenities include an outdoor aquatic center, two full-sized basketball courts, a group fitness room, a 1/10th mile indoor track, a 35-foot climbing wall, and a 7,500 square foot fitness center/weight room (Ability360 Campus, 2021, para. 14).

According to its website, Ability360 is the first center of its kind in the western United States (Ability360 Campus, 2021, para. 11). The fitness and weight room equipment was specifically chosen to accommodate people with a variety of accessibility needs. The basement area allows for secure storage of sport-team-specific equipment as well as recreational equipment used by Ability360 programs. As noted on its website, “The Ability360 Center and the Ability360 Sports & Fitness Center comprise the first co-located, universally-designed (accessible) facilities of their kind in the United States” (Ability360

Campus, 2021, para. 13). This was the first site I visited, in December 2019. I became familiar with the facility while it was in the planning phases, prior to construction, due to my professional acquaintance with people involved with wheelchair and adaptive sports in the Phoenix area. I have followed the progress of the facility and its programs over the years, and I have visited the facility during my travels to Arizona. The staff of the facility were accommodating and welcoming. I interviewed Phil Pangrazio, president and chief executive officer of Ability360, in his office. Pangrazio initiated the project to build the sports and fitness center on the campus of Ability360, bringing the committee together to facilitate completion of the project. Jo Crawford, certified recreation therapist, active construction advisory committee member, who was involved throughout the design and building phases of the sports and fitness center, was interviewed at her home about an hour north of Phoenix. Gus LaZear, vice president and general manager of Ability360, was interviewed via telephone, at his convenience. LaZear was a member of the advisory committee for the building of Ability360 prior to being hired as its second general manager, a position he has held since 2013.

Ability360 was funded by private donations, grants, and a general obligation government bond. In addition to time spent on the design process, paid staff and volunteers worked hard to secure the \$5.3 million bond from the City of Phoenix. This bond process was a competitive one, with organizations around the city submitting proposals for consideration of funding. Pangrazio said their organization received the largest amount in the bond cycle in 2006. The finalization of that funding and the lease agreement occurred in 2010. This is the only facility in my study that was awarded government funding for construction.

Figure 3

Hardesty Family Adaptive Sports Complex, Tulsa, Oklahoma.



The Hardesty Complex was built on the campus of The Center for Individuals with Physical Challenges (The Center) in Tulsa, Oklahoma. The \$11.5 million, 27,000 square foot facility opened in 2019 (Grimwood, 2019). It was funded primarily through private donations and a few grants. The Center offers cooking, art, recreation, horticulture, computer, and other programming in its original facility on the same site. The original building also houses a basketball court and fitness facility. The Hardesty Complex was built to expand the sport offerings of The Center, to help promote more adaptive sports for youth in the Tulsa area and to allow the members of The Center to have a greater number of options for fitness and recreation, according to Lori Long, the executive director who participated in this research. The Hardesty Complex includes an indoor track, an adaptive yoga wall, a climbing wall, a multisport court, a resistance pool, and fitness and weightlifting equipment. In addition, there is a multipurpose outdoor court, a parking lot lined for wheelchair softball, and a universally designed courtyard area. The Hardesty Complex also has an elevator, multipurpose group fitness/meeting rooms, a catering kitchen, and an accessible rooftop terrace. The Center has been around for many decades as an organization focused on improving the lives of

individuals with physical challenges, and the expansion was intended to allow their programs to grow, to offer additional youth programming, and to expand their focus on sport-specific training.

My visit to the Hardesty Complex was in January 2020. The staff was welcoming and friendly, and Long arranged for me to use its boardroom for my interviews. In addition to interviewing Long, she provided me with a tour of the Hardesty Complex and The Center. She was instrumental in bringing this project to life as well as seeing it through to opening and current operations. She contacted other key members of the board of directors and building committees to request their involvement in this research. The people I interviewed in Tulsa were Jim Boulware, lead architect, of KKT Architects; Jaime Thomas, construction manager, Flintco; and Megan Meussner, president of the board of directors at the time of the project's initiation and member of the construction committee. Meussner also assisted Long as a fundraising consultant to The Center for the capital campaign.

Figure 4

Mary Free Bed YMCA, Grand Rapids, Michigan.



The MFBY opened in 2015 and is a \$24 million, 120,000 square foot facility on 36 acres in Grand Rapids, Michigan (Mary Free Bed YMCA, 2021). The cost for furniture, fixtures, and equipment was an additional \$9 million. The facility was built with attention to universal design elements and in collaboration with representation from the local rehabilitation hospital, Mary Free Bed, and its wheelchair and adaptive sports programs. It is the first building in the world to receive certification from the Global Universal Design Commission (Mary Free Bed YMCA, 2021). It includes a one-fifth mile indoor track, 2.5 full size basketball courts, fitness/weight center, climbing wall, aquatics center, group fitness studios, childcare center, greenhouse, cooking demonstration kitchen, meeting rooms, and chapel. In addition, the MFBY houses a Mary Free Bed Rehabilitation Hospital outpatient therapy clinic and offices for the Carol Van Andel Healthy Living Center. The outdoor facilities include hard and soft surface softball fields, tennis courts, and an accessible playground. The MFBY is equipped with a hearing loop system, an elevator, and a 185-foot-long central ramp for movement between the two stories of the building. My visit to the MFBY was during a snowy week in February 2020. Throughout my visit, the facility was bustling with activity. I observed an evening practice of an adult wheelchair basketball team, worked out at the facility on two occasions, and used the community meeting room for my interview sessions. The staff was friendly and welcoming throughout my visit.

At the MFBY, I interviewed Shelley Mishler, past president of the Mary Free Bed Guild; Maria Besta, recreation therapist and manager of the Wheelchair and Adaptive Sports Programs at Mary Free Bed Rehabilitation Hospital; Mike Perry, executive vice president of Progressive AE and architect for the MFBY. I also interviewed Dr. John Butzer, chief medical director of Mary Free Bed Rehabilitation Hospital at the time of the project, via

telephone. He has since retired. Perry and Butzer were also members of the Greater Grand Rapids YMCA board of directors, and Mishler and Besta were members of the advisory committee for the YMCA building project. Staci Chambers, facility director of the MFBY, provided a tour and arranged for my use of the facility during my visit.

Discussion of Themes

As previously stated, five themes emerged from my data analysis procedures. These themes are represented by the words of the individuals who participated in interviews and tours of the facilities. There are many aspects that must come together at the right time for any type of facility to be built. The logistics of funding, location, design, and infrastructure are key components and are represented in the themes of innovation, utilization, and operation. However, the people are at the core of all that occurs when building a facility and, in these cases, the building of facilities that were funded not from the earnings of a corporation but from the involvement of people, both volunteers and paid staff of each organization. These individuals had a vision, a dream, of what could be provided to ensure equity in the community of people who have disabilities who desired to have a space for physical activity, sport participation, and fitness. The ideas, visions, and dreams of stakeholders are incorporated into the themes of intentions, motivations, and collaboration. Building equity in a community through the vision of people seeking alternatives to what already exists in fitness facility design and planning are the overall themes that emerged from the interviews I conducted with people across the United States.

Involvement of the People: Courage and Joy and Optimism and Future

What drove people to want to become involved in these projects? Who were the people who brought together these ideas and sought the funding to make these visions a

reality, and how could they have done this in such a way as to provide facilities that literally remove built barriers for people with disabilities? The people and their motivations, intentions, and abilities to successfully collaborate are what drive any project.

Motivations. The reasons people became or stayed involved in these projects are explored in what follows. The topics to be explored include personal attachments, dreams and vision, leadership, passion and excitement, and pride. The individuals I interviewed were highly motivated to see the development of a community-based adaptive sports and fitness facility come to be in their cities.

Personal Attachment. In the cases I studied, it was a mix of professionals and involved community members, most of whom were people without disabilities. I point this out because it is important to remember that people who have disabilities are marginalized in our society, and it was evident in my research that people who have disabilities made up a minority of the people of influence in these projects. With the exception of Pangrazio, who shared with me his history of being a competitive wheelchair rugby athlete, none of the individuals I interviewed disclosed or had a visible physical disability, so none would be directly or personally impacted at the time the facility was planned by the building of a community-based adaptive sport and fitness center. However, three participants do have direct ties to and involvement with the disability community. Besta, the recreation therapist in Grand Rapids, told me she is married to a person with a physical disability and has a long history of involvement with wheelchair and adaptive sports because her husband is a wheelchair sport athlete. Crawford and LaZear are recreation therapists who worked closely with people who have disabilities in Arizona prior to the beginning of their project.

Each of those who I interviewed expressed personal reasons, personal attachments, for their involvement in these projects, stemming from having family members as recipients of services of the parent organization to being active members of the boards of directors, thus developing a more intimate knowledge of the workings of the organizations. As Crawford confirmed, “Everybody, of course, has their own agenda, that’s why they get on board, they have their own agenda of what they want to do.”

In Grand Rapids, Perry had a professional investment in wanting to build a facility that met the necessary requirements to receive the certification from the Global Universal Design Commission because he developed this as a specialty in his practice. He, along with Butzer, served on the board of the Greater Grand Rapids YMCA and formed a personal relationship that facilitated the collaboration with the Mary Free Bed Guild, of which Mishler was president. Butzer also had firsthand knowledge of the Mary Free Bed Wheelchair and Adaptive Sports Program and knew that the leadership of that program wanted a facility to serve as a home base for their sports teams and programs.

The Hardesty Complex project was led by Long, the executive director, at the behest of longtime donors, and she saw an opportunity for professional growth, saying, “Selfishly, I’d always wanted to run a capital campaign.” She said, “But I always knew that I would only want to be involved in a capital campaign and other construction of a new facility if it absolutely had the right mission tied to it.” She pulled in the ideas of the members of the facility through town hall meetings, proposed those ideas to a receptive volunteer board, and brought together others in the community who shared the vision of providing more opportunities for athletes in Tulsa. Coming together for this project included people who had personal connections to The Center as volunteers and a family member of people accessing

The Center as a member. As Boulware, architect for the Hardesty Complex, said, “When we [his architecture firm] heard that there was a project, we knew. I mean, this was very near and dear to my heart, so we really went after the interview and wanted to make sure we got this job.” In that statement, he was referring to the firm he worked for going “after the interview” due to his father’s involvement with The Center after he had been diagnosed with encephalitis. Additionally, Thomas said that becoming the construction manager for the Hardesty Complex was great timing because she was already on the infrastructure committee for The Center. “I already had an involvement. I’ve been a volunteer with The Center for probably four or five years now. And I pretty much fell in love with the facility, what it offers, so it was the perfect opportunity,” she explained.

The interconnectedness of each individual with the organizations they supported provided the collective power and capacity within their communities to proceed with plans to build these facilities. The personal attachment to the dream of building a facility helped maintain motivation throughout the project, even during times when the process became more difficult.

Dreams. Dreaming of providing better services was a major theme in the Hardesty Complex project in Tulsa. Meussner said one of the organization’s long-time donors approached the executive director and told them to “dream big” because the family was planning to make a large donation. Meussner said, “Lori and I have always dreamt of having a place where kids can be. We have the facility here where adults are all the time, but it’s how we can grow and expand.” Long also talked about this meeting, saying, “We thought too small at first, and we said, well, maybe we’ll just look at some sort of an outdoor complex.” After hiring an architect and presenting preliminary plans to donors, they were told to dream

bigger. She said, “We went back to the drawing board, and what started as that outdoor complex . . . went to a one story, fully enclosed, separate building.... Then we just kept growing and building and adding to where we are with it now.” Their initial dream of adding a simple outdoor complex grew into the \$11.5 million two-story indoor complex that provides members an all-inclusive fitness facility.

When I asked Boulware, the architect of the Hardesty Complex, if there was anything he did not expect would happen, he said, “Yeah, everything except the gymnasium.” His vision of what the organization could afford differed greatly in those beginning, dreaming stages because he thought the organization was working from a much smaller budget.

Besta said her dream of a facility “went back to when we were GRWSA [Grand Rapids Wheelchair Sports Association] just thinking we really could use a facility. . . . But the money was just, when you’re a volunteer board, it was just not even a possibility to think about it.” She also recalled a time shortly after the GRWSA came under the umbrella of the Mary Free Bed Rehabilitation Hospital when she was asked what she would like for her athletes. Her reply: “A facility would be great.” She said that Butzer, the hospital chief medical officer at the time, told her he would love to see a facility built before he retired. Sometimes saying those dreams out loud catches the ear of someone who has the capacity to make that a reality, and sometimes, being the right person, in the right place, with the right dream is what gets the process started.

Pangrazio spoke about the days, back in the 1990s, when he was playing wheelchair sports:

You know, we all had that dream that wouldn’t it be great if the community had a sports and fitness center that was completely dedicated to the adaptive sports

programs and, especially to the team sports like rugby and basketball because we need the courts, we need basketball courts.

Pangrazio reminisced about the variety of places they accessed for wheelchair sport practices, including outdoor tennis courts next to a ditch where they would lose their rugby balls, grade school cafeterias with pillars in the middle of the room, a junior high school gymnasium, and a practice facility for the local professional basketball team. He said, “Holding a tournament was almost, I remember we had a tournament at Arizona State one year, and they never wanted us back, ever again, ‘cuz the floors got marred up and they were up in arms about that.”

Crawford recalled similar conversations with the athletes she worked with, thinking about a wish list for what Phoenix needed to serve the community. She explained, “Inevitably, it looked just like the sports and fitness center. . . . It didn’t need to be just a dream that we talked about in a small gym that had no parking, that was cold, that they squeezed you in.” Under Pangrazio’s leadership, and with the assist of people such as Crawford, they turned those dreams into reality at Ability360.

Leadership. Dreams and effort without leadership often lead to a dead end. Leadership includes having a plan, finding people to support that plan, and bringing those people together to execute the plan. The importance of working with people who share a vision and who have the capacity to develop and execute a plan cannot be understated. In each of these cases, there were core people in the leadership of the organizations who not only got the processes started but saw the projects through to completion. People such as the executive directors and board members of each organization pooled their willingness and knowledge and found financial support networks to successfully build facilities unlike others

in their communities. Crawford echoed the need to have someone at the helm, directing the project by relating the efforts of Pangrazio and his ability to lead, saying, "...[W]ith his personality and his humbleness and his brilliant mind, he was able to bring the right people at the right table. And that's what he does. And people want to work hard for Phil." This leadership was not an accidental occurrence, as Pangrazio said: "Between being who I am and having, number one—having a significant disability—but also being someone that had the knowledge and the tools and the skills to do the work and take the time to do the work."

It is important to have leadership who understands this will not be an easy task, that it will be an all-encompassing project that requires much effort and interactions with others. Pangrazio said "I went out and I found, I got enough contact with different people. I had a real estate broker that I was working with . . . an attorney that I got connect to . . . a general contractor came in and gave me advice." All of these specialists, people with expertise, are important to draw in, and a good leader can find those people to work with, to learn from, to bring the components together. Long was open about her lack of experience in a number of important areas, leading to her willingness and desire to consult with a variety of advisers, such as with fundraising and construction processes. Due to her relative lack of knowledge of building and construction, she advocated for hiring an owner's representative; a firm or a person to assist with the interpretation of contracts, with changes to the construction schedules, and to advocate for the needs and desires of the organization. Long also had Meussner as a fundraising adviser; she was the board president at the time and assisted in helping to "guide our fundraising direction and strategy." Long's willingness to say she did not know everything but was willing to learn demonstrates leadership qualities important in a major project.

In building community partnerships, Butzer, who was directly involved in envisioning the collaboration that began the MFBY project, said, “I think a mistake to avoid if you’re approaching an organization is to try to approach the organization from below or from the grassroots area to convince the leadership.” By approaching the leadership of a potential community partner, you can then have them become your ally in taking an idea to the membership of the organization and building the bridge from the top down. While this does not work everywhere, the idea is that power comes from the top and convincing the leadership to become enthusiastic about your proposal helps to bring members along. He cited the case with the Mary Free Bed Guild as a primary funder of the YMCA, saying, “I talked to the president of our guild, then I talked to the president’s council . . . and got them on board.” Getting support of a few rather than many is often an easier process that will lead to better understanding and the ability to develop advocates who can then spread your message.

This was also evidenced in the Ability360 case, where Crawford worked with the leadership of the local rehabilitation hospital to provide financial support in building Ability360 as well as in supporting ongoing programs. She said that going directly to the hospital leadership was important to make the case that helping patients become active outside of the walls of the hospital also was important, which would lead to their success after rehab, not just during their inpatient stay.

Another important piece of the funding puzzle related to leadership decision making after the onset of a capital campaign. Long described the need, as director of the organization, to have the authority to make decisions to move the project forward without significant interruptions. She said, “I had a very open and honest conversation with my

board, just like we run our regular day to day operational budget. If it is in the budget, I have to have full authority to move forward.” Being given permission to do the job one is hired to do as the leader of an organization while keeping the lines of communication open and having an understanding of your role is important to the integrity of the process. There are decisions that needed to be made, contracts to be signed, equipment to be ordered, among many other tasks, and to delay any of those might be detrimental to the plan. Therefore, leaders must have the trust of those working with them to make decisions and proceed with the plans.

Boulware was keenly aware of Long’s ability to lead this project, as they moved from a \$3 million budget to almost \$12 million. He said, “I think a lot of it is Lori. She’s just really kind of infectious, and people believe in her.” Leadership is a mix of enthusiasm, knowledge, willingness to learn, and passion. Those in leadership positions who were involved in building these facilities possessed those skills and many more to bring all of the pieces together to complete their projects.

Passion Builds Excitement. The passion and excitement that people brought with them for the vision and mission of the organizations and for the impact the facilities would have on people in their communities were additional motivating factors for their involvement. Having a passion for something outside of yourself, something that can bring joy to many other people, something that provides a community with an option for people who have disabilities was alluded to by all who participated in this research. It is hard to dissect the excitement brought by those passions, so for that reason, I have chosen to consolidate these two factors.

LaZear summed it up nicely when he said, “I was dumbfounded. I was just shocked that something like this could actually be built.” He had long been involved in adaptive sports, saying, “You know, it’s been a passion of mine for a long time.” But he had not thought that a stand-alone adaptive fitness center could be a possibility in the Phoenix community. For the people involved in these projects to be astonished that this could be built shows to me that the lack of access had become ingrained in their thinking. LaZear said, “There was a good group of people who actually conceptualized the idea. . . .” including wheelchair athletes, the founder of the Arizona Spinal Cord Association, and Pangrazio. Those people with the passion for what could be triggered the discussions and advocated for the possibilities.

Crawford, in talking about her desire to be involved and her efforts to provide this facility for her community, said, “I love to be a part of new visions. . . . Anything that’s new and exciting for our state, and just being an Arizona girl myself. . . . It was hard and joyful, more joyful than hard at any time.” She described her passion for advocating for certain features such as the climbing wall: “From a recreation therapist’s standpoint, there’s nothing to me more important than someone living an active life. . . . I just want people to be active and rock it!” Even though committee members had differing views on some components of the facility, Crawford described the overall experience as one that brought people together, people who wanted to be a part of something bigger than themselves and who saw an opportunity to make an impact. “I would say anybody pulling in that driveway did not have fears. There was no fear driver, there was only courage and optimism and joy and future. I mean, it was wonderful, it was really, really wonderful,” she said.

The same was true in the other cases. In Tulsa, some of that passion came from long-time donors to The Center, family foundations whose leadership was passionate about the programs offered and the impacts on the lives of the members. Meussner talked about the person who runs the Hardesty Family Foundation, the naming sponsor of the adaptive sports complex, saying, “She’s been excited for anything that we do. . . .” She went on to describe making the ask to the Hardesty Family to be the named sponsor of the project and witnessing the excitement the foundation had about the project. Bringing that passion to others is often what helps to raise the funds needed for capital projects. Meussner described her years of involvement with The Center by saying, “I got on committees when I was in college . . . was on committees and then rolled onto the board. I just, it’s always been a passion of mine to help however I can.” As for having the opportunity to be the project manager for the Hardesty Complex, Thomas said, “It’s nice when your passion, your reasons for what you’re doing, all mesh together.”

Perry said of his involvement with the MFBY project:

I kind of grew up with the Y. I’ve learned to swim at the Y. . . . I’ve been in a lot of positions—the board chair, the annual campaign chair, heritage club member, so I know Y’s really well. And I see the good they do. My family’s very involved. So, it was a chance to design and oversee a project that I had a lot of history with and had a lot of passion for.

That excitement and passion was passed onto many others within the Grand Rapids community. Butzer said, “I think it went extremely well. I think everybody has been very happy with the results. The Guild is happy, the hospital is happy. We’ve been able to add a number of innovative programs.” As for the Guild being happy with the outcome, Mishler

said, "...[T]hen when they took the stairs out [of the plan] and there was that amazing ramp, it was like wow, that makes sense and it's awesome. . . . It was probably more beautiful than I ever anticipated." In addition, the membership growth projections "far exceeded expectations," Perry said, perhaps showing that the overall building design and components that welcome people of different abilities were positively received in the community.

In Tulsa, part of the goal for building the new complex was to expand competitive sport opportunities for teams and individuals because, as Long explained, more athletes there were competing nationally and regionally. Several of those athletes were identified through the U.S. Paralympics talent pipeline for future competitive opportunities. "It's very exciting," she said, to have such opportunities open up for their members. Meussner said, "Just seeing what this place gives for people who, whether it's they're born with a disability or they have a stroke, or something happens, and they're left disabled. It's comfortable here. . . . And just the happiness you see from everybody just fires me up!" The excitement and passion they shared for the organization that led to their involvement often carried people through the challenging parts of these journeys to build facilities in their communities.

Pride. In referring to the final outcome of the MFBY, Butzer said, "I know it sounds perhaps incredible, but I really can't think of any really big things that we would do differently." He said that the facility was really good for "the vision that we had for it." This shows great pride in a job well-done. The MFBY is a busy, full-service facility that incorporates some of the most advanced universal design elements of any similar facility in the United States. Mishler supported this when she said, "[T]hey did a phenomenal job with the design. I mean everybody benefits, it's so inclusive. That's the best part about it, that you're side by side." Her pride in having the wheelchair and adaptive sports programs

housed in the facility that was built to YMCA specifications, but with universal design components, was evident. Having the adaptive sports teams practice and hold tournaments at the facility brought another level of pride. She said, “We knew it was right for the community. And again, the community at large, because our mission is serving the disabled in the community, but why not do it side by side with able-bodied people? And I tell you, it’s cool.” She added, later in our discussion:

It’s just awesome for our community and just makes so much sense. . . . And it’s rare that you’ll come here and not see anybody down there in a wheelchair or someone with some type of disability, using the equipment or partaking of this amazing facility in one way or another.

I agreed with Mishler that this was a great legacy when she remarked, “I still walk in, I walk down that ramp, I get goosebumps really because of this.”

The pride was evident in each person I interviewed, each agreeing that the hard work was worth it to see the smiling faces, the people working hard, the ease with which a child moved from the front door of the MFBY to the lower level basketball courts before his mother even entered the building. Crawford offered this explanation when asked about what most surprised her:

I would have to say the magnitude of the building. You know, you can see something, like a rendering, but until you pull in, and you’re just like, ‘Holy cow, look how big this place is!’ I’m not a construction designer, so when someone tells me we’re building a 50-foot wall, I’m like, yeah, that’s big. But then you see one, and you’re like, ‘Oh, my gosh!’ That piece of it. . . . That was pretty awesome.

At each facility, the personal attachment to being involved was apparent in the pride of those interviewed in what had been accomplished, not only on a personal level but in what the facilities mean to their communities.

Involvement of the People: Building Networks to Accomplish a Common Goal

I found that many of the participants not only had personal motivators, but there were specific occurrences that precipitated the ability to move forward with these projects. Butzer described both the need for wheelchair sports teams needing more-adequate facilities along with the YMCA's desire to replace an obsolete facility. Long described the need for more space to house youth programming, to host tournaments for wheelchair basketball and rugby, and to provide practice space for more than one team at a time. Pangrazio and Crawford cited the substandard facilities that the wheelchair sports teams used and the multiple locations as factors to push for a centralized venue that would be home to all of the sports teams.

Beginnings of the Projects. Finding the right place posed its own challenges for the Ability360 and MFBY projects. Phoenix and Grand Rapids are large areas, where infrastructure and location of their facilities were key elements to consider in the early stages of their projects. Access to public transportation was a requirement that forced some initial locations to be excluded, in addition to general safety of the membership. Perry discussed the YMCA's proposal for the location that first was identified and that met resistance from people in the township. He recalled attending a zoning commission meeting where residents complained that they "didn't want to be listening to these kids yelling on the soccer field." In addition, the company that agreed to be the main funder for the initial plan filed for bankruptcy a few months after the location fell through, causing the search committee to seek an alternative site and alternative funding. The site where the MFBY ultimately was built

posed its own logistical challenges. The site is large, 36 acres, and had two owners. The YMCA successfully negotiated with each owner to secure the property and have it rezoned as one.

Pangrazio said there was an area they initially considered purchasing, but because it was located in a more industrial part of the city, there was a concern for access after dark when the other buildings in the area would be closed. He also spoke about the timing of the project and the multiple considerations being juggled as an organization. At the same time, the group was submitting a proposal to the City of Phoenix for the bond funding in 2005-2006, and the site on which the rest of the Ability360 campus would be built had not been purchased. He knew at that time they would have to privately fund the building of the Disability Empowerment Center and the other facilities that would be on their campus, but he was also already looking at the expansion to build the sports and fitness center. Knowing that the funding for the bond would take a few years, it finally came through in 2010, four years after the bond was approved; he proceeded with all of the plans at the same time. He said, “We probably knew we were gonna get the property. So, the simultaneous proposing the sports and fitness center to the City of Phoenix was in the same timeframe with us buying this property.” He said that at that time, he was interviewing project managers and picking their brains to learn what needed to be considered to oversee the project. He decided, “I can do this myself. I don’t need these guys. What would I do with these guys?” In his words, “I kinda learned this oversight of the project sort of organically, so to speak.”

For the facility in Tulsa, The Center owned the land where the construction would occur, but issues with underground utilities and safety were discovered, and they became the biggest initial concern. They had the backing of funders and, as mentioned, had begun with a

modest plan to provide safety and security for their members by decreasing foot traffic through their site, as well as by increasing their programming. As plans evolved and grew, they “ran into issues with the city on the corridor,” Long said. The corridor is the enclosed path that leads from The Center’s original building to the Hardesty Complex. The issues with building the corridor atop existing utility lines caused a long delay in the ability to start construction because the City of Tulsa was not willing to allow for a permanent structure to be erected over those lines. When a compromise was finally reached, which will be discussed in more detail later, close to a year had passed, and only then could the project proceed to construction phases.

It is important to know that even with good planning and an expectation of how things will proceed, obstacles will present themselves, and sometimes, they require a total change of plans or creative thinking to solve.

Advocacy. Working together to better the lives of people who have disabilities takes effort and willingness to hear the voices of stakeholders and to share those stories with others who might question the need. The Mary Free Bed Hospital Guild worked closely with the architect and building committee to advocate for the inclusion of the adaptive sports programs through its Deed of Gift. Besta talked about the importance of having the advocacy of the Guild, saying, “If we didn’t have them, we wouldn’t have half of what we have. They’re just this empowering great group of women who have always seen the bigger picture.” The Guild advocated, through the power of its \$4.5 million investment in the MFBY, for the design features and storage space to accommodate the wheelchair and adaptive sports programs’ needs documented in the Deed of Gift. Besta said the Guild also

advocated for the involvement of athletes with disabilities in the building processes in order to provide their perspectives on the practicality of the design.

Mishler and the Guild served as strong advocates for the needs of athletes in the adaptive sports programs and the patients served by the Mary Free Bed Rehabilitation Hospital. Through this work, they advocated for positive change that will affect lives for years to come. The collaboration of the Guild and the YMCA brought to life an innovative project that has already positively affected many lives in the greater Grand Rapids area.

When he talked about the joining of the Guild and the YMCA organizations, Butzer said:

It required a fair amount of discussion and many meetings and a lot of, some people felt that there were other good causes, which was true. . . . We needed to make the case of those that were going to give their money. . . . You have to make your case on the Y side: What are we becoming? Are we running the hospital's business? How is this, how does this affect us? This isn't our model to have all these wheelchairs around. Will it chase people off?

He said that "people didn't say it so frankly" but those questions were on their minds. To answer them, he offered his knowledge and advocated to help people recognize the overall vision and importance the facility would have in the broader community. Butzer also referred to similar questions that were asked on the hospital side, from the members of the Guild, especially regarding the amount of money and how that could impact other good causes. He said, "I don't think it was an unusually hard sell, but it required a fair amount of discussion and many meetings. . . . I think selling both organizations was a bit of a barrier to overcome." The advocacy by Butzer and the Guild, along with people from the wheelchair sports

programs and the ability of all to educate and provide awareness for the need of a fully inclusive facility, helped to propel this dream to reality.

The need for safety of members was a main reason for the initiation of the expansion at The Center. First, however, a compromise needed to be reached with the City of Tulsa's Planning Office about the infrastructure, needed safety features, and design concepts. Long's passion, vision, and willingness to try was evident in her recollection of a meeting about construction of the corridor she and Boulware had with the city representative who did not want to sign off on the architect's plans. She said she invited him to come to The Center and use a wheelchair to experience what life was like moving around the facility and grounds from that perspective. Unfortunately, her passion and advocacy for that personalized experience came through as a threat to the city employee. Ultimately, the facility received the zoning exception for the corridor to be constructed atop the utility lines with design specifications from the City of Tulsa.

Thomas, as the project manager with strong ties to The Center, advocated to contain costs, control the budget, and ensure the facility was built with the appropriate amenities and features to provide accessibility to the greatest number of people. For instance, she talked about her recommendation to redesign the railing in the corridor so people who used canes would not have a barrier to move around. Her expert advice helped to mitigate risk and provided The Center with a better outcome.

Risk management strategies are other important components of the utilization of the facilities. Meussner talked about educating others who questioned decisions such as the need for the enclosed corridor and providing access controls to the facility overall. She was key in advocating for the safety of the membership. She alluded to advocacy regarding other

components of the facility, such as the climbing wall, adaptive yoga wall, and the pool; and to working out the logistics and helping to acquire funding to provide the most accessible and functional facility possible. Her ability to interact with her local community and access funding to support The Center's expansion was key to this successful project.

In Phoenix, Crawford advocated for certain features of the facility, such as the rock-climbing wall. She also advocated to maintain a separation of the medical model of rehabilitation from the community-based fitness and sport model of the facility and the need for recreational therapists to be part of the administration and staff of the facility. It was important to her that her former patients have the assistance they needed, but they would also be encouraged to become independent in their pursuit of fitness and recreational activities.

Having an accessible transportation service, as noted earlier, was a major reason to remove a barrier identified by many people who have disabilities as a factor that limited their participation. The ability of the boards and committees to advocate for the expansion of public transportation to serve their members occurred in Grand Rapids and Phoenix. The bus line in Grand Rapids did not originally extend to the area where the MFBY was being built. To get the Go!Bus and its accessible door-to-door transportation to come to the facility, the bus line would need to be extended to serve that area. Perry said a meeting was held with the CEO of the downtown transit authority "about the importance of having a transit stop here. Because we'd get people from downtown to be able to come to work, come to volunteer, come to work out." Besta also attended and spoke at a township meeting about extending the bus route to serve the YMCA and surrounding areas. As for her participation, Besta said, "It was good. I mean, it felt right to go there. They were welcoming." Not only did the YMCA advocate for this expansion, but the organization also rallied surrounding businesses to

support the expansion and made a financial commitment to the city to ensure it would be able to extend the bus line to the area. In addition, Perry and the YMCA director worked with the Cascade Township to improve the infrastructure of the area by installing a traffic light and changing the intersection at the site.

Working to build coalitions are other important components in providing better access, safety, and inclusivity for a community. At the Ability360 campus, a light rail line passed in front of the campus but did not have a stop within proximity. Pangrazio continued to advocate after the sports and fitness center was built, lobbying the city for a light rail stop at Ability360, utilizing the power of the organization and membership to improve the infrastructure, provide increased safety to members, and remove that barrier to participation. The examples cited are testaments to the advocacy, perseverance, and connections to the adaptive sports programs and were at the heart of striving for inclusion and accessibility for all.

Building Coalitions Through Engagement. It was important to the success of each of these projects that more hands than that only of the core committee members be involved in the process. There was a need to bring in others, outsiders if you will, to engage in the processes and to garner additional support. This was evidenced in the case of Ability360 when pursuing the bond. Pangrazio gave credit to the “committee of disability champions” who came together to build coalitions across the Phoenix landscape. Through contact with people in the community, such as athletes from adaptive sports teams, politicians, community members, and funding organizations, Pangrazio built the collaborative networks needed to put the project in motion. Crawford noted the need to engage others and to build coalitions with community partners. Her ability to advocate for what was needed was evidenced in a

presentation she made to a city council meeting related to the bond and in a meeting with potential donors, people in positions of power, such as the owner of a professional sports team. She said, “. . . [T]hese really high-profile people were just really down-to-earth, and they just really listened to what you had to say, they wanted to hear what your vision was because it impacted everybody in our state.”

LaZear, in referring to possible objectors to building the Ability360 Fitness Center, noted “. . . the importance that it was gonna have in the community, so if there was a person who was a naysayer, I think we’ve turned them around quite a bit.” He also spoke about the variety of people who were engaged throughout the process of committee work, saying, “I think what is cool is you had people from rehab facilities, you had Arizona Disabled Sports, you had end-use consumers that were leaders in the community, Paralympic athletes . . .” That directly related to the ability of those involved in the Ability360 project to build coalitions both within and outside of committee work to bring to life a fully accessible fitness facility.

Long and her marketing team brought inventive and innovative ways to market and engage stakeholders through social media posts, including interactive hard hat tours of the giant hole in the ground, of the elevator shaft, and driving a construction vehicle. She said, “That was very important. Obviously for safety and security and accessibility we couldn’t get them [members] on site, but we wanted them to see what was happening behind all these big fences.” Committing to that engagement helped build rapport with and excitement from others. She said, “. . . [F]rom our planning and programming phase, we were extremely engaging with all of our stakeholders. And then we wanted to maintain that even through our construction phase because we were still working to raise the last little bit of money.” Not

only did she engage the membership and potential funders, she took time to build coalitions with the construction crews through special events for them and by inviting them to the grand opening. “You want to keep them happy,” she said. Building that sense of pride in her community was part of what made the Tulsa project successful. Using innovative strategies helps not only to engage and build coalitions among stakeholders but helps to build excitement, ownership, and interest.

The importance of utilizing one’s power and connections to build coalitions between the organizations was discussed by Mishler with regard to Butzer’s integrating his positions as the hospital’s chief medical officer and as a YMCA of Greater Grand Rapids board member. She said he “really got the conversation going.” This encouraged her to then take the proposal to the board and membership of the Guild to discuss its potential financial contribution. Butzer, during his interview, said, “I thought, could we bring the two organizations together? . . . If the Guild became the lead donor, could we influence the Y to adopt a universal design concept, wheelchair sports, and adopt the philosophy of serving all?” He said his own credibility with both organizations helped facilitate that coalition.

Each of the sites I visited for this research had community partners who assisted with completing the project, through coalition building and development of relationships. As Meussner said, and many others also acknowledged in various ways, coalition building with interested people, donors, government officials, and others provides not only much needed support throughout the project but the power to accomplish great things.

Development of Community Partnerships and Relationships. Throughout the interviews, it was evident that these facilities were not conceived in a vacuum. Multiple entities came together to form community partnerships and to develop relationships related to

the goal of providing their communities with facilities to provide services for people who did not feel welcome elsewhere. In Grand Rapids, Mishler described the interactions with the Den Houter family to purchase a portion of the property that the YMCA ultimately bought. While it was difficult to convince the family to sell, Mishler thought that after seeing what the land could be used for and through conversations with other people, it began to make sense to the family to sell the property to the YMCA for this vision. In addition, the YMCA agreed to maintain possession of a building from the family farm on the property to show good faith in the partnership.

Besta pointed out that having an outpatient therapy clinic space at the MFBY allows those who are patients at the hospital to have a familiar place for a transition of therapy services upon discharge. The clinic also provides the hospital with exposure to members of the MFBY. In this instance, the medical model was being brought into the community-based setting—yet it was because of the established funding relationship of the two organizations. Additionally, the partnership with the hospital has allowed the MFBY to have state-of-the-art equipment on the fitness floor, such as the functional electrical stimulation (FES) bike, a specialized indoor cycle used for rehabilitation by people with spinal cord injuries, and the necessary staff education that goes along with it (see Figure 5). Chambers said the bike allows the members of the MFBY who have received training in its use to access the bike independently in the community setting rather than only at the hospital. This integration of specialized rehab-related equipment into the fitness facility could be seen as bringing the medical model to the fitness facility, I would argue, however, that having it in the fitness facility is more functional and empowers individuals who use it to do so in a community-

based setting. The YMCA staff also received training in the use of the FES bike, so staff can support the people who use it, aiding in their members' comfort at the facility.

The main partnership of the Guild, and in turn of the rehab hospital, with the YMCA also brought the greater Grand Rapids philanthropic community in as partners. Butzer said, "There was a fair amount of overlap with that [the donor names for each organization], but Grand Rapids is a fairly giving community and they particularly like a project where town organizations come together." Using the power of the partnership led to their ability to "show community collaboration and partnership for the good of the community," Butzer said. He also talked about the bridge program developed to provide patients being discharged from the rehab hospital with a two-month membership to the YMCA, again nurturing the partnership between the hospital and the fitness facility.

Figure 5

MFBY FES bike.



Through proactive communication with the neighboring community and by “sitting down with them from the beginning, explaining, here’s our goals, here’s our plans,” Long was able to engage, build relationships, and maintain open communication while preventing a challenge to the plans for a second story for the Hardesty Complex. As she said, “. . . just engaging and building those relationships” can help bring people around to see your need and vision. She also emphasized the need to maintain good relationships with not only the committee but with other professionals involved in building the facility. “You’ve got to work with these people for the next year to 18 months, and you’re seeing them weekly. . . . You’ve got to maintain good working relationships,” she said.

Community partnerships, not only in the design and building processes but also in fundraising, are topics Meussner spoke about. The Center has long-standing relationships with family foundations that encouraged her and Long to “dream big.” She knew there was a way to get this expansion accomplished in their community, and she helped The Center lay out a successful plan of approaching current community partners as well as other corporations and foundations, locally and nationally, to engage them from the beginning of the design phase.

Boulware said he provided Long and Meussner with basic drawings that they could then take to potential donors to show the vision of what the facility would be. In his words, ... [I]t just helps everybody. It helps us [architecture firm]. The more money they can raise, the more it helps us. And if there’s something we can do to help them raise that money, we’re all for it.” Meussner discussed how they approached people who helped build the new building for The Center in the early 2000s:

It’s something that people get excited about, and especially the ones that were here during the building of the original building . . . like bringing all your friends back to the party because this is when they’re going to get excited ‘cuz they’re going to see the growth, and everyone likes to get behind that kind of stuff.

LaZear spoke about the initial difficulties with getting the Ability360 facility fully utilized. He said collaborations with community partners, such as local rehabilitation hospitals and veteran’s programs, provided many with an introduction to the facility, and then some of those participants became members. There were also partnerships that provided funding for post-rehabilitation memberships, Crawford said, helping people establish a relationship with the fitness facility and then hopefully encouraging them to maintain their

membership on their own after their sponsorship by the hospital ended. LaZear cited the need to have value associated with membership sponsorships through partial payments from individuals rather than through just giving away free memberships as a way to turn those encounters into long-term memberships.

Pangrazio said that forging relationships with people such as the city manager, the mayor, and other influential people also assisted in building awareness in the community while also providing education about the need for the facility. He talked about initially purchasing the land and the partnership with the landowners as being factors that helped to seal the deal. “They thought it was a great idea. They liked the idea of this being developed into something like we were envisioning,” he said. Sometimes those relationships can make or break deals. In addition, he emphasized that to keep the building cost-effective and within budget, “. . . [T]hat relationship with the general contractor and the owner is really important to be the go-between between the architect and the owner.”

Networks of Interested Parties. Bringing together diverse customers, employees, suppliers, advocates, and community members to work with paid consultants and experts was a major component of the success in each of these cases. Each leadership team approached this collaboration with their own focus. In Tulsa, the project was led by Long and committed board members, and their focus was on community engagement throughout the design and programming phases. For the MFBY project in Grand Rapids, the leadership team consisted of established members of the YMCA board and the YMCA president. Pangrazio led the Ability360 project by what he called “throwing mud at the wall.” He involved community members, athletes, and hired consultants—people who expressed an interest in seeing such a project come to fruition.

Butzer recalled, “We had limited involvement of two or three people with disabilities early on. We started, got the framework of the case, of what we were presenting, and then went to focus groups to sort of sharpen it up.” Butzer and Perry said an advisory board to the construction committee consisted of representatives from the main stakeholder groups: Carol Van Andel Healthy Living Center, Mary Free Bed Hospital, the Guild, adaptive sports, and West Michigan Disability Advocates. “That was really the group of stakeholders that were clearly part of the decision-making team and the steering team,” Perry said. Butzer and a research assistant held informal focus group meetings with stakeholders to gain a better understanding of their desires and needs for the facility, recalling:

The rugby people, I remember their whole thing was storage. They want their rugby chairs to be stored on site. . . . If there’s one thing they wanted is to not to have to schlep their rugby chairs around all the time through the snow and transport them, and they wanted storage. The basketball people were more focused on the locker rooms and changing rooms, parking, and court accessibility.

Perry added later in our discussion, “The global universal design commission [GUDC]. They were a stakeholder at the table too.” Perry was committed early in the process of design and programming to hearing from the diversity of groups that would be using the facility and said, “. . . [T]he stakeholders, since they were part of coming up with the vision, there were no barriers to what this design was going to be” and, once a general design was created, the architects involved stakeholders in design sessions that Perry referred to as a charette process. He explained charette is a term used in architecture for bringing stakeholders together to plan a project. He said:

The design process really helped because we didn't talk to the stakeholders, go off and design in a vacuum, and then come back and show them. We had a series of workshops where those stakeholders were at the table when the design was occurring, and then over a three-day period, they could come in any time and see how we were doing. We had them in at 8 in the morning; we kicked it off, and then they would go away and come back at noon, and we show three concepts and say, this is what we heard in the morning. And then they go and 5 o'clock, they'd come back. And so, it was a very, very open charette-type workshop.

Collaboration was key throughout the design and building process, Perry said. He talked about meeting with contractors to explain certain aspects of the design and how they related to removal of barriers, an exercise important in the overall scheme of universal design. He said, "If we wouldn't have done that, we would've been grinding concrete, would have had change orders, which would have been more costly."

The importance of having personal experience related to accessibility when conceptualizing an adaptive sport and recreation facility was expressed by Besta when she said, "All those elements you'll see are things that we came up with just by being around it and by asking people who would use the facility, what would they want." She noted the importance of people with disabilities being involved in steering the decisions, saying, "I think you should have somebody on the committee who's in a chair or who has a disability. Because we didn't bring them on until later and they always wanted the input from someone's disability." Having all stakeholders' voices heard helps with the process of design but also can introduce a challenge. Besta said, "I'm sure it was challenging for them to incorporate all these things that we said we had to have and putting that into the design."

Boulware was involved in meetings with the board and other stakeholders to walk them through the design process and educate them on the construction process, timelines, communication, and the overall journey of building the facility. At the same time, he took their feedback and input, such as the staff request for an additional shower in the bathroom, after the construction documents were already out for bid, and worked it into the plan and the backup plan. Through his flexibility and ability to make these adjustments, he showed his desire to design a facility that would meet the needs of The Center's members and staff.

Long used community engagement as a way to market and engage the stakeholders in Tulsa through interactive tours and social media posts, as noted previously. Committing to that engagement helped to build collaboration and excitement from others. She showed a commitment to stakeholders as a part of the process and to engagement throughout the process. One of the main funders of the expansion asked Long to start the design phase with focus group meetings and offered to hire a consultant to conduct them. "And so we did that. We had focus groups with board, staff members, families, volunteers, donors. I mean, we just were really inclusive," Long said. "And the great thing with our focus groups is they weren't by category." From the focus groups, two themes emerged: adaptive sports growth in the region and offering youth services and programs. She also took time to build coalitions with the construction crews, an innovative stance to try to ensure that the crews would feel a sense of ownership in the project. The make-up of their construction committee included professionals; board members; and stakeholders, including members and staff, in order to provide them with opportunities to have their voices heard throughout the process. Long said, "Everybody had a little bit of different expertise they brought to the table, especially from the

board and committee perspective.” Because she did not have experience with construction, she was advised to hire an owner’s representative, stating:

The owner’s representative works on behalf of the owner, and so he worked for The Center. We contracted with them directly, and they serve as the liaison with all of the other parties. So, they talk the construction lingo, they explain it to me in my language and to our board. If there’s issues, they handle the mediation, the negotiation, et cetera. It is an added extra expense, but at least for us it was very, very well worth it because I didn’t have the construction knowledge or background and we didn’t have anybody on our board that had construction knowledge or background. So, it was extremely worth it.

Meussner talked about the importance of the owner’s representative to their project, saying, “He kind of managed the details for us since we didn’t necessarily know all the moving parts of the construction side of things or architect, construction.” She also said:

He was there when all the documents were finalized, every step of the way. . . . They’re on your tab to have your best interest and be part of your staff but know what the details are. And that was a key asset because we could easily have gone out to bid for architects and reached out to some of the other architects we know that nonprofits in town use. But we needed something more than just an office complex that a nonprofit’s using. We knew we needed an adaptive sports complex, people that really would know how to make a facility to what we want.

Long realized that another consultant was needed to provide a more customized aquatic environment. “Initially, we were going to buy a prefabbed pool from SwimEx,” she said. “But they just didn’t really meet our needs and what we were looking for. So, we custom-

designed our pool.” A pool consultant firm was hired to design all of the logistics for exactly what they wanted in that environment.

Thomas, the project manager, took part in many of the committee meetings related to construction of the facility. “I was involved early on because I’m a member of the infrastructure committee,” she said. “I wasn’t directly involved until my company was awarded to be the construction manager. So, before the project was bid, then that’s when I stepped in.” She was a key person for the construction project because she was a backer of The Center and had first-hand knowledge of the organization’s mission and operations. She still volunteers there and remains involved with the infrastructure committee.

Meussner, another key participant, has been involved with The Center since her father was a board member after first moving to Tulsa from Michigan. She was on the executive board at the time the expansion project was being considered. To involve as many interested parties as possible, she said, “We brought in members, donors, past board members—even some that have fallen away—community people that just could give input. And from that kind of narrowed in what the vision of it was.” She also said, of the importance to have membership represented, “We have a couple members who overlap on the board too, so they kind of serve in both areas.”

Pangrazio built collaborative networks with people in the community, with the rugby team, politicians, community members, and funding organizations, all of whom were needed to put the project in motion. He said those relationships were built “during the ’90s, just the local guys that I hung out with playing wheelchair sports, and I knew . . . the wheelchair basketball guy and coach.” He said:

We brought as many people in that had an interest in it to serve on the committee, to talk about what would make this facility great and what would make it accessible for everybody and with people of all types of disabilities. So, I think that was the most important thing, putting that committee together because they all brought a different perspective to it and different expertise to it.

He did much of the groundwork of hiring consultants and professionals himself, saying:

I went out and I found enough contacts with different people. I had a real estate broker that I was working with initially. . . . There was an attorney that I got connected to who ultimately was the one who led us to this building. A general contractor came in and gave me advice. I, when we started interviewing, I went out and interviewed all the general contractors. We ended up having them come in and give us proposals. We had a consultant that did a feasibility study for us, on fundraising, so there was a lot of balls flying around. I brought in five architectural companies that gave presentations to me and the board as well as the general contractors.

He worked with the committees and with the various professionals involved to keep the construction within budget. He said architects are good at designing expensive buildings and that general contractors are good at keeping the building functional and cost-effective through the process of value engineering.

LaZear explained the importance of diversity within the committee and how that helps to look at all of the components from multiple viewpoints and provide important guidance to the process of programming and planning the facility. One set of stakeholders that he said was more difficult to convince of the importance of the sports and fitness facility

were the employees and consumers of Ability360's independent living services. He said, "We're not a core service of a center for independent living. So, to go spend a bunch of money outside of that core service was really hard for a couple of people to understand. . . ." He said that led to some frustration on the part of those involved, primarily on that side of the organization.

Crawford said she was allowed to be a part of the planning through her job and was encouraged by her boss to attend meetings during work hours because the hospital administration saw the importance of the facility to the community at large and specifically to their patients. "I also worked for a facility that was happy that we were a part of it," she said. Her bosses wanted to know about the plans and wanted to know how they could be supportive throughout the process. Crawford said there were some frustrations in the process of designing the facility and getting decisions made, primarily because of the organizational structure. "Because with an organization like that you don't just put it together. It's always got to get board approval for everything. Oh my god, I think that thing would have been built years ago if not for that," she said.

Though each case went about involving stakeholders slightly differently, in part due to their differing organizational structures, each made a commitment to involve a variety of backers throughout each phase of design and construction. The involvement of members, people with disabilities, athletes, and other community members strengthened the organizations' ability to meet their goal to provide facilities that met the accessibility needs of their constituents and staff.

Developing Capacity and Empowerment. Building a facility that focuses on accessibility, universal design, and is welcoming to people of different abilities is more than

just providing a building and equipment. It involves a focus on and involvement of the person who will be utilizing the facility, as well. In Grand Rapids, Butzer and Perry described the focus groups that were held to collect input from the community about what was needed in a facility such as this. Butzer described the desire to involve as many different voices as possible, from the community of athletes in the adaptive sports programs, about the need for storage; for dedicated court time for practices; and for accessibility in all aspects of the facility, including the locker rooms, changing rooms, and parking. The involvement of stakeholders throughout the design process helped to meet their needs. In addition, taking the time to look beyond the letter of the ADA by using universal design principles allowed for more functional ease of use of the entire facility for people with and without disabilities throughout their lifespans. By reaching out to those in the community, including people who have disabilities who are athletes and who are not, each facility helped people develop their capacity to advocate for themselves and others.

Adapted sports programs help those involved to develop their own capacity, empowering participants to live a fuller life, to experience things they might have thought were no longer accessible to them after being injured. As Besta said, “Wheelchair and adaptive sports is a support group in itself. It’s a natural support group, and it’s better than going to any meeting . . . and talking because you’re going with these athletes. We mentor the new athletes.” She went on to talk about how sports participation provides young people with mentors and examples of how to live an active life. “The softball field. That was huge. Because we were practicing in a parking lot. . . . Now that it’s an official field . . . you feel a little bit more prideful, makes you feel more invested,” she said. That pride led to empowerment of the athletes because the field receives many compliments from tournament

participants there and this is their field, not just an empty parking on which a makeshift diamond was created.

Figure 6

Aerial view of the MFBY outdoor fields plan. In the foreground is the planned hard-surface softball field.



Note: Adapted, with permission, from *Progressive AE Portfolio Mary Free Bed YMCA*, by Progressive AE, 2021, <https://www.progressiveae.com/portfolio/mary-free-bed-ymca/>.

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Capacity is also developed in an environment in which people can navigate independently, where they do not need to ask for help. Addressing that concept, Perry said, “To me, that was a really big outcome of this project. It builds their self-esteem, makes them feel like everybody else.” He told a story of a woman who needed to walk slowly on the track because she wore a head brace and used a walker after having been in a car crash. He said she told him that she was initially embarrassed and felt out of place, but then she

developed relationships with other members and they started helping each other. Perry said she was “being knit back into society” through acceptance and availability of a facility she could easily access.

Long talked about the need to educate the members, the board, and funders of the Hardesty Complex about building capacity in their membership by empowering them to branch out if their needs were not being met. She talked about the climbing wall being a beginning for some who then would go to other places to seek bigger challenges. Knowing they have a safe and comfortable place to return to is important when people look elsewhere for challenges, and to that end Long said, “. . . [A] lot of my board just wants them to stay here forever. And I’m like, well, no we don’t. We want them to fly, to grow and be comfortable out in the community.” She also said, in reference to the variety of programming offered at the Hardesty Complex, “. . . [W]e just want to make sure that we honor people of all abilities.” She said she wanted members to have access not only to competitive sports and recreation activities but to arts, cooking, yoga, and social activities so they have choices. The commitment to being a community-based program with sport-specific possibilities is a reasonable way to grow membership while ensuring that a facility is sustainable.

Involvement of the People: Planning for an Accessible Future

The intentions of the people involved in these cases, through voluntary service, professional affiliation, or personal connection with the organization and its programs, were what brought the plans into motion. There are many considerations when bringing together people of different backgrounds and how they relate to the processes of doing the work and crafting a cohesive plan. I explore some of those components in the following sections on committee work, planning, and making decisions—communication, challenge, compromise.

Committee Work. The committees in each of these cases differed in who led the process, how it was conceived, and who was involved. At Ability360, the process was led by Pangrazio, as the CEO of the organization and the visionary for the project. His past involvement as a competitive athlete and a person who has a disability also played a role in who he recruited to the advisory committee. There was a strong presence of people with disabilities and people involved in adaptive sports from a professional level, such as recreation therapists. LaZear said, “I would say it was easily half and half, if not more people with disabilities from what I remember.” Pangrazio, in referring to the makeup of the committee, said, “I think the most important thing is putting together a really strong committee of knowledgeable people and just let them work with the architect.” He said members of the committee had an interest in serving and knowledge of “what would make the facility great and what would make it accessible for everybody and with people of all types of disabilities.” He saw his role as guiding that process to assist in making decisions and to keep the process moving. One of the things that really stood out to Crawford and her involvement in those committee meetings and processes was “. . . the board room at Ability360. . . . Just the room itself made for success because it allowed everybody equal positioning [at a long, oval table] versus sitting at a table like this [rectangular table where our interview was conducted].” Her point was that there is not a specific head of the table with an oval table—there are no corners to block off participation, allowing each person to have an equal position during meetings.

In Grand Rapids, Butzer said, “. . . [T]he whole Y board is basically a community, and our Y board was particularly well represented in the community.” He said the majority of

those on the board for the Y project were people with a variety of experience in construction and that that helped to ensure that the plan was not only feasible but affordable. He said:

The Y board people were involved, then we had focus groups among the wheelchair athletes as well to become involved. . . We got the framework of the case of what we were presenting and then went to focus groups to sort of sharpen it up.

He also said, “We had limited involvement, two or three people with disabilities, early on.” And the athletes in the wheelchair sports programs were called in on an “ad hoc basis,” he said. In personal, electronic mail correspondence after submitting the summary of our interview to him for member checking, he clarified the differences in committees and advisory groups:

The building committee managing the day-to-day did not include a person with a disability. It consisted of the architect (an expert in universal design), the construction manager (hired by the Y), and the construction company site leader. They met daily. An advisory group to this committee did include myself, a person with a disability, and a [recreation] therapist, also knowledgeable in universal design. Wheelchair sport participants also were on the advisory group.

As for the makeup of the committees for the Y project, Perry said, “We had the architect there, and we had the Y there. . . . We had somebody from adaptive sports, Maria Besta. So that was really the group of stakeholders; they were clearly part of the decision-making team and the steering team.” Butzer and Perry said that throughout the building process, knowledgeable and experienced people would walk through to ensure the way the facility was being built met the expectations not only of the building committee and architect but of the stakeholders who would be members using the facility. Besta said there was a place for

her voice, as a representative of the adaptive sports programs, within the committee work during discussions of specific components of the facility and especially in relation to the needs of the program. She said, “I felt I could be heard.” The Mary Free Bed Hospital Guild also worked closely with the architect and building committee to advocate for consideration of the inclusion of the adaptive sports programs through its Deed of Gift. Mishler said, “The whole Y staff was really easy to work with. Even our marketing teams had to collaborate a lot, and I know that was never an issue.” This showed the intent of the project leadership to ensure the facility was not only accessible but functional.

In Tulsa, Long described the many stakeholder groups represented on the building committee and board of directors. Meussner said two members of The Center were on the board of directors. While the investigation into the feasibility of the expansion started with Long and a few board members, it extended to the full board. She originally asked for volunteers to serve on the building committee. “And then if we didn’t have volunteers in certain capacities, we went and specifically asked someone to serve,” she said. This allowed the organization to have expertise in areas such as fundraising, furnishings, financing, staffing, and other specialty areas to advise the building committee, Long said. “So on our committee, we had the professional representation from the owner’s rep, the construction and the architect. But I bet our committee was 10 people,” she said.

Boulware described his openness to surveying The Center’s community for input about design features and in working with The Center and its representatives as a key component to ensure the facility met their needs and was as accessible as possible. He communicated the vision and plan to the committee and other professionals working on the project, in addition to giving Long and the board drawings and renderings to assist them with

fundraising. He said, “We had a couple presentations for the board and typically . . . because boards are so big, it’s hard to get that many people to agree on a building.” In addition to describing meetings with the board of directors, Boulware said:

In programming [an architectural phase of determining the wish list of the organization], we meet with the steering committee and basically just kind of have some brainstorming sessions. Basically, we just try to get it, what do you guys want? What’s your vision? How can we pull your vision out of you?

Having representation of the membership throughout the process is important in maintaining the focus on who and why the facility is expanding and is operating. In all of the cases, the committee was more than just a group of well-meaning people providing a venue for people with disabilities. It was a collaboration with people with disabilities to advocate for what is needed and wanted. A “committee of disability champions” is how Pangrazio characterized the people who were involved in these processes. Those are the people who bring with them their passions and knowledge to remove barriers to provide opportunities for others.

Planning. As noted earlier, each team in each of the three cities collected information from multiple sources and from people with an interest to inform their facility plans. During the planning phases, meetings were held to work out details and to guide the architects in what was needed to meet the expectations and visions of the interested parties. It was important to the leaders of the projects to develop a better understanding of what they were planning by looking at facilities that were already providing these services in an accessible venue.

Each of the organizations realized the importance of sending representatives to visit similar facilities to investigate best practices and to assist with the vision of their own

projects. At the time that Pangrazio was thinking about building Ability360, the only similar existing facility was Lakeshore in Birmingham, Alabama. He and the architect, who had already been hired to design their center, traveled to Birmingham to investigate the needed components and the operations of that facility. While Ability360 was being built, an opportunity arose for committee members to visit the University of Arizona's newly remodeled accessible student fitness facility. The purpose of the visit was to develop a list of equipment that might be purchased for their new facility, Crawford said.

For both the MFBY and Hardesty Complex facilities, representatives visited the Ability360 facility and Lakeshore with similar intentions. Butzer indicated:

We visited two facilities. Got a lot of ideas from 360 about design and how universal design would work and some of the things that we've done. Then we went to Alabama, as well, to Lakeshore and talked to Jim Rimmer and the people down there and got a lot of good ideas from them as well.

In addition, representatives from Grand Rapids visited the Goodwill Fitness Facility at The Rogers A. Severson Fitness and Technology Center in Santa Ana, California. As a result of these visits, Mishler said, ". . . [W]e came back with real hands-on, viable ideas about what we need to do or what this would take." The site visits assisted the organization and committees in gaining valuable knowledge of design components, staffing, equipment, and programming of the facilities.

While some of the plans for the Hardesty Complex came together in a relative brief timeframe, Boulware said, "You've got to have some flexibility in the schedule. . . . The board has to be patient, and we have to be patient and Lori [Long, the executive director] had to be patient and, you know, everybody just wants to go, go, go." Meussner said the initial

conversations about the expansion began in about 2011 between her and Long. Boulware said his firm was involved for a total of about five years, from conceptualization in 2014 to opening in 2019. He also said the five-year timeline “was slower than anybody wanted it to be.” One of the biggest delays in the process prior to breaking ground was during the year or so the architects worked with the city on the plan for the utility easements for the enclosed corridor. Boulware talked about the questionnaire his office made for the Hardesty Complex project in the early stages of programming. “. . . [W]e just basically spelled out every space,” he said. Using the questionnaire helped him focus the stakeholders and the building committee on what was needed and wanted. When he described the program, he pointed to a list he shared with me and said, “So all of the red stuff was things that came about through these meetings with the steering committee where they said it’d be nice to have a yoga classroom with some storage . . . things they were wishing for. . . .” Long talked at length about the stages of planning for the facility, the years prior to beginning the capital campaign, and all of the changes that occurred during planning meetings. As for the pool design, she said, “We could’ve done a full-blown aquatic center, but there really wasn’t that need for that. Based on my staff’s input, what we really needed was something very small and functional for a max of eight to 10 people.” So instead of designing the facility to include a full-sized pool, they opted for a smaller one in which personal or private training could occur comfortably.

Pangrazio said the timeline from initiation of the bond proposal to completion of Ability360 was six years, 2005-2011. “During the summer of 2005 was when all of the proposals were being reviewed by citizen committees at the City of Phoenix . . . so it was probably May of 2005 when we were writing the proposal, we were drafting our

presentation,” he said. The building process for the fitness center proceeded quickly once the bond funding was released in 2010. However, during the previous five years, the committee worked on the design plans, and the initial preparations of the site had begun because the first phase of the campus development, the Disability Empowerment Center and the parking garage, was completed in 2008.

The MFBY project began in 2012, according to the timeframe reported by Mishler. “September of 2012 was that first Guild meeting when we said, OK, what do you think?” she said. The groundbreaking was in 2014. In the two prior years, the location changed, and the committees worked on the planning stages, including meeting with community members and other interested individuals to advise the programming and design. Perry said it was a challenge to hire the needed professional contractors because the contracting industry in the region was very busy at the time the YMCA was trying to launch construction. The facility opened to members in December 2015 although the pools, basketball courts, and group fitness studios were not complete. The facility was fully functional in March 2016, Perry said. As for the delayed full functioning of the facility, he said, “. . . [I]t’s unfortunate because we had a site meeting in August 2015, and there’s the construction schedule and we said, are you sure you’re going to make this? And he said, ‘yes.’ So we said, OK.” He lamented that the difficulty in getting trade contractors with labor available at that time could have delayed the project even longer if the construction committee had not devised a different negotiating strategy. Those negotiations will be explained later in this paper.

Making Decisions—Communication, Challenge, Compromise. As discussed, in all three projects described in this study, the construction committee and representatives from the organization as well as the professional consultants came together to plan the facility and

the needed components. In each community, the makeup of the committees and the leadership of the projects varied. However, just like any process that involves multiple people with different perspectives, the collaboration between stakeholders had to address difficult questions and varying possibilities and had the potential to be controversial, even though all of the people involved shared a purpose.

Crawford talked about the need to compromise and to discuss and not ignore difficult matters related to membership, programming, facility utilization, and features of the facility. While those conversations were hard, she said, “. . . [I]t needed to happen. And . . . you did not need ‘yes’ people. You don’t need a bunch of yes people or people that can’t handle heated conversations.” She recalled a difficult conversation during a committee meeting about the plans for programming and space utilization by people with intellectual and developmental disabilities (IDD). She portrayed this as a “hot topic” in part because the focus of building Ability360 was to provide people with physical disabilities a fully accessible fitness center that offered specialized equipment to meet their needs. Concerns were expressed by committee members that the size of the Special Olympics organization had the potential to push out other members. She said:

I don’t know that is necessarily true. I think that it was, is, in some cases, it can be true. Now you’ve spent all this money, made everything this way, do you [people with IDD] really need to come here? No. You don’t need this adaptive piece of equipment. Can you come here? Yes, you can. Do, if you want to come; the door is open. But it did make for really interesting conversation. . . . So that would have to be the one and that’s a delicate conversation.

Crawford also talked about conversations about topics such as the pool and the climbing wall. “Very heated discussions on the pool. With or without heat? So those were the heated discussions when it was a little bit different than your basic gym model,” she said. Heated discussions also occurred over allowing therapy at the facility. The therapy pool was a hot topic, she said:

So, there was that piece and then the argument about the pool. Oh, my gosh, I mean it got so loud in there that day, wow, but it needed to happen. If they should have a therapeutic pool. Because if you have a therapeutic pool, that meant you were doing therapy, and this was not gonna be a therapy-based program.

“So, it was kinda a meet in the middle, and they had good points,” she said. “That’s the thing is, nobody had a bad point!” There were advocates on the committee who also wanted more gym court space and less or no pool space, LaZear said. Those advocating for more gym space tended to be wheelchair basketball or rugby athletes. LaZear recalled the argument became about hosting tournaments—three courts allow for more teams to be involved—and the outdoor pool would not be able to be used year-round where the courts would be. As for those kinds of discussions and the decisions that came from them, Crawford said, “You had to say why you believed what you believed, and you had to bring the backup to it.” LaZear had a different take on some of the discussions in the committee meetings, saying, “Sometimes during the meetings, the decisions were already made . . . so I think sometimes when you’re on a board when the decision has already been made, it’s like, what are you really doing there?”

Pangrazio, as the CEO and leader of the Ability360 project, said the process involved planning, engagement, intent, communication, and leadership. While he was not the only

person making decisions, he certainly showed the ability to make a final decision. As for including a climbing wall in the final plans, Crawford expressed concerns about the utilization of climbing walls in other facilities even though she was a strong advocate for the feature. Crawford said that Pangrazio told her, “We’re getting the rock-climbing wall, Jo!” She told me she interpreted his insistence as shutting off any discussion or thoughts of changing plans once again. “And I have to tell you, I’m really glad we have it. It’s one of the best assets they have,” she said.

Butzer discussed the decision making that goes into planning the steps of construction, including the importance of a building committee made up of people with a variety of experience in construction and other areas to ensure that the plan is not only feasible but affordable. Related to the designs of the building committee, he said, “You probably don’t care whether it’s a 30- or 40-year asphalt or a different shingle, but somebody does. You’re going to be more concerned about the bathrooms and toilet heights and the showers and how many gyms you have.” He talked about policy writing and organizational structure, and while the building committee had some input into this, one of the decisions to partner with the YMCA was that its existing organizational structure lent itself to success because the Y already knew how to run a fitness facility. He said that throughout the building process, knowledgeable and experienced people would walk through to ensure that the way the facility was being built met the expectations not only of the building committee and architect but of the those who would be using the facility. Another benefit of having a wide range of knowledgeable people on the advisory committee, Butzer said, was that “you don’t want to leave it [decisions] to just the architect, and the architect doesn’t necessarily want to own that decision themselves because they don’t understand the clinical priorities involved.”

Perry demonstrated his commitment to involving the community of potential members by holding concept meetings with stakeholders. He explained the need for such meetings:

The goal was to gain consensus and to hear other's opinions. I mean, you may have said, 'I don't think this is a good idea' and we'll say, 'Why?' And then after you explain it, we might say, 'You're right. That's not a good idea.' . . . So those decisions were really made as a group around consensus building.

He said the interaction of the stakeholder groups, including the Carol Van Andel Healthy Living Center, Mary Free Bed Rehabilitation Hospital, the Guild, the adaptive sports programs, and the YMCA membership, presented challenges because of the diversity of expressed needs and trying to fit all of those components in the available square footage while maintaining a reasonable budget. As for meeting all of the needs of constituents, Besta recalled difficult discussions about inclusion of the climbing wall. She said, "...[T]hey really fought us on the climbing wall because they said it wasn't successful at other Y's. But we really wanted it because we had a very popular climbing wall program. And they do use the wall." Mishler echoed this, saying, "The Guild had to be pretty strong. We had to say this is what we need. It was really the Y and the Guild worked together." Unfortunately, as discussed later, Besta said the wall did not meet the expectations of the adaptive sports program due to budget constraints, and the sports program continues to use other facilities for their climbing program. There were other components that Besta remembers having to push back on and they utilized the power the Guild funding as a way to ensure features such as the tennis courts and dedicated storage spaces were provided. Even with the challenges presented

by working with so many constituents, Perry said it was “one of the most enjoyable projects I’ve probably led.”

Familiarity with the individuals involved in the process was something Thomas saw as both a positive and a negative in her role as project manager. “They were already comfortable with me, and I had that relationship with Lori where I could just ask the question or I could just pick up the phone.” This relationship also led to people being comfortable asking Thomas questions outside of committee meetings or “as soon as I walked through the door.” She viewed this as a way to have open lines of communication because she was familiar to those in the organization. She also talked about her “role as the project manager is to have open communication with my architect and then with Lori. We spoke probably daily.” She wanted to be sure The Center was getting what its advocates wanted and needed throughout the process of constructing the building, and she saw those daily conversations supporting that goal. She was not only comfortable managing the day-to-day decisions about budget items and cost control but also suggesting changes to the original designs based on her experiences building medical facilities.

One of the many ways that Meussner influenced decision making during the committee processes was to advocate for specific facility components, including the climbing wall, adaptive yoga wall, and pool. Through her ability to work out the logistics related to funding these features, her creativity in finding potential donors with specific ties to those requests and educating other members of the committee about their importance, the budget was expanded to accommodate additions to the plan. She also credited Long for her leadership throughout the planning process, saying, “Lori would put things together, and then we would talk about things in exec, but it wasn’t like multiple decisions. It was laid out in

one game plan, let's all review it." This allowed the executive board to understand Long's vision and, as Meussner said, "We rubber-stamped it from our executive board."

The relationships and coalitions built in the process made communication about potential changes and interruptions easier, as well, Long said. She described an issue that arose with the designer's original color palette, which consisted of a "paint scheme that was geometric shapes and it kinda rubbed me the wrong way at first." Long took the design to staff and members prior to making a final decision, saying, "Sometimes our contractors would get a little frustrated cause that would bog down the process a little. I wasn't just answering immediately. I wanted to get input on different things." She reasoned that this was her way of engaging others and not making unilateral decisions, allowing her to go back to the designers with suggestions from a variety of viewpoints for what might work better. "Open communication was absolutely key through all of it," she said.

Some of the challenges Boulware talked about included the climbing wall, the pool design and fabrication, and the last-minute addition of the adaptive yoga wall. Those components challenged the design as well as the budget because each was unique to this facility and how it would come together. But, as previously discussed, he helped the committee initially develop its wish list and what would be needed to make the facility function according to the vision and, in the end, he said, "Eventually, all of that made it into the project and then some." The uniqueness of the project presented its own challenges, as Boulware said, "This one's a really different animal because there aren't a lot of them. . . . So we were kind of making this up as we went along just because there wasn't anything else." In addition to providing an enclosed corridor for safe mobility of members from one building to another, he faced issues related to the placement of the facility on the site, the utility

easements, and identifying a contractor to build the pool to the specifications. He talked about the importance of communication about the process, contingency plans, and presenting alternatives to the plan:

We kind of talk them through the process and make them feel comfortable with it and understand really what's driving decisions and how long things take. . . . There's usually some kind of red tape that bogs them down somewhere along the line, and the last thing you want is the client and board just getting frustrated. So, if we communicate that to them, that this is not a race to the finish line, it's really kind of enjoy the journey because if there's anything we can do to make it fun and enjoyable, we tried to do that just because we don't want them getting frustrated halfway through. We're always talking about options because there's never one right thing.

As indicated, the elements of communication and compromise aided in decision making when challenges presented themselves in the process of putting together these types of projects. Heated conversations become part of the landscape of committee work, and the importance of backing up one's opinion with sound reasoning, as Crawford alluded to, helped to educate others and showed the thought behind the passion.

Putting It All Together: Logistics, Utilization, and Operations

"More than just automatic doors and better bathrooms and better parking places."

— John Butzer

Building a fitness facility that incorporates the whole person throughout the design and construction phases, with thought for support of people throughout their lifespans and for access by individuals' differing abilities, demonstrates a different level of innovation from building an office complex, as was alluded to by Boulware. Many details must be addressed

throughout the design, programming, and building phases for such a facility. What follows is a discussion of these considerations for the budget and funding, the specific design features, reasons for building, development of the site, and finding the right location.

Innovation. In the three projects I studied, there was an air of astonishment in their accomplishments, whether it was related to the construction of the building itself, finding solutions to complex issues, or raising the funds to pay for the projects. And participants in each project expressed their sentiments in different ways.

When talking about acquiring the bond that provided some of the financing for Ability360, Pangrazio said, “What we pulled off was astounding in many ways. It’s still sort of like unbelievable.” He credited the relationships he and others within his organization built with city council members and the mayor for the success they had with their proposal being funded by the city. Regarding the Hardesty Complex, Boulware said, “So, basically everything on this project is something that hasn’t ever been done before, as far as I know.” As an architect in a large firm in Tulsa that builds numerous facilities each year, he had a keen eye for what was being built in that region. He gave credit to the administration of The Center and its ability to fundraise beyond what was expected to provide a facility that exceeded initial expectations. Meussner echoed that sentiment, saying, “We always say we’re literally one-of-a-kind. Like, well, there’s nothing else.” The pride she exhibited when talking about the project and her enthusiasm for the mission of the organization were evidence of her willingness to work hard to provide this innovation in her community.

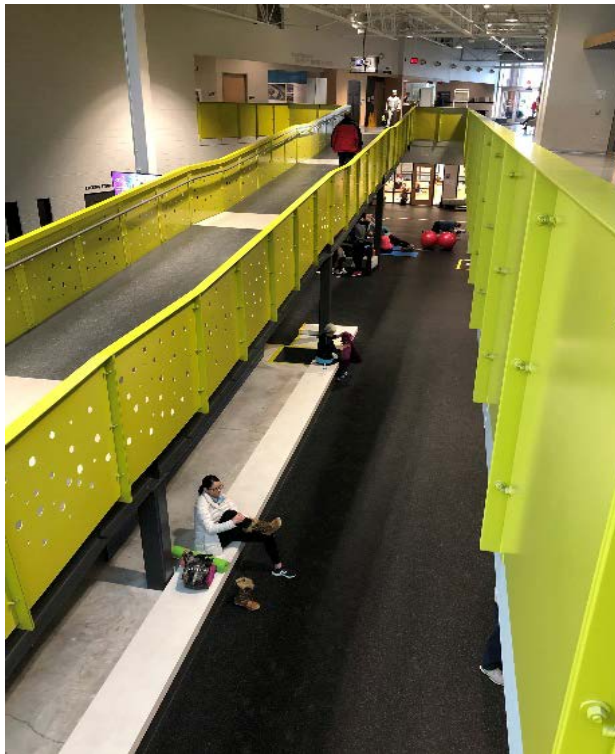
Innovations often come with their share of skeptics. When talking about the proposed use of universal design strategies for the new MFBY facility, Butzer said:

Mike Perry, he gave credibility that you could do universal design, and nobody had ever heard of universal design basically, and so could it be practical? And I think Mike was particularly helpful in, in describing what universal design meant, what changes could be made in a traditional Y to make it, you know, to accommodate the most people.

Perry found ways to educate and provide concrete information about why the project would be successful given a different set of design fundamentals, and that focus helped to propel the MFBY into uncharted territory within the YMCA community.

Figure 7

Ramp at Mary Free Bed YMCA, Grand Rapids, Michigan. Looking toward the front entrance from the observation deck.



Boulware echoed the sentiments about the use of universal design strategies, saying, “ADA is really kind of the bare minimum that you can get for permit. We knew that that wasn’t enough. A lot of things we relied on staff, just because they have intimate knowledge of what really makes sense.” Surveying staff and considering their concerns and needs when designing the Hardesty Complex facility were an important part of the process for Boulware. He said the staff said that many facets of the ADA were not especially important to them, but functionality was. As for the final outcome of the facility, he said, “So yeah, we met ADA, we exceeded that. And there were several things that the staff just asked for, and we said, yeah, we got to make that happen.” Long echoed this commitment to universal design and function, saying, “Everything we’ve done is above the minimum requirements or exceeds the minimum requirements set forth by ADA in this facility and the new facility.”

Putting together a design and thinking about the possibilities for the community was exciting, LaZear said. “[I]t was all about, I think probably what the barriers were, what our passions were. . . . And because there was really, you know, we looked at Lakeshore a lot for some structure, but it was such an open canvas,” LaZear said. Aside from finances and lot size, barriers were not considered in building the fitness facility, Pangrazio said.

Long said the goals and vision of the expansion were related primarily to development of more adaptive sports programs, saying “[I]t’s that social atmosphere and belonging that grows and really matters to people. And so that’s really exciting to see that community being built and continue to build within our membership, whether they’re an athlete or not.” She also recognized their placement in their region and the unique opportunity they had to provide programming for adaptive sports, saying, “We are definitely the only organization offering adaptive sports in northeastern Oklahoma, northwestern

Arkansas, southeastern Kansas, and southwestern Missouri. So, we have a unique placement in a four-state quadrant now.” She wanted to find ways to bring sports competition to Tulsa rather than always traveling to competitions, as a way to “really allow ourselves to be known as more of a hub and a place for people to come to.”

When thinking about the innovation of the MFBY facility, Besta said the family orientation of YMCAs and the fact that having this facility, with its universal design elements, also provided equity for parents with a disability to interact with their children more easily, a point of view that was evidenced by her personal experiences. She cited the example of the splash pad area where parents who use wheelchairs can be with their small children, interacting alongside parents who walk because it has a zero-entry threshold. Location, innovative design, and funding were characteristics discussed by participants in each project in this study as important steps that bring the vision of an adaptive sports facility to reality.

Location. Finding an appropriate location to build a facility requires careful thought about numerous factors. As Pangrazio said, it was not about only finding the most affordable property or a location most central to the area. There were many other considerations, and for him those considerations included the safety of patrons and access to public transportation and ride services. Crawford said, “I loved where he picked it. Because it does have hotels, and you’re right next to the airport so you can host all the games.” It was a bonus that the property was near the airport, allowing easy access to hotels and restaurants for tournaments with out-of-state teams.

Butzer described their site visit to Ability360, saying, “They had bus service, but it was kind of down the block. And one of the things that I took away from that is I wanted the

bus stop right next to our facility.” Another reason the bus stop was necessary, he said, was that “in order to get the para-transit, what we call the Go-Bus in Grand Rapids, you have to have service from the regular bus line or you can’t get the para-transit.” Perry also recognized the importance of access to public transportation, saying, “We got a bus stop here, which is really important. That was a key universal design strategy.” He also said, “The importance of having a transit stop here is . . . because we get people from downtown to be able to come to work, come to volunteer, come to work out.” That involved community input and public interaction. Besta recalled attending a town zoning meeting in which she spoke about the importance of having the public transportation access to the facility along with representatives from businesses in the area where the MFBY was being built. Of that experience, she said, “It felt right to go there. They were welcoming.”

Figure 8

Bus stop next to Mary Free Bed YMCA, Grand Rapids, Michigan.



Besta also said that athletes who can transport themselves need a facility at a convenient location, not only for public transportation:

With adaptive sports, people have to travel to get to anywhere a lot of times. You're not going to have all your athletes right in downtown. So, if you could figure out a location that you think would at least be on a bus line, be somewhere that's easy off the highway or you know, easy to get to, not off the beaten path.

This was cited as a consideration by Pangrazio, when he said, "It's about as central as you can find to the north, south, east, west. You know, it's on, you've got good freeway access." When discussing the planning stages and identification of possible properties to purchase on which to build, Perry said, "I have to say this site is I think better located and easier to get to." He noted two issues that arose with the first location they identified to purchase. First, the residents in the area spoke out against it, and second, the landowner wanted to keep the property for their purposes. "But in the end, I really do feel this is the best location. It has 96th, 28th Street, Burton, Craft," Perry said. "And it's a little bit more urban than the other site, although neither of them are really urban." Mishler supported the move to the different township, saying, "I mean, they were thrilled to have the Y as part of their, in this community."

One of the notable things about the location of the MFBY is its proximity to other fitness facilities. When I inquired about a facility that I could see across a field from the greenhouse of the MFBY, Chambers replied, "That is another is an MVP. It's soccer programs and everything. It's the craziest thing. But we both survive. It's strictly indoor. It's not fitness. It's not wellness. We have plenty of competition." She referenced another MVP location not far from their facility and said other types of gyms and facilities were in the

general area of the MFBY. Having that competition nearby has not had a detrimental effect on membership, which has far exceeded initial projections for growth, as I discuss later.

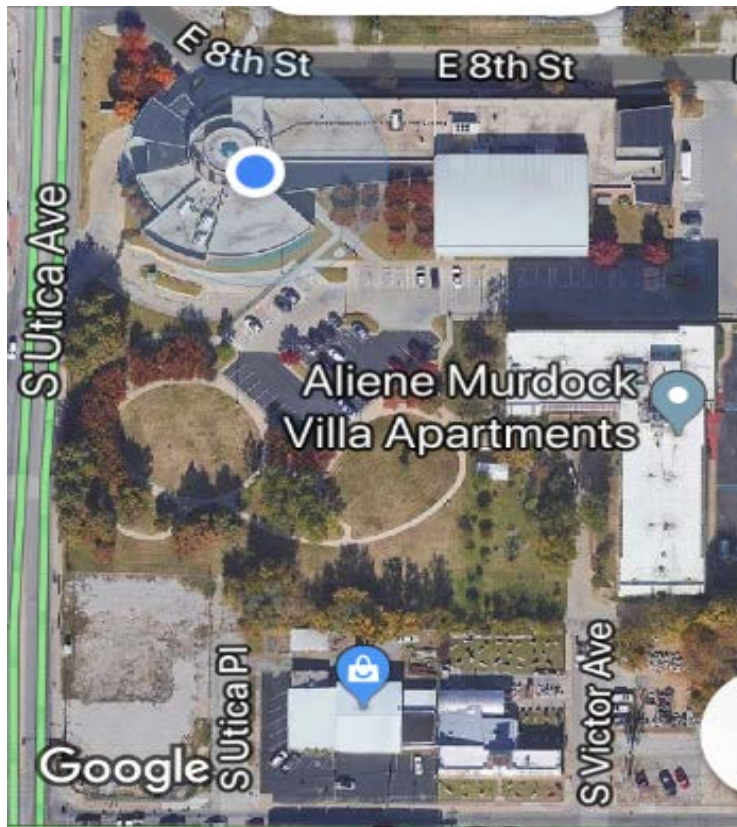
Safety of the location was pointed out in the Phoenix and Tulsa projects, although for different reasons. Pangrazio said it was important to him that the location be part of a community and that would offer its membership comfort and safety. He said he talked about safety to an attorney who initially showed him the property they eventually purchased. He recalled that the attorney advised him that the corridor where the property was located would grow and would be safe for the people Ability360 served. Pangrazio said, “The location, those aspects of having a safe environment for the people we serve, and comfortable and being on the major transportation hub, routes, those were critical.”

As for the Hardesty Complex, Long had different safety concerns with its location. Because they already owned the property—it was a gift of long-time donors many years earlier—they were not looking to build anywhere else. However, they had issues with the safety of their members due to the neighborhood one side and a gas station and convenience store on the other. She talked about the foot traffic that used their property to get from an apartment complex to the gas station. She said they erected fences around their property only to have them torn down or vandalized. Meussner recalled a concerned phone call from Long about a member who had found a needle in the grass in the courtyard. That was when, Meussner recalled, the talks about security and safety became their top priority. Meussner said, “At first I simply presented to our board to put a new fence up, some signage, and let’s turn our corner property from asphalt into some kind of nice green landscaped space. We were looking at 25 to \$50,000.” That was the impetus to meet with some of the long-term donors to The Center and was what led to their talks of dreaming bigger.

Figure 9

Site with existing structures, prior to building the Hardesty Family Adaptive Sports Complex.

Blue dot = Existing building of The Center for Individuals with Physical Challenges.



Boulware affirmed that safety of members was one of the initial reasons for talks about development of the empty lot, which he said was a gravel parking lot. Regarding the lot being a pass-through for neighbors, he said, “She [Long] really wanted to create a barrier that would prevent people from walking through and kind of force them to walk around. There’s a lot of reasons but mainly for the safety of her members.” In addition, he said people had a hard time finding The Center unless they were familiar with it because it was set back from the major intersection a block away. He said, “They really wanted to claim this

corner as a billboard for The Center and let everybody know they were here. One of the things was visibility, and they wanted to show off how active people can really be.”

A different concern about security and safety of the members and staff of The Center occurred during construction of the Hardesty Complex. Long told a story about a disgruntled member who lived in the high-rise apartments next to The Center’s property. The issue escalated to an active shooter incident, she said, where the facility was on lockdown for part of a day. She called it the “scariest moment of my professional career and my entire life, to be honest.” Because of the incident, the center was closed to members for three days, including one day off for staff and two working days, to address the security threat. She said, “We had been talking about access control for quite some time. We were an open facility. I mean every door unlocked all the time.” Being an open facility compelled the organization to reassess how the safety of everyone on the campus could be ensured. An expert from the State of Oklahoma Homeland Security office was recruited, and a six-page document was written that outlined every aspect of the facility related to that type of threat. In addition, a decision was made to fast-track plans for access control throughout the old building and the Hardesty Complex. Meussner said that now “members, and key people have, like I have, a key fob. Members have a little thing that they can get in and it logs, just so the members feel secure. So that way no random people are walking in.” I experienced this firsthand when I visited, as I was not allowed in the entrance where members were entering. Instead, I was directed to the front of the building where the receptionist had access control to the front door.

In addition to securing access to the two buildings and the corridor, another unique situation that faced the designers of the Hardesty Complex was the need to tie in of all of the

electrical, wiring, and sprinkler systems from one building to another, an especially difficult task due to easements for the utility lines that run under the central portion of the corridor between the buildings. Meussner referred to the easements by saying, “I would say the biggest hiccup was the city-like water/sewer line that runs under where the corridor part is. And just the logistics.” Boulware discussed this in detail. He said city zoning did not allow for structures to be built on top of existing underground services. In this case, there were sewer lines, electrical lines, and a storm line. He referred to this as “the biggest challenge as far as permitting” was concerned. He and Long met with city representatives several times over the course of about a year (this is when she almost got in trouble, as I previously described) during the design phase, to work out a design that would be acceptable for the city and The Center. Numerous concepts were proposed, including one that required a crane to lift portions of the enclosed corridor in spots where the city needed access to the storm line. As Boulware explained, “So we came in and talked through this with them and kind of worked out the details with the city and the city said, ‘Well we can park a truck here and then we can lift it out.’” He said a back-up plan included a covered walkway in that area, which they knew could later be torn up by the city and then replaced by The Center if necessary. However, he stressed, “It wasn’t the desired outcome, but we had something in the back of our minds if we had to, but it wouldn’t accomplish Lori’s goal of creating this barrier to protect her members.” He concluded, “It’s not, she didn’t care about replacing the fence, she just didn’t want members getting hurt.” Being open to different methods of addressing this major issue led to a solution that worked for The Center and for the City of Tulsa, even though it was clear that was a one-time exception to the city’s easement rules. A great deal of

time and advocacy for what was needed to meet the safety needs of the membership was especially important in reaching this compromise.

Facility Design Considerations. As noted earlier, construction of the three facilities described in this report exceeded ADA standards, having incorporated universal design and functional design throughout. While some of the design of the buildings, the placement on the property, or the overall dimensions or size were dictated by the property itself, each design team and committee looked at their facilities as an open book because few other fitness centers were available for comparison purposes.

The design of the Ability360 facility was overseen by Pangrazio and his “committee of champions” to ensure that the needs of people with disabilities were addressed, not just to the letter of the ADA. Due to his firsthand knowledge of errors that can occur in design of such spaces, he said, he was specifically involved in the design for the shower areas and the changing tables in the locker rooms. He knew that being able to reach a hand-held shower head and water controls is often a barrier in showers that are supposed to be accessible. He wanted to ensure that people who used showers with benches had the ability to do so to the maximum level of their independence, without being concerned they would have to ask for help. In addition, he knew that many people with disabilities similar to his need to lie down to change clothes; therefore, he made certain the locker rooms had a padded platform for this purpose.

Figure 10

Family locker room with padded platform at Mary Free Bed YMCA, Grand Rapids, Michigan.



In all three projects, there are family or attendant locker rooms. At Ability360 and Hardesty Complex, two are available; at MFBY, there is a bank of 16, two of which have padded platforms. Those rooms are accessed not only by people with disabilities and their caregivers but by families who bring small children to the facility. Besta was a strong proponent of the family locker rooms at the MFBY because of her recognition that people who have or who are caregivers, whether they have physical or intellectual disabilities, need a larger place to change clothes. She said, “That was our idea because Pat [her husband] lays down to change. . . . He will change on the mat and roll to one side, pull his pants up, roll to the other. So, I said, you need something big enough.”

Consideration for people of all abilities was incorporated into the design of the locker rooms at each facility. At MFBY, Perry knew that “maybe a fifth of the people take a shower. So, the express lockers are really important to help reduce the overall size of the locker room footprint.” They used standards developed by YMCA to guide their initial designs, then used universal design strategies to enhance the design. For example, universal design was incorporated to all of the showers and all of the hardware on the lockers. Perry said the dropped C-shape hardware allows people who have issues with dexterity or hand strength access to any locker. He also designed different benches in the locker rooms, saying, “We put a couple of bigger benches, 2 foot by 4 foot benches because not everybody is stable on a 10-inch wood bench, and it’s got a wall behind it.” Full-height mirrors allow anyone to use them, standing or sitting. As Perry described, these approaches place everyone on the same level.

Figure 11

Hardesty Complex locker room.



Long pointed out the longer lockers that are available in their facility, saying, “I was like, well, what is that for? And I was told, it’s for people’s prosthetics.” She admitted that she had not thought of that, but that people can then place their prosthetic or a cane or crutch in the locker with their other belongings. Long said the expansion to youth programs led to interesting discussions about bathroom amenities. “Because we’re serving children now, we do have the youth size toilet and then all the regular sizes, as well,” she said. “I had no idea that talking about toilets would be a whole meeting. That was very enlightening.” She pointed out they wanted to ensure accessibility and independence for everyone who used their facility, right down to the size and height of the toilets and sinks.

Bathroom design also presented challenges for the architect. As Boulware explained, there was a discrepancy between the programming of the bathroom and the drawings of the width of the bathroom doors. When he talked about the original design for all of the bathrooms to have automatic door opener buttons, he said, “After the building was pretty much done, they realized that they couldn’t get wheelchairs in these restrooms [in the Hardesty Complex]. And we couldn’t figure out why, are the wheelchairs, are they wider than we thought they were going to be?” Although he thought the doors were 3 feet, 6 inches wide, they were built at only 3 feet wide, which was discovered on the drawings. He said his company, KKT, paid to fix that because they knew a 3-foot door would not provide the access needed to ensure that the wide wheelbase of sports wheelchairs would fit. At the same time, the openings were enhanced with offset hinges and hospital door stops to offer additional maneuverability.

In addition to this, Thomas assisted with design changes that would help people who are blind and use white canes. She said that the hospital stops on all doorways in the building

were necessary and that it was essential to remove door stops attached to the floor, which can be a trip hazard. In addition, she advocated for redesigning the railing in the corridor to remove a downward bar that could cause a disruption for people who use canes for mobility guidance. Her familiarity with blind members of the facility helped mitigate risk and provided a better outcome. The little things, once again, add up to a better design in the long term.

In addition to the standard power-operated pool lifts mandated by ADA for pool access, each of the three facilities provided multiple entry points and types of assists for their members. The pools at Ability360 are outdoors. Pangrazio said, “Indoor pools are more expensive to maintain. There’s more biology involved in maintaining an indoor pool with all of the mold and all that stuff that goes with it.” An outdoor pool made sense for the city’s climate because it could be used up to nine months of the year, he said. While he found that building and maintaining an outdoor pool is less costly, he acknowledged that there are additional heating costs during colder months. The pools are each designed with a dry ramp next to it that leads to a transfer station at seated height, allowing for a person in a wheelchair to perform a level transfer onto the platform or for a standing person to sit down, then proceed into the pool. The Hardesty Complex has a similar ramp and steps with railings that lead to the water. At the MFBY, Perry designed a slightly different transfer station, which added to the cost of the pool construction. He did not use a ramp and instead built up a transfer station with steps that led to the water. He explained: “One of the things we learned is that people feel safer transferring step by step. The whole thing is considered a transfer station because they’re transferring down different levels.” He also said, after more research and interviewing participants, that this might help those who use the transfer station to feel

more in control of the transfer “versus a ramp where they might feel they’re kind of losing control entering a pool.”

Figure 12

MFBY 8-lane pool with transfer station in upper right, automatic pool lift, lower left edge.



As for the design of the pools, he explained differences in their gutter design, such as keeping the gutter in the family pool flush with the deck to prevent tripping, because the primary users of the pool were seniors and children. He also explained the design concepts for the pool edges:

At the family pool, we took the gutter and we turned it down 5 degrees, which got rid of that little 90 [degree angle]. And we just ease the edge up a little bit, which is pretty unique also in the big pool and the lap pool. In the deep end, we put a toehold

recessed 4 inches. So that, and again, you know, a novice swimmer, senior swims out on the deep end, and that if they're hard to hold on, they don't have the dexterity of that. They put their foot in that toehold.

The small details can make a big difference for many people with different abilities. He explained the colors used for the lane lines—bright orange at each end—are there to alert members they are getting close to the end. This was important from a risk management standpoint, he said. “We know that most accidents in pools happen when novice swimmers hit the wall. . . . So we used bright orange lane lines and bright orange flags above as visual cues,” he said. He added, “We used standard colors; it didn't cost any more but it's a UD strategy tool—alert.” He said such small additions add up in cost savings in the long-term, especially if insurance claims are filed. Strategies such as those are simple but require more thought and planning.

Figure 13

MFBY 8-lane pool with detail of lane lines and flags for alert/safety.



The pool at the Hardesty Complex has a different purpose and was designed to meet the needs expressed by staff and members of the facility. The pool is a smaller, more therapeutic and exercise pool that was specifically designed to Long's specifications. After unsuccessfully attempting to get a prefabricated pool made to specifications through a national manufacturer, The Center hired a consultant to craft a plan for the aquatic area. . Meussner noted the importance of pulling in experts from the community, in addition to the architect and committee members, to ensure that amenities such as the pool were built to the intended functional and accessible use. After the design was completed, Boulware pointed out that the "challenge was that it's really kind of small for contractors to bid. So, if it had been bigger, we would have gotten a lot more interest from, probably Dallas contractors that would come up to build this pool." In addition to exceeding the budget for the pool, the team hired a local residential pool contractor who was not as familiar with commercial design. In the end, the pool was built to specifications, and the staff, administration, board, and members, were pleased with how it functions.

Figure 14

Hardesty Family Adaptive Sports Complex, Tulsa, OK. Aquatic center.



Each of the three facilities includes an indoor track. At Ability360 and Hardesty Complex, the tracks are on the second floor; at the MFBY, the track is the full perimeter of the lower portion of the building. Perry said the MFBY one-fifth mile track was the largest in the Grand Rapids YMCA system. Meussner said a second-floor track had been discussed during the focus groups: “When we gave the feedback to Jim [Boulware], it was like, OK, he’s going to incorporate that in. Then adding the second floor and all the different pieces.” The track at the Hardesty Complex is 1/16th of a mile per lap. Both Perry and Long pointed out the design of the track lanes to call attention to the distinct color contrasts that help runners and walkers stay in their lanes, adding that the visual cue of the colors also assists people with visual impairments.

Figure 15

MFBY indoor track.



The social aspect of fitness was also addressed at each facility. Though Ability360 has a large campus with multiple meeting rooms and a convention center, a group fitness room and a foyer with seating for social activities also were designed. In Tulsa, the addition of the second floor allowed the committee to work with Boulware to program a community conference room as well as a rooftop terrace, smaller though similar to the rooftop space on the Ability360 campus. Long said the intent of the conference room would “be dedicated to our own internal meetings and to open it up to the community, our partners, our corporate partners, things like that.” This is a “high level conference room, completely equipped with high level AV, conference phone, Skype, cameras,” Long said. There is direct access to the outdoor terrace and the catering kitchen. At the MFBY, three meeting spaces were incorporated, with purposeful use of color. In the main meeting room, Chambers said, the blue color of the wall is used to aid in concentration. This is the room where community meetings, staff trainings, and the like occur.

Another purposeful use of color at MFBY was the yellow on the central ramp. Chambers described yellow as a “wayward” color, one that would help people find their way; the yellow ramp is visible from almost every portion of the facility and thus helps people make their way to the exit. The building has hearing loops throughout, including in the group fitness studios. A hearing loop is a type of sound system used by people who wear hearing aids, Chambers said.

The basketball courts at MFBY and Ability360 are made with traditional hardwoods. At the Hardesty Complex, the courts are a rubberized material that is durable and low maintenance, and, Long said, “better for people with any joint issues. It’s just, it’s got a little bit of kind of this bouncy factor to it. It’s completely nick and dent resistance, and the ease of

Figure 16

Ability360 Center, basketball courts.



maintenance is incredibly easy.” The court in the Hardesty Complex, and the outdoor court that was added with this expansion, are marked for seven different adaptive sports with different color boundary lines for flexibility in use. In addition to the fenced-in outdoor court, one of the parking lots at the Hardesty Complex doubles as a wheelchair softball practice field, with field marking lines painted onto the asphalt. Long said, “We knew we wanted a practice area here on site. So, the parking lot was perfect. We did get special exception from the city planning and grading, specifically to ask for lenience on that. And, of course, prove why.” As Boulware pointed out regarding programming the outdoor spaces, “Whatever we can do to help make the outdoor spaces more useable, that’s really kind of what we’d like to do, where we have the opportunity.” The MFBY specifically built a full-size wheelchair softball field, complete with dugouts and bleachers. That was a stipulation of the Guild’s

Deed of Gift. Besta said wheelchair softball is popular, and the field has become a source of pride for the teams that play there.

Figure 17

Wheelchair softball practice field, Hardesty Complex.



Each of the three facilities also included a climbing wall in their design plans, although their designs vary greatly. At Ability360, as discussed, the climbing wall was the source of a heated discussion among committee members and also caused the redesign of the ramp and loss of space on the observation deck LaZear said. However, it is the most complex of all of the facility's walls, is used a great deal, and is proving to be a good use of space. The climbing wall at the MFBY was subject to budget constraints and, Perry said, "I mean, you look at that wall, it's pretty small. I mean, it goes up the height you want, but it would have been more elaborate. So, we did have to back off on the rock wall."

Figure 18

(left to right) MFBY, Hardesty Complex, Ability360 climbing walls.



At the Hardesty Complex, the climbing wall was originally designed to be in the corner of the gym. But the insurance company advised that this design would not be acceptable. The insurance agent wanted the climbing wall to be behind a locked door and that trained staff be present whenever it was in use. Boulware came up with an alternative to reframe that design idea and to allow the Hardesty Complex to build the climbing wall in the area where a sign calling attention to the facility was envisioned. He said:

So basically, there was just that sign that was out there on the street and then we wind up where we've got this sign out here that is really just kind of not doing anything. What if we make, what if we change it to the cylinder and put the climbing wall in it? We've still got the sign, but now it's kind of usable space that you're paying for instead.

Figure 19

Adaptive yoga wall, Hardesty Complex.



That was an acceptable change in design to Long and the construction committee and allowed for the climbing wall to be built in its own locked room. The locked room included a locked storage cabinet for all of the climbing equipment and harnesses, thus satisfying the insurance carrier's requests. Long also said a climbing gym was located elsewhere in Tulsa and that a well-known blind climber trained and practiced there. That climber did not utilize a lot of adaptive equipment, she said. She attempted to contact the climbing gym regarding consultation on the wall at the Hardesty Complex but said staff there did not seem interested in helping. The main reason for constructing their wall, she said, was to "give people a taste of climbing with the goal to be able to take it to next steps."

A unique feature of the three facilities is the adaptive yoga wall that was built at the Hardesty Complex. Long said that yoga was by far the most popular group fitness class. "We have a traditional on-the-floor yoga, we have a seated in-the-chair yoga, and now we've

added standing yoga,” she said.” It was the yoga instructor, Long said, who suggested that a yoga wall be built, showing her a wall and demonstrating its use. Long said, “We are the only yoga wall in all of Tulsa.” To build the yoga wall, the architects had to design a wall that would support not only the special wall but the “full body weight of six people.” Thomas recalled:

We were pretty far along, and I guess some funding came through, and they decided in the very end of the building that they wanted to add an adaptive yoga room. . . . We had already put electrical in; the wall was done and the room was pretty much close to being done. Um, I don’t ever try and tell an owner I can’t do something, but that one was like, OK, so how are we going to do this?

She recognized the need to contact the sub-contractors to let them know that this was something the owners really wanted to do. She remarked, “If this is really something they want to do, we’re going to try and make it happen for them. And we did.”

Perry estimated the facility construction and site cost at \$200 per square foot, which seemed reasonable given the amenities built into the facility. The MFBY is the first building in the world to receive Universal Global Design certification from the Global Universal Design Commission. That was accomplished by including many features of universal design throughout the building. From entering through the front doors, which open automatically, to moving down the centralized ramp to the workout floor and the basketball courts and climbing wall, there are no thresholds, no need to open a door manually, and no obstacles in the path.

The MFBY’s focus on providing a facility that met extensive universal design specifications showed that that type of building can be built with minimal additional cost.

Perry said the ramp was a “deceptively simple concept as it allows everyone to take the same path of travel, accommodates all users at their own speed, and is a safer solution than the stairs.” In his research, he said he found that approximately 80% of accidents in buildings occur on stairs. By removal of the barrier for mobility for many people, he also removed the potential for injury and another potential source of insurance claims. While the ramp cost more than a traditional stairway, he said, the cost would be recuperated over time through fewer accidents and injuries. Some of the other individual design elements in the plans did not necessarily cost more to build but required additional thought in the design process. The front desk includes a lower, wheelchair-user height counter in addition to a taller one. The colors were purposefully chosen for the meeting rooms, in the workout areas, on the track, for the pool lane lines, and elsewhere, sometimes for the intent of the use and sometimes as a visual cut to bring awareness to safety elements or to assist someone with a visual impairment.

The purposeful use of color and contrast makes it easier for those with visual or cognitive impairments to find their way, Perry explained. On the ramp (Figure 7), for instance, different colors of flooring alert someone who might be distracted that there is a level portion or an inclined portion. While these elements don’t add cost, they do help to prevent accidents. Incorporating all of these universal design elements increased costs slightly, less than 2%, Perry said. The overage included the cost of the ramp at \$75,000 more than a traditional stairway. Perry identified other elements that were slightly more expensive, such as adding automatic door openers. He said:

What we decided to do was put them on key areas in the building. We didn’t put them on every door. And some of those key areas are entrances, meeting rooms where the

community was going to be, locker rooms. And around the aquatic environments because those are where it's slippery; you gotta be careful, it's wet.

As Butzer pointed out, universal design adapts to the most people over time, and he said, "You come into the world dependent, if you will; you leave dependent, usually; and on the journey in between, you have episodes of where a facility can accommodate the most people with temporary impairments." He called it "a facility for all, for all ages, for a lifetime, community based and also open to competitive wheelchair sports. So, a more inclusive philosophy, if you will." Butzer also said, "We enhanced universal design with an evidenced-based practice around a social ecological approach and dealt with things like governing board policy, special training of staff—those things that are more than just automatic doors and better bathrooms and better parking places." Those statements and the overall design of the MFBY showed the desire (a) to be innovative, rather than to follow a typical design strategy that incorporates the required components of the ADA, and (b) the leadership to bring everyone to the table to work toward more inclusivity.

In each case, the needs and desires of members, staff, donors, and other interested individuals were addressed, innovative design strategies were utilized, and facilities were built that are accessible and functional beyond the letter of the ADA. Through engagement of stakeholders, as discussed throughout this paper, and the creativity and hard work of many, each facility design was of a different level and utilized specific expertise. MFBY's committee ensured that their facility was built with the appropriate amenities and features to provide accessibility to the greatest number of people. All provided beautiful, new accessible fitness facilities that brought a unique atmosphere to their communities. And each facility is a model for other communities and for what can be accomplished with a universal design

vision, the right leadership, and with a collaboration of people who understand the needs of their community. The vision of incorporating elements throughout the facility to serve people with and without disabilities across their lifespan has been well received in each community, and at the MFBY, membership growth has far exceeded expectations.

Funding to Support the Vision. As previously discussed, the three facilities had different funding structures as well as construction budgets, with the MFBY facility being the largest and most expensive. Each facility used a capital campaign to raise private funding and, while Ability360 was the only one that received public funding, the MFBY was the only one that borrowed money in the form of a bank loan to fund a portion of their project. Interestingly, the MFBY was also the only one that partnered with a donor who stipulated certain design features and facility usage through a Deed of Gift.

In the initial discussions between Besta and Butzer regarding the wheelchair and adaptive sports programs' needs for a facility, shortly after the program came under the administration of the Mary Free Bed Rehabilitation Hospital, Besta recalled, "Dr. Butzer said, 'I have this vision.' And I said, that's exactly what we need. He was able to make that push with the backing of Mary Free Bed, the Guild." Butzer's affiliation with the two main organizations also facilitated this funding partnership. He said:

And so basically, I thought, well, could we bring the two organizations together?

Could the hospital get changes in what the Y was planning to build? If we became the lead donor, or our Guild became the lead donor, could we influence the Y to adopt a universal design concept, accept wheelchair sports, and adopt the philosophy of serving all?

His considerations included the national YMCA's recently adopted philosophy of inclusion and its commitment to serving everyone in their community through sliding scale membership fees and scholarships for children's programs. They "then came back," he said, "and tried to address the issue of management and sustainability. And this is where the partnership with the Y became important because the Y was already well established in the community." Their partnership raised concerns in the community by established hospital donors, with some questioning Butzer if the hospital was getting into running the YMCA's business or vice versa. He said, "And if you've got good Y people, they're very experienced and they're already running facilities and they already have annual funding for their charity care and their sliding scale." Names of some of the hospital's donors were shared, he said, although the capital campaign for the facility was "transferred over to their [YMCA] development department, and they called on the community leaders that they normally call on." He concluded that it made sense for the sustainability of the facility for the two organizations to partner for this endeavor.

Mishler agreed, saying, "It wasn't a hard sell for the Guild, and we'd been kind of talking about it as well or thinking, well, how could we provide a better home for our wheelchair and adaptive sports program?" She said the Guild thought it would be a great tie-in for its 125th anniversary to provide this gift to the community. "We are going to invest . . . in this resource for all, all of the community," she said. "And we voted to make the lead gift." The naming rights and specifications for specific design elements of the facility were outlined in a legal document that has been referred to throughout this paper as the Deed of Gift. The Guild and representatives from the construction committee met to finalize the details of the \$4.5 million gift. Mishler said:

We weren't saying we're going to pay this much for this [the design elements], but this all had to be included in our gift. And we had attorneys there. It was a good meeting, but I wouldn't, I don't know if you'd call it a heated meeting, but we were adamant that this is what it's going to take.

The agreement included stipulations related to specific components of the facility as well as to facility usage by the wheelchair and adaptive sports programs. One of those stipulations was priority use of the third gym by the teams in the sports programs. Mishler also said the naming of the farm building outside of the main MFBY building was a way to honor the memory of the man whose family agreed to sell their property for the development. "We said, we still need to honor that name and show that. And, you know, just keep that name alive," she said. This powerful group of women made sure there were specific stipulations to recognize the needs of the adaptive sports program and to recognize the contribution of the Den Houter family to the overall MFBY project.

Having the wheelchair and adaptive sports teams practicing in the YMCA has given them more exposure as well. Besta said, "We've gotten donors through it, because if you have certain people coming to work out, they might not want to be involved directly, but indirectly. They want to make a donation or they want to sponsor a program." She said she believed a community program helps with exposure. "That's what I love about being here is that people see it. It's a community now that doesn't think twice when they see someone in a wheelchair," she said.

Agreeing on a budget for the MFBY required compromise, Perry said. He said the overall budget was \$24 million for building and construction and an additional \$9 million for "soft costs," such as equipment, staffing, and financing. "Two major donors put some money

into it. Then we had fundraising, so capital campaign and then the rest of it, the Y borrowed from the bank,” he said. Several grants, none of them especially large, helped out, he said.

One of the budget negotiations involved the size of the pool. He explained:

Typically, Y’s have six-lane pools. Because this Y has a very active swim team, they’ve put out national champions every couple of years, we had eight lanes, and it almost came down to we’ve got to take two lanes out. That would have saved about \$250,000. But Ron Nelson [president of the YMCA at the time of the project], who’s an ex-swimmer, and of course I’m an ex-swimmer and, we know, again, the swim team and members would not be in the pool for swim team here.

This additional expenditure was important to the construction committee and those in charge of making those decisions, so it was kept in the budget. However, other components were subject to decreased funding, such as the climbing wall, facility finishes, and mechanical fixtures. As previously discussed, the universal design features for the MFBY did increase the budget but by less than 2% overall, Perry said.

The Hardesty Complex was funded through a capital campaign involving private donations and creativity by its board of directors. Long was apprehensive initially about the timing of the capital campaign, saying, “We really worried financially: Are we going to be able to raise money? We were in the beginning of the Gathering Place [another nonprofit, large-scale project in Tulsa], so there was a lot of competition for dollars.” Because many other capital campaigns were occurring at the same time, Long turned to her long-time donors for advice. She said they supported her decision to forge ahead, saying, “The bottom line is because you have your existing facility, this is really an opportunity to grow and expand. You’re not displacing where you are. So, if it takes a little longer than you might

originally think, that's OK." This helped alleviate her fears, and she and their board proceeded to pursue funding. She was also appreciative of members of her board who were financially savvy, who suggested they invest in certificates of deposit as it was being raised rather than just letting it sit in their bank account. She said, "If we know we're a year plus away from construction, let's get it into some CDs, let's do something to get it to grow." That decision led to "close to \$150,000 in interest," she said. In order to keep the budget at the forefront of the project, they "did a cash flow from the time we started construction to the end of the project," she said. That was done with the help of their owner's representative and included month by month payables and a projection of receivables, as well as the current balance of funds, she explained. The goal was to ensure there "would never be a negative cash flow and that we wouldn't have to look at a bridge loan," she said. She was committed to not taking out any loans even though that decision added stress. She said:

There was one period of time, I remember, I did not think we're going to make it over 10 million. That was when we had our 10 million goal set. And we were hovering at like eight and a half for months. And I had a meltdown one day. I'm like, this is not gonna happen. We're not going to finish. We're going to have to, we're going to have to scrap the second story. And everyone was like, it's OK. Everybody gets to this point. Stay the course. You've got a lot of proposals outstanding. You have meetings coming up. And then it was just like, boom, we hit 10 million and beyond.

An interesting situation she discussed was coordinating the beginning of the capital campaign with other fundraising and how they had to work around the United Way. She said they held a ceremonial groundbreaking in the spring to kick off the fundraising campaign so that it would not overlap with the blackout period that United Way imposes on agencies that receive

their funding. The blackout occurs annually from August through November. Long also said they worked on finalization of designs prior to approaching donors with their projected \$10 million budget. Boulware said, “Lori’s vision did not match what her budget was in the beginning.” He added, “I’ve never seen a project raise money like this one has. We do a lot of nonprofits around town, and I have never seen one fund-raise like that.”

To assist with budget development, Boulware estimated how much materials would cost based on square footage and other factors. Long said they built into the overall budget for the capital campaign three years of operating expenses, a maintenance reserve fund, and the cost of furniture, fixtures, and equipment. The budget included landscaping, information technology, and administration expenses related to the capital campaign.

Boulware said they developed “a pretty good idea” of the size of the budget, prior to Long asking for additional amenities. He recalled conversations where he had to say, “Well, that’s not really in the budget.” And Long would counter, “Well, give me a minute, and it will be.” He said, “And then sure enough, every time, it’s like ‘hold my beer, ‘cuz here I go.’ She, we had the elevated running track and second floor. I would say, there just, no, you can’t have the second floor.” He made an agreement with Long for a timeline, that if funds were available by a certain date, plans for a second floor would proceed. When that date neared, he began the re-design of the facility. They were in the process of drawing the construction documents to send out for bid as the agreed-upon deadline approached and he recalled:

I think she called me the morning of that, the date that we had set, and said, ‘I just got the money.’ But we had already been planning on, we didn’t think that she would be able to come up with the money, and we needed to move pretty quick. So, we had

already kind of started changing our drawings back to the one-story building. You know, I mean, this was, we got to move pretty quick once we get this, and then sure enough that morning, she called me, 'So I've got the money.' It's like, OK, we're going.

A key person in the success of the capital campaign for the Hardesty Complex was Meussner. She put together a gift log to help chart requests and donations. It included a menu of potential sponsorship areas within the facility and a list of possible donors to ask for each gift. She said, "So we brought them in on the front end. We know we're going to make these key asks for significant gifts. Even some local like companies that have community giving, brought them, bring them in early." The key donors were the people approached first so they would have a choice of where they would like to target their gift and for the possibility of naming rights, she said. Long explained that the materials used for marketing the capital campaign were fairly simple, saying, "Stay with who you are, and stay true to who you are. And so honestly, they were very simple initial proposals to our donors." She said that if more information was requested by a potential donor, budgets or drawings would be supplied on a case-by-case basis. The committee also did what Meussner explained was a special past presidents and current board members "cornerstone" sponsorship for the sign on the corner of the building. The goal of the cornerstone gift, she said, was "a hundred percent board participation because we're going to tell these foundations we're going to, we're all behind it, you get behind it."

In addition to private donations from individuals and foundations, Long secured grant funding for equipment for the facility. Funding was received from the Veterans Administration as a subrecipient through the Paralympic committee, and funding for wheelchair softball chairs was received through a grant from the Reeves Foundation. She said:

The challenge for us is because we are just kind of a small organization in Tulsa, Oklahoma. Nobody really knows about us, and the likelihood of us having the outcomes and the research and that side of it, we just don't have a lot of that. But thankfully, we've had some really good initial funding from different partners that are allowing us to kind of build that up and will allow us then to leverage and get other funding as well.

A grant of \$250,000 for equipment was received from a local foundation. "Which is why you see their name on the outside of our storage closets 'cuz it's like everything in here was provided by them," she said.

At the request of donors, signage to recognize them was kept simple throughout the Hardesty Complex. "They just really wanted, they wanted it to be respectful and acknowledging of the contribution of the donors, but to not be outlandish," she said. Meussner said the signage was considered carefully because "if someone's giving you \$1 million, you're gonna ask how they want their name on their sign and make sure that every space has signage." During a tour of the facility, Long pointed out, "You may have seen in the lobby that we have just a very simple donor installation, and that wasn't all donors. That's like donors \$2,500 and above."

Figure 20

Hardesty Complex, example of donor recognition sign.



At the MFBY, Chambers pointed out the signage that recognizes donors, saying, “They’re on most of the areas. Yeah, there’s one at the top of the ramp. . . . When you first walk in, the whole donor wall is off to the left. Very unassuming, very just kind of very quiet.” A similar approach to recognition was carried out at the Hardesty Complex.

Perry said that the marketing materials used for the MFBY followed marketing trends. He explained the materials contained “beautiful graphics and kids in nature, and we wrote pieces on universal design for them, and they [YMCA] used it.” That was another part of the partnership that worked well, he said. “We provided them with a lot of materials just because we knew the building, we have the images,” he said.

Marketing the Ability360 project came in a different form, which gave the organization instant credibility and access to potential donors. Pangrazio explained:

Murderball came out and you know this is when I had retired [from playing rugby].

So *Murderball* came out in what, 2005 or something like that. And I had retired the

year before. I wasn't playing, but I had heard about someone who had tracked down

two of the stars in the movie, and they were pretty much the leadership on the

Phoenix rugby team at the time, and the person had met them 'cuz he wanted, he was

just enthralled with the movie—he loved it, he thought it was fabulous. And so, he

developed a friendship with those guys.

Pangrazio said he asked his friends to introduce him because this person was well-known as a philanthropist in the area. Because the process of pursuing the bond funding was underway and a presentation had already been put together, he thought this would be a great way to get a “big donor that would be interested in getting behind” the project. He said, “Anyway, I got to meet him, and the rest is history. I mean, he was on board from day one! And he's been supporting us ever since . . . and he put in one and a half million dollars to the project.”

One of the things that occurred as a result of Ability360 being awarded the bond was that it could be used as leverage to pursue other donations from large foundations. Yet Pangrazio expressed some disappointment in the planning for some of those requests after easily receiving a \$1 million donation from one foundation. “But, in hindsight, we probably should have gotten like three million or so but, that city funding of \$5.3 million gave us the leverage to go to them and another foundation who gave us \$500,000,” he said. He said the bond included rules and regulations to follow, so lawyers were hired to ensure adherence. Finally, after dealing with the lawyers and feeling like he was getting nowhere, Pangrazio fired them and basically just agreed to what the city stipulated in the bond document. He said, in frustration, “You really can't beat city hall.”

Figure 21

Ability360 Center, donor sign.



He said some of the would-be donors who were approached were not interested, while others were interested but were unable to donate at the time. There was a time that their main donor brought a friend to meet with Pangrazio, but the friend really was not interested in donating. Pangrazio recalled:

The guy said, 'I just don't. The government supports these people, the government pays for disabled people. I just don't think this is where I would want to put my money.' And so, there are challenges with getting philanthropic support. There's a lot of wealthy people that would rather give to something else than they would to give to a service that's supporting folks with disabilities. So, that's a challenge.

He also said there are many ways to run a successful capital campaign for a sports center.

“Getting, raising the money, to some extent can be an easy part, too, because it’s a sexy thing, sports and fitness,” he said. It is important, he said, to “spin the positive side of empowering people with disabilities to be more productive with their lives” so that potential donors see the upside of what you are attempting to accomplish.

The Ability360 organization recruited a public relations firm at the time the capital campaign began for the sports and fitness center. Marketing collaterals were created that depicted levels of campaign participation that a supporter could purchase or contribute to, similar to Meussner’s gift log, Pangrazio said. He explained:

So, if you want your name on the pools, here’s the pool. If you want your name on the rock-climbing wall or the runner’s track or the gymnasium, the fitness center upstairs, the group fitness room. We basically put a price tag on all those different components of the sports center and sold those to the donors.

Crawford described a meeting with Pangrazio and a potential donor, the owner of a major league sports team, recalling, “He was a fun one, so we met with him in a trailer. . . . I’m thinking, the owner, we’re asking him to have a meeting in a construction trailer. And he’s like, ‘You betcha.’” She was amazed at how easy it was to work with some of the people she recognized as having a more prominent level of power within their community. She also recognized, as a result of speaking at meetings in support of the bond funding, that there are times when more explanation is needed for people to understand concepts such as accessibility or the barriers faced by people with disabilities in accessing fitness spaces.

While each of the cases utilized similar aspects of fundraising to collect the funding to build their facilities, the methods, the people involved, and the outcomes differed.

Crawford summed it up nicely: “Just get ready for every nine no’s, you will get a yes. But you better get the nine no’s first.”

Planning for Contingencies. As for the actual construction of the facility, several challenges and successes were faced in each case. Pangrazio said the construction was difficult due to unforeseen circumstances, increasing costs for even the groundbreaking. This was buffered by having a contingency fund for additional, unforeseen expenses. “There were things about building it that were challenging in the regard to the land, the topography, this is a sloped property on a hill. It’s solid granite underneath it that involved a hard dig,” he said. The hard dig even involved dynamite to blast through the granite under the site. That also limited the size of the basement. He noted:

I would’ve liked that basement to be three times the size that it is, but it would have cost, it would have been millions of more dollars to increase the size of that basement much more because it was so expensive to do that basement. I’m glad we have what we have, but it did not come cheaply.

Water retention issues were discovered after the hard dig, a situation that could not have been anticipated, Pangrazio said. “So there’s massive underground water retention pits that run the entire length of, out here where the driveways are, that goes all the way down to the back of the property,” he said. The size of the water retention pits was akin to an underground cave, he said. Building codes also required that underground fissures discovered as a result of the hard dig be dealt with. He said:

There’s literally water flowing from those mountains. . . .[The] foundation of the parking garage has a rubberized waterproof membrane to deal with the amount of water that’s coming through these fissures from that direction [pointing north toward

the mountains], and then they had to redirect all that water to those underground retention pits. And then the retention pits have pumps that are running 24/7 and are pumping water back up to the city sewer. That turned out to be one of the most critical engineering aspects of this entire property.

Those challenges were an unforeseen cost. That, in turn, limited the size of the basement.

Boulware also noted the importance of having a contingency fund because, “there’s always stuff that comes up that you weren’t anticipating or that you know. We typically start with, and it probably starts around 15%.” Long described the need for contingency funds in their budget, to address surprises that required remediation. She explained:

We’ve owned the lot that we’re on for 17 years. We didn’t know the history of the lot. So back when that land was purchased for us, there wasn’t all of the requirements to do the environmental and surveys and all of that. So, we had to have all that done. And quite honestly, we were a little nervous what we might find there because we knew we were digging down into the ground.

While no issues came up during the ground preparations, a hydrological study was necessary, Long said. “We’re the lowest point in the 13-acre watershed. So, we take all the water on right here,” she said. She recalled the day they hosted a major fundraiser, and she arrived at the existing facility to find ankle-deep water. She was aware of the need for the hydrological study but was unaware of what would be required to address its finds or how much the remediation would cost. Because of water drainage issues, she said, “This swale that you see has been here for years, and we need it because we can’t drain all the water, so we’re pushing it out to Utica [one of the main streets next to the facility]. So, we had to maintain this.” At the time of that conversation, we were standing in the corridor, essentially a bridge, and

water was flowing underneath us as if it were raining significantly. “So this was unique as well,” Long said.

Long explained the importance to their organization of hiring the owner’s representative. “Although we had an amazing construction company, Flintco’s incredible, they have a wonderful reputation. There were a couple of things in their contract that could have really harmed us long-term financially.” The owner’s representatives, she said, caught those issues before contracts were signed. “They paid for themselves right there,” she said. She had them negotiate certain pieces of the construction project that they wanted carved out because they had expertise either on their staff or their board to address those separately, likely at a lower cost or through in-kind donations. For example, they wanted to take all of the information technology away from the construction company and handle it internally. She also said, out of concern for mitigating costs, “We also engaged our insurance very early on with regards to some of our high-risk areas.” That included the pool, climbing wall, and facility security.

Boulware worked with Long and the construction committee to identify additional services they thought they would need to complete the Hardesty Complex project. “They really felt like on this job that the construction manager would be the best way to go,” he said. He said a construction manager gives the organization a little more control over the selection of subcontractors. He said that often nonprofit agencies have connections with subcontractors and that a construction manager can give them more control over that work. The construction of the corridor presented a big challenge. “You had a section here that you couldn’t reach it with a sprinkler line because two sections would be removable, and there isn’t a way to do a quick release on this, on the fire sprinkler line piping,” he said. Because

there was not an easy way to get to the center section with the HVAC and lighting, he decided to approach it from both sides, connecting on one side from the original building and on the other side from the new building, eliminating the need to cross the middle with wires and ducts. For the corridor itself, and to meet the city zoning requirement in order to build a permanent structure over the utility lines, he explained:

So we have these kind of retaining walls that go down, and I want to say they're about 30 feet deep, but you could come in and excavate all of this area to get to the pipe, and the retaining walls will hold the building in place so you can dig out underneath.

Boulware said that during construction, many changes were made to some of the building finishes to control costs. Initially, all of the external finishes were to be brick. "We made a couple sections of it EIFS. And EIFS, exterior insulating finishing system, it's not the greatest building material to use, but it is the cheapest," he said. He said they would rather control costs through finishes or cosmetics rather than by altering planned spaces such as the climbing wall. "I mean, we want it to look a certain way, but really what's important is that it works for the owner and that they really kind of get what's important to them," he said.

Thomas, as the construction manager for the Hardesty Complex, said she strived to have open communication with the architect and the engineers. Sometimes, it became clear that what was drawn on the plans would not work in reality. She said she would rather ask directly what needed to be done to fix a problem. She would then take that change proposal to Long and say, "OK, it is going to cost money. There's no way around it. We have to do this, and we tried to stay very open book with all of that." An example of this was when digging began. She said:

I guess there was an old, a pancake house or something that originally was here. They tore it down. There were pieces of that building in the dirt. So, we're coming across bricks. Um, there was some sewage piping that was actually made out of brick and, yes, we have to tie into that. We weren't ready for that. When you start digging, where some of the utilities were located, well, they weren't located exactly where they said they were.

Long believed in keeping open lines of communication with Thomas although she said her ultimate responsibility was being fiscally responsible and able to explain changes in the budget to the board and donors. When approached with an increase in price or a change in materials, she would ask for an explanation rather than giving blanket approval. "I have more people I report to and I am entrusted with this process and these dollars for the benefit of our members. So I've got to do my due diligence," she said. She would agree when she found the expenses justified but she also explained, "There were other times I'm like, well, you got to go back and figure out a different way or something."

Long's desire to maintain good relationships with the construction crews and contractors was evident when she said, "[Y]our construction team, you want to keep them happy. They could throw their trash in the middle of the walls while things are being built or they'll graffiti the Sheetrock, and then they'll put the wall up." Butzer also cautioned about this, saying, "You need to walk through the facility as they're doing it because the construction people sometimes take liberties with what's easy and particularly if it can be covered up." Regular meetings with the contractors can also help to alleviate problems prior to construction. Perry said, "I remember meeting with the concrete contractor at the trailer, explaining the plans. Before you pour, this is depressed 3 inches, this is depressed, 2 for mud

set, this is depressed to half inch for a rubber flooring,” Perry said. Open communication between the main decision makers is another component that helped each project move from concept to reality.

Perry also recalled the issues they encountered when they sought bids for construction. A shortage of available contractors existed at the time, which required creativity in assuring the project would be built in a timely manner and at the same time, containing costs to fit the original budget. He said, “So as an example, we would, we got one roofing bid, one fencing bid, you know, and the bids were high.” Submitting high bids was a strategy used by contractors to limit accepting projects to only those willing to pay the price—and then the contractor would figure out a way to complete the project they were awarded with an overpriced bid. This led the MFBY construction committee to try to approach the contractor labor shortage in a different way. The construction manager, Rockford Construction, Progressive Architects, and YMCA representatives met knowing they had a schedule, funding, and plans that had been shared with the public. They decided, “It’s probably more important to secure trade contractor labor and then negotiate a price.” Instead of choosing the lowest bidder, the YMCA representatives, Rockford, and Progressive decided to identify the contractors with whom they had good relationships and then bring in a few trade contractors. They identified the areas of focus for those contractors to include the aquatic environment, because it typically takes the longest to complete, and a mechanical and an electrical contractor. They also identified the need for a roofing contractor. Perry said, “We got them at the table, and we tried to communicate how important this project was to our, to the community that they lived in, too. And we said we’re open to your ideas.” Each contractor was asked if there was a better way than specified to complete the project in an

attempt to “make them part of the team.” The construction committee was open to value engineering at this point if they could negotiate plans to get the project to completion. Perry recalled, “What I think of value engineering is not about sacrificing quality. It’s about is there a better way to accomplish that masonry wall, stack bond, running bond, precast lentils, but the basic structure of it?” From these meetings, contractors were hired to complete the project, even though it took longer than planned. One of the value engineering changes involved the heating loop in the building. Perry explained:

We had all welded connections in that got to be VE’d [value engineered] out to a different piping system that was, there’s joints every 8 feet, 20 feet, I forget exactly.

But there’s joints every so often. And when you put fluid in a pipe, it’s under pressure, and you have a lot of joints. There’s eventually, there’s going to be leaks.

And so, we’ve had a few leaks that we are still trying to, to take care of.

At the end of construction, each organization wanted to show off what had been built to all of the parties involved in building the facility as well as to interested community members. However, due to unforeseen circumstances, the grand opening of facilities can also have glitches. Long said, “The city had a change in their focus and would not grant occupancy certificates until 100% of your landscaping was complete. Well, we were January in Oklahoma; we’re not going to put sod in.” She said they were allowed to hold a ceremonial grand opening in January and did not open to members until April when the landscaping could be completed. At the time of the grand opening, multiple large components of the MFBY facility were not available to their members, Perry said. He expressed a level of astonishment that this would occur, but because the ceremony was months in the planning,

the red ribbon was cut, speeches were given, and the facility began operations even though the project remained unfinished.

Being flexible in planning, realizing the need for contingency funding built into the budget, and working through the unexpected are aspects of successful completion of major projects, as was evidenced in each of the projects. Hiring knowledgeable people who understand or can learn the vision of the facility also helped to move these projects along to becoming functional and well-regarded amenities of the community. The specific function and use of these facilities is discussed in the next section.

Building Equity in the Community for People Who Have Disabilities

The desire to develop equity in the community by providing a facility that was fully accessible to people who have disabilities and their families was the intention and motivation for each of the three projects. People in each community, including those who participated in this research, saw the need for a facility and devised ways to propel their vision to fruition. Evidence presented in the following sections supports this theme of building equity through a discussion of the following categories: facility utilization, making sense of the space, and making it sustainable through operations. Each category includes excerpts from coded subsets of the data in support of that theme.

Facility Utilization and Making Sense of the Space. Planning for the distribution of space in each facility was informed by the voices of many interested people in each community. Putting together the program for the space utilization in each case fell on the architects who worked collaboratively with each facility's representatives and did not stop with the initial production of construction documents.

As discussed by Boulware, removal of a vestibule would have allowed bathroom access without doors:

We were done with construction documents. One of the staff members realized that we only had two showers, and they wanted to add another shower. So, the only way to get that to happen was it basically took away our maneuvering space, because we didn't have doors, we didn't want doors. But at that point, we couldn't grow the building. . . . That was how we managed to get that extra shower in there, is we got rid of that vestibule at the restrooms, and we talked through it with them and said, 'Here's how we can make this happen' because Lori didn't want to grow the building because that's just adding money every time.

Adding a shower required a redesign of that space, and Boulware made changes, recognizing the importance to his client. He also advocated for functional spaces in the area in the courtyard of the facility because, he said, "Whatever we can do to help make the outdoor spaces more useable, that's really what we'd like to do, where we have the opportunity." He helped the committee envision a more functional use of a lot that previously included trees and parking lots. Long talked about the purposeful design for their outdoor spaces, saying, "The trail kind of serves a dual purpose, number one, just for walking and enjoyment, but it also can be for cycling." She said this path was a good starting point for many who do not have the strength or endurance to go for longer rides on their local cycling trail systems. She also spoke about the other amenities that were incorporated to encourage socialization, such as a picnic bench and park benches. "We still wanted to kind of still maintain that feel of that leisure and recreation aspect as well as obviously our sports and our competition and things like that," she said. In addition to the meandering path, as Boulware and Thomas described it,

through the courtyard there was planting space for a horticulture program and the fenced-in, multipurpose outdoor court. Long stressed the need for their facility to offer a variety of recreational activities. “What we really like to do is look at our programs very holistically. Maybe you’re an athlete, working out, but that also means you need to eat right and menu-plan and understand how all of that plays together,” she said. The programming of the outdoor spaces fit her desire to provide a holistic approach to wellness for her members.

Figure 22

Hardesty Complex, outdoor court.



When planning for the second floor, Long recognized that in addition to a track, they wanted to use the space for other activities. They have a space for fitness next to the track, and she said they wanted “some sort of a community room, but then we had all this wasted roof space.” She said it was Boulware “who brought the idea of a rooftop terrace to us. And this is probably the most underutilized right now. But eventually we’d like to be able to rent this out for revenue generation opportunities, parties.” She also said the yoga instructor eagerly anticipated yoga classes on the terrace during warmer weather.

Another area that is often overlooked but is valuable in any fitness facility is storage space. Boulware talked about cost saving in facilities, saying, “The easiest thing to do to reduce costs is eliminate square footage. For every square foot you’re not building, that’s 250 bucks you just saved or \$300, whatever your budget is per square foot.” He explained:

If you’ve got a thousand square foot in the program for the lobby, but if you’re only using 600 of it, why build 400 square feet? Or can that 400 go into storage? Which was one that they didn’t have a lot programmed, but they knew they wanted. And it’s always easy to get rid of storage, especially when you realize, you know, you’re paying 250 bucks a square foot for every square foot of storage you have.

Long also said, “We really wanted to focus on a lot of storage.” Separate storage closets are available in the gym areas for each main sport, in order to store sport-specific wheelchairs and equipment that teams need for practice and games. This allows athletes to leave their sport-specific wheelchairs in a secure place so they don’t have to transport them back and forth for every event.

Figure 23

MFBY storage, wheelchair sports on left, facility on right.



Space for staff offices was also built into the plans for the facility, with four offices included to accommodate six staff members in shared and individual work spaces. Another strategy to maximize space was to have retractable bleachers in the gym. Long advocated for a great deal of flexibility in the utilization of the spaces, as well, allowing for things such as tables and chairs to be moved around when needed.

Both Long and Meussner talked about the desire to ensure the facility was flexible enough to provide program growth. Meussner said, “We want to plan for future, future. We don’t want to just, what’s going to be good for the expansion right now, but what do we need for 25 more years.” While they acknowledged they did not expect to fill the facility immediately, they were committed to having the ability to expand programming over time.

In addition to having space for growth, sometimes after a facility is built, the administration realizes a space does not fit the initial programming intention. During my tour of the MFBY, Chambers pointed out, “This is our PT [personal training] studio. It’s one of those where we built it, and we were kind of like, OK, what do we do with this thing?” At that time, it housed a variety of training equipment, but she said it was underutilized compared to the rest of the facility. On the other hand, she said the group fitness studios, including the cycling studio, which were in a different part of the facility, were too small for their needs. “We fill up pretty quick in all of these classes, and people wait outside for them,” she said. This demand for classes and space use was due in part, to the growth in membership that occurred at a much higher rate than predicted. “We went from a very small facility to this huge facility, and sometimes we just didn’t know the needs of the facility, of the area. So, we’re still learning. The growth [in membership], it’s gone up like 400%,” she said. Such exponential growth has caused a strain on the family restrooms. Members have asked her for floor mats, she said, adding that a mother of a 5-year-old who uses a wheelchair told Chambers she would be fine using just the floor to change her daughter’s clothes and that she needed only a mat on which to place her child. So, mats were purchased and hung on the wall near the family restrooms. The restrooms experience heavy use, she said. Another area strained by the unpredicted membership growth was the parking lot. Even though the plans called for more accessible parking space than required by accessibility standards, it often was hard to find a parking spot. When I visited during the day, the lot was full, and when I visited in the evening, few spots were open even then. “Now, that’s a good thing and a bad thing. So we’re looking at a parking expansion,” Perry said.

Changes made inside the facility included moving the soft fitness area, a space for exercise balls, benches, foam rollers, and floor mats, to create space for the free weight area. “People’s biggest complaint was our free weight area, which is in that back corner. That was our biggest complaint that we got, that it was just packed back there,” Chambers said. The soft fitness area was moved to an area under the ramp to make more space in the free weight area, but the issue then became “people were everywhere,” she said, because the space was not marked off. To stretch, people were using the passageways or entrance areas to the group fitness studios. She asked Perry for suggestions on how to make the new space more controllable. “So, Mike [Perry] said to put some tape down [on the floor to mark off a section]. It’s gotta be yellow, it’s gotta be somewhere you can differentiate between the colors, and people stay within the box.” It was a simple yet effective way to help control the use of the space for the safety of members. Chambers also talked about other requests from members. “The biggest thing that people want, they just want to play. They just want open gym,” she said. Accommodating team practices while allowing time for open gym was another balancing act the YMCA administration had spent time assessing since opening day.

Perry talked about the importance of the ramp as more than simply a place to move from one level of the facility to another, saying:

That ramp is a place for them to also do soft fitness. I don’t know if anybody’s talked to you about that before. But so, let’s say Joe has a spinal injury and is learning to walk again. The first two weeks, Joe will, will walk down and up the ramp. Just the first incline OK, so it’s a marker. He’s accomplished that. Two weeks later he is going to go down two of them and back up. That incline, it’s a little less than ADA requires. I think ADA is like 8.3%, and we’re like an 8.1%. We backed off a little bit

on it just, it's not much, but if you walk it a lot, it's a lot. So that ramp also serves as a place for rehab to occur.

Perry also said certain elements of the design were dictated by the standards of YUSA. "We had to use the Y standards for ratio of lockers to square footage you're building to," he said. That helped the architect plan for space utilization, but it did not specify the materials or finishes required, Perry said.

The overall design of the building was actually based more on the size of the lot and the design of the indoor track. "We knew we needed an indoor track, and using some different ratios, we said a fifth of a mile, so five laps. So that became the perimeter of the building," Perry said. The rest of the facility spaces were programmed within the perimeter of the track. "We know, we want it to have at the main floor of the slab on grade. We wanted pools, gyms, track cardio, locker rooms. And then everything goes up," he said. In that upper space was an area for child-care, offices, and community rooms. "But the track really helped determine the lower level perimeter," he said.

At Ability360, LaZear said the climbing wall "does get a lot of use." He was initially concerned about the amount of space it took from other venues, but in the end, he was pleased with its use. As previously noted, there was controversy during committee meetings over the climbing wall and the aquatic areas. But in the end, LaZear said, "We had great pool use this year. We had 14,376 visits to the pool from March through November this year." While LaZear and Pangrazio acknowledged the additional expense to keep the aquatic areas open during the cooler weather, at about \$10,000 a month in October, November, March, and April, LaZear said, having almost 1,600 visits per month for the nine months they were open helped offset the expense.

Accessible Equipment. The equipment considerations for a community-based adaptive sports and fitness facility differ from those of a facility that focuses on meeting the accessibility standards of ADA. LaZear discussed the decisions to acquire certain pieces of equipment used by people with disabilities at Ability360:

Although I was on the advisory committee, there were many decisions made by employees who were responsible for purchasing the initial equipment. In the seven years of my employment, we have evolved and understood what best suits our members and have since updated.

Crawford and another committee member visited a college adaptive fitness facility to research the equipment purchased there and to develop a list of what would be appropriate for Ability360. LaZear recalled a certain piece of equipment recommended by the committee after this visit that was called a Free Motion Dual Cable Cross. It was a “super quad-friendly” equipment, he said, due to the adjustability of angles and cables. It was similar to a Cybex Bravo, a less expensive machine that has a smaller footprint, but the employee responsible for purchasing decided to buy the less expensive and smaller Bravos. Over time, it was determined that they were not used much. So LaZear, after being hired at the center, wrote a grant for the Free Motion Dual Cable Cross. After they received the new device, he rearranged the fitness floor and moved two of the Bravos off the floor because all four were never being used at the same time. By listening to the members, LaZear advocated for a piece of equipment that would meet a wider variety of members’ needs.

Figure 24

Cybex overhead press with seat swung out of the way to allow wheelchair access, Ability360 Center.



At the MFBY, the staff worked with the rehabilitation hospital so that two specific, relatively expensive pieces of equipment would be available to members. As previously discussed, the FES bike is one of those pieces of equipment and allows someone who has paraplegia to pedal with electric stimulation to their muscles. Chambers noted, “Not only were universal design elements incorporated into the construction of the facility, but the fitness equipment was also purposefully chosen to allow those with disabilities and mobility impairments to have accessible equipment incorporated throughout the fitness floor.” Pieces of adapted cable equipment allow for their use while people are seated in their wheelchair or

by transferring to a height-adjustable bench. Chambers said that fitness equipment with yellow knobs can be adjusted so that the seat can be removed or swung out to the side. She recalled a situation when the manufacturer of one of the pieces of equipment was contacted because a member feared they might fall if they transferred to the seat because it was too low. She said, “We’ve worked really well with Cybex. I will say that Cybex, Life Fitness, they’re still learning, too. Life Fitness came out, they said, all right, let’s figure this out. They’re learning just as much as any other industry.” While showing me their cable equipment, Chambers pointed out that she and I, who do not use a wheelchair, could share the same piece of equipment and work out with someone using a wheelchair because the seat could be moved to the side or removed.

Chambers also said, “There’s a couple of ellipticals that, when you get on an elliptical, it’s very unstable, and so there’s a locking mechanism on those that locks it while you get on it, to stabilize you,” making it more accessible for people with balance impairments. The flexibility built into the equipment on the fitness floor and the fact that the equipment was dispersed throughout the area with more standard pieces of equipment showed the thought that was given to providing integrated access for people who have disabilities.

At all three facilities, hand-crank indoor cycles were available for indoor cycling classes. Two hand-crank cycles were available in the MFBY spin studio but were underutilized, Chambers said. My observation was that the cycles were in the back of the room and had limited spacing around them, perhaps making it more difficult to see the instructor and to maneuver around other participants. I also noted that each facility had a wheelchair accessible scale on or near their fitness floor, allowing people in wheelchairs to

monitor their weight more easily than visiting a doctor's office or hospital facility, where such scales are typically found.

The pool at the Hardesty Complex differed from the pools at the other two sites. Long explained that their members did not want a lap-swimming pool, that they were more interested in an exercise pool that could be used for personal training or group classes. She described some of the pool components, saying, "We've got the two resistance jets. . . . We can turn those on to create walking resistance. Then we've got the submersible treadmill over here that you can drop in, and then you can walk on the treadmill against resistance." Boulware said that Long custom-designed the pool with a consultant specifically due to requests from members and staff, right down to the types of filters and the chemical control unit. Boulware said, "I mean, just got it down to, they detailed every screw and every pipe and, and everything that was involved." Long exhibited that level of attention to detail throughout the facility, from spacing to equipment.

While touring the center, Long pointed out specific pieces of equipment in the existing facility, such as the ERGYS, a type of cycle that allows users to move with the assistance of electrical stimulation, and the MOTOMed, an electric-motor-assisted upper body or lower body cycle. On the second floor of the Hardesty Complex, she pointed out, "Some functional equipment, therapy beds, all the mats, and stuff. A lot of, ability to either work out independently, but we also run classes up here." All of that equipment was available to any member, some of whom have an attendant to assist with workouts, some of whom work out independently, and some of whom pay for personal training in addition to their memberships.

In the storage rooms are kept a variety of adaptive bicycles and handcycles, racing wheelchairs, and team sport wheelchairs for power soccer, basketball, tennis, softball, and rugby. Long described the power soccer wheelchairs, saying, “And these things are zippy, boy. Man, they’re fast.” The Hardesty Complex climbing wall is 16 feet wide and 20 feet tall and has auto-belay systems on the two outer panels and manual belays on the two middle sections. Its harnesses are adaptive and are standard climbing harnesses. As previously stated, the entire climbing room is behind a locked door; a locked storage cabinet holds harnesses, helmets, and other supplies.

Figure 25

Hardesty Complex, wheelchair softball and power wheelchair soccer storage room.



When programming the lobby area, Boulware said members requested leisure equipment, such as a pool table. One was located for the facility that doubles as a pool table and flips over as an air hockey table. He talked about some members having limited

opportunities to play pool elsewhere in the community and the importance of providing a space for social activities in an area that otherwise would see minimal use.

Missed Features and Opportunities. As Butzer pointed out, “The perfect facility and the budget didn’t line up perfectly.” There will be limitations, some of which have already been discussed, and there will be unfulfilled wishes or dreams yet to be realized in any facility. While it was evident that each of the participants in this study put forth every effort to provide their communities with the best possible adaptive sports and fitness facility, there were many suggestions and thoughts of what could be different.

Chambers said, “One of the things that we learned along the way is this row of rugs [near the front entrance] that really shouldn’t be here because it is a tripping hazard.” She said they learned after the building opened that the floor was slippery when it got wet, so rugs were added to prevent accidents. “I think eventually it will be a capital project where we’ll probably extend this carpeted area [pointing to an area nearer to the reception desk].” She also said, “There was handrails that we missed. We needed to have an actual user go through it and say, ‘How did you miss this?’ It’s like, we missed it. I don’t know what to tell you, but we’ll fix it.” In the Kids Zone area, she said, “What we really wish we would have done is have movable walls so that we can control the space Because when there’s not a lot of kids, we can combine certain areas or just reconfiguring.”

She also said, “We tend to get a lot of issues with the frog [splash pool]. People jump up, hit their head. So eventually, we probably will get rid of some of this stuff.” She said not only was that an area with a potential for injury, but the lifeguards also pointed out that the initial design of white posts to separate the play area from the family pool did not offer good visibility of the children using the splash pool. So, they were replaced quickly with clear

plexiglass panels. However, the facility administration still was not happy with that modification as a permanent solution, so the search continued for an alternative to the panels.

Figure 26

MFBY, children and senior pool, splash pool area.



Everyone interviewed at the MFBY agreed there were too few family restrooms with elevated mat surfaces because they are popular not only with people who have disabilities and their assistants but also with families with small children. Butzer said, “We did a really good job with extra family locker rooms because they’re perfect for people with chairs and people with opposite sex attendants. We put mat tables in two of them; we should have put more mat tables.” Besta said, “Somebody comes with a wheelchair, and it’s all wet. So we should have done six of them or maybe even half of them, eight of them.” While the

popularity of this feature could not be anticipated, the value of having them was evidenced by those I interviewed at the facility.

When I pointed out to Perry that caregivers could not get a mechanical lift under the elevated mat surfaces as they were designed, he admitted they did not consider in the construction of those changing platforms. That was an issue Pangrazio pointed out at Ability360. He said, “We would have designed these differently because it’s, they have the solid piece underneath there, and people who use Hoyer lifts to get in and out of their wheelchairs, they can’t.” He said, “People who need somebody to help them transfer or even some of the people with other disabilities, they might have better access if it was a mat table that it was on legs.” Due to that limitation and the identified need of the MFBY for additional adaptive family restrooms, I suggested to Perry and Chambers that they consider adding to some of the family restrooms prefabricated, wall-mounted mat tables with front legs to improve accessibility.

Other major areas identified by Besta that were important to the adaptive sports program were storage and additional gym space. She said, “We tried to get on the climbing wall, but they have to have their staff there, and there’s only two days that they’re here.” This limited the ability of the adaptive sports programs to use the climbing wall, Besta said, so they use a different facility for that program. She pointed out that in the current facility, “I think we would have liked to have seen, we wanted one more gym but that it was too much money. Even today it would be awesome to have one more gym space. And then bigger storage for sure.” Besta also said a locked space for tools and tire tubes and other items would be “really cool.” In addition, when I asked her to dream, she said the adaptive sports program needed a rink for hockey, rugby, power soccer, and lacrosse.

While not directly related to the facility, Besta also noted, “A big thing that we’ve been wanting but we can’t seem to get it, even being a part of Mary Free Bed, is [personal] trainers for our athletes.” She said she was unable to find trained coaches to assess things such as wheelchair propulsion, alignment, and efficiency for athletes who want to improve performance.

In addition to agreeing that additional adaptive family restrooms were needed, Perry focused on the design features of the MFBY that he would change when designing other, similar facilities. For instance, he said, “There’s a bench, a big white solid surface bench that is below the ramp. There’s two 45-degree corners, which I can’t stand. I would have curved them or taken the edge off because they’re right at somebody’s knee level.” He also said a project he was working on was to design tables with rounded corners because, he said, “There’s not a 90-degree angle on the human body so why should there be in furniture.”

Perry said, “We had a lot more money in the budget originally for a rockclimbing wall. You look at that wall, it’s pretty small. I mean, it goes up the height you want, but it would have been more elaborate.” Due to budget constraints, he said, they backed off on the design of the wall but without sacrificing the size of the wall.

Besta said the facility did not accommodate all of the needs of the wheelchair and adaptive sports programs and that those participants continued to use other facilities, some within the Greater Grand Rapids YMCA system. For instance, they were paying \$15/hour for adaptive swim lessons at the MFBY, and those lessons, for children with multiple disabilities, were occurring during open swim time. That did not work well for the instructors or the children because of too many distractions, so they moved to another facility to have the use of the entire pool during their allotted time and where they were not charged for use

of the space. Besta said, of the MFBY, “So it’s kind of like a balancing act to try and get in. They’ve been, when we do work with them, they’re very, very accommodating.” She also said, “But again, we’re paying for those fees to be here.” Her staff researched the costs of renting the MFBY for their programs, including practices and tournaments, and it came to \$12,000 a year.

Long talked about the challenges with designing the climbing wall at the Hardesty Complex:

We learned from a couple people or organizations that we’ve talked to, the idea to do a slanted wall and put that base, bottom, out a little bit further. We wish we would have done that. We wish we would have built a space to access the wall from behind, like a person to get back there in order to do maintenance and things like that. The way it’s designed, we don’t, unless we just take off a wall panel and then take off the Sheetrock or the plywood behind it in case there was a water issue or anything. It’s not major stuff, but it’s enough that we probably now, looking back, we wished we would’ve hired somebody to help us work through all of that and talk through it a little bit more.

Thomas made a similar assessment of the climbing wall at the Hardesty Complex, saying, “What actually got installed was per the documentation and what we were supposed to deliver but that I don’t believe was exactly the image that people had in their head.”

Pangrazio had a longer wish list of items that he would have done differently or added to the facility design, possibly because Ability360 has been open longer than the other two facilities. He said, “I would have liked that basement to be three times the size that it is, but it would have been millions of more dollars to increase the size of that basement much

more.” He also said, “We were really constrained because of the amount of land we had left. I would have preferred that it [the lot] were bigger. I would have wanted three [basketball] courts. I still want three courts.” In addition, he said having the pools “a little more indoors in some ways” and “a walk-in ramp” are features he would have liked, had money and space been available. A second elevator would help move people and equipment from one level to another, in addition to providing a backup if one elevator failed. Pangrazio seemed to be always thinking, always dreaming. He mentioned the possibility of adding “tennis courts or even a shooting range for people who want to shoot guns and stuff” and the possibility of placing a platform over the pool to add a third basketball court, with access directly to the fitness floor and the upper levels of the parking garage. He continues to dream, if only money and space were no object.

Making It Sustainable Through Operations

Each of the facilities in this study had differences and similarities in their operational, membership, and programming structures. Ability360 and Hardesty Complex focused on their membership, made up of people who have disabilities and their families, while the MFBY focused on the whole community it served, with the adaptive sports programs being a small portion of that community. While my focus for this research was more on the building of the centers and the components that figured into that process, I was also interested in the relationship of facility amenities to the programs being offered. What follows is a brief description of those components in each facility.

Organizational Structure, Staff Training. As discussed, Ability360 is a large organization that began as a center for independent living to provide support for people with disabilities to live in their community. The sports and fitness center was proposed by

Pangrazio, in his role as the CEO of the Ability360 organization, with the intent of providing another way to support its membership and to provide a facility for adaptive sport.

Crawford pushed for recreation therapy staff to be a part of the organizational structure of the sports and fitness center, saying:

Because that's what I wanted . . . because I wanted people who knew what they were doing and who were trained, and so that was a big push for me. And that, I was a part of the process of hiring there, I didn't interview here, but I did meet with Phil [Pangrazio] and say, you need a rec therapist to run this whole thing.

To assist with the organization's ability to hire recreation therapists, Crawford advocated with the hospital administration where she worked to secure a grant to fund the staff. LaZear said, "It was a commitment from St. Joe's for \$180,000 to help support the salary for three rec therapists for a number of years." In addition to the recreation therapists who were employees of Ability360, there were program aides, program specialists, program coordinators, and program managers. LaZear supervised all of the staff of the facility.

LaZear also said there were staff within the ABIL organization, the precursor to Ability360, who did not want the sports facility to be built. They wanted the focus to stay on the services of the center for independent living. After seeing the impact the facility had in the community, they came around because, as LaZear put it, "We're more than just a sports and fitness center."

As noted, the Ability360 growth in membership and establishment of programs started off slowly. LaZear said, "We had a steady pace of, we didn't want to flood the market with kind of doing too much, 'cuz we kinda had to figure it out. But there was a balance." A major donor to the facility would sometimes visit, LaZear said, and would say, "Aw, you

could shoot a canon off in here and you wouldn't even hit anybody." The donor was upset because he wanted the facility utilized to its potential because he and his friends had just donated significant sum of money to help build it.

The bond funding came with contingencies, Pangrazio said, including that the Ability360 organization had to prove it had the financial resources to operate the building independently of the city and it had to promise not to seek more money. This was a one-time award. Pangrazio worried about their financial capacity for the same reason their major donor was upset. In the first two years, gate revenue was meager, and they were paying staff and utilities to keep the building functioning. At one point, Pangrazio said he thought, "Maybe all we need is a receptionist and a trash picker-upper. And just open the doors in the morning and lock the doors on the way out with the last person that goes home." Yet he said their patience paid off because the facility was busy and project was seen as a model for other facilities, such as those in this study.

Mishler thought the partnership with the YMCA was a good plan because "you have to have somebody, an organization to operate it, and who better for us?" She appreciated the fact that the YMCA was about more than just fitness, saying, "There's so much more about the community than just that little piece." Butzer also favored partnering with an organization that had experience in facility management and programming. He knew the YMCA had that experience and had good administrative policies and processes in place for sliding-scale memberships. In addition, the community viewed the YMCA as a stable organization that was sustainable.

A concern was raised related to staff turnover at the YMCA and that some staff might not be attending the certified inclusive fitness trainer (CIFT) certification training as

regularly as when the facility first opened. Besta, who once ran the rehabilitative fitness program for outpatients, said, “The Y should make sure that the staff who are helping are CIFT certified.” This type of training helps members who have disabilities feel safer and more welcome because they know the staff has specialized training for people who have disabilities.

At the Hardesty Complex, Long said there were 20 staff members, half of whom were recreation therapists and the others had degrees in exercise physiology or a similar field. This large staff was needed in part because of the already established fitness facility that was part of The Center. Long said the expansion generated many changes across the organization, in addition to seven new staff and changing the access controls of both buildings, which she reported “caused total upheaval for my staff and our members.” She admitted some of this confusion could have been avoided when the Hardesty Complex neared opening, saying, “Our facility manager, he should have been brought on way earlier.” When talking to potential members, she said, “One of the things that we really try to promote is yes, their facilities might be accessible, but we have staff that are specially trained with continuing education to work with a variety of abilities and needs.” The staff undergoes a great deal of training, in person and online, she said. “We take advantage of almost everything that U.S. Paralympics has available, whether it’s onsite conferences that we can send our staff to, coaching clinics, webinars, all sorts of things,” she said. This ability to provide staff with ongoing training not only helped them stay engaged and improved their skills, but as Long said, it helped members feel more comfortable.

At Ability360, LaZear talked about decisions related to equipment procurement, budgeting, and operations. He cited the discussions during committee meetings about

programs such as Mommy & Me or Wounded Warrior Project and how they might or might not fit into the programs of the facility. He said:

We were built with the purpose and intention to serve people with disabilities, but we're open to the public because we're not federally mandated to serve just people with disabilities here the way our other programs are through being a center for independent living.

He said he also recognized the importance of understanding the background of the organization, but he also knew the sports center had the right to stay within its mission.

"There are times when members get frustrated because there are high school basketball groups or the Tempe Junior Row youth workout here when it's too hot or too cold on the lake," he said. Those frustrations were partly because those groups were people without disabilities, but he also said they were paying customers and those programs helped pay bills. He said, "So we're just trying to find that balance of when do we do rentals and when do we allow these groups to come in that aren't necessarily mission driven, but they're also supporting the inclusiveness of our facility."

Long expressed some frustration about how The Center was seen in the community. "We've been very stereotypically seen as more of an adult day center. We're so much more than that. . . . I really wanted to be able to propel us to that next step." With the opening of the Hardesty Complex, they have added a youth summer camp, an after-school program, and a collaborative home-school program. Also added have been numerous sports opportunities for members and more youth sports programming. The existing fitness center, which Long referred to as "the real flagship of almost everything that we do," was often the reason people became members of The Center. "From a client perspective, it is to work on their continued

rehabilitation,” she said. The new aquatic space had 12 classes a week, and she wanted to see that double. She said:

We have a lot of growth still to do, but we’re growing, you know, slow. So yeah, we’ve got about 12 classes, a really nice variety. We have an aqua yoga class. We have just some walking in the water classes aerobics in the water, things of that nature. We are not into swimming laps, it’s more therapeutic.

She and Meussner said they wanted to grow their youth and sports programs and were committed to adding both recreational and competitive sports to reach a bigger cross-section of current and potential members. Long was also committed to encouraging the recreational programs as a part of the sports programming, attempting to view their involvement more holistically. In addition, she wanted to serve Tulsa’s large veteran population. “So we really believed that some of the sports that we could offer would be attractive to those veterans. Not just our newly returning veterans, but even some of our senior veterans to get involved,” she said. Occasionally, a veteran would come to her with ideas of things they had seen or heard about after doing their own research, she said, and cycling and a wheelchair softball program were requested. She was excited because their new sports coordinator was also a veteran, and she had hoped he could reach out to the local veterans to help build those programs. She said they have a very active goalball program, which she hoped would grow with the opening of the new facility. Operating hours were daily and evenings on Tuesdays and Thursdays; the possibility of Saturday hours was being considered.

Besta and Long shared stories about their wheelchair sports teams. Besta said, “I think most people who aren’t involved in wheelchair sports think, Oh, it’s so cute. These, you know, they’re all playing in wheelchairs, and there’s something for them to do. It’s so

political.” She also said, “You’ve got these teams . . . people with disabilities, but yet they’re fighting and that happens within our own program.” Long talked about the differences in some of the teams in their area and the difficulties that sometimes occur because of the sponsorship of The Center and its mission to serve its members. Besta and Long said their programs have very competitive people, just like in any competitive sports program.

At the MFBY, with by far the largest facility and largest membership of this study, Chambers said, “We offer over 150 classes between water and fitness every week.” In addition, they offer child-care while parents are working out and a transition program in conjunction with the local school district for students to explore careers and gain employment skills. She said:

We bring them in half days. There’s a morning group and an afternoon group, and they learn life skills, working skills. They clean a lot of our facilities, and we have a Kids Zone track where they can do some child-care stuff. And they learn how to interact with all of us as staff.

She has noticed great growth in the interactions and abilities of the students who have participated in the program. These programs are unique to the MFBY and, in my experience, are similar to those offered at many YMCAs.

The operations of each facility in this study are sustainable for several reasons, including their funding structures, their longevity, and their place in the community. While the growing pains for Ability360 and the Hardesty Complex involved getting people through the door, the opposite was true for MFBY, which dealt with far greater growth than expected and where they was a need to re-evaluate facility use, schedules, and even the size of the parking lot. This evidence pointed to difficulties experienced by the Mary Free Bed

Wheelchair and Adaptive Sports Program to find its place within the larger organization of the YMCA in regard to facility use and space for equipment. The counterbalance to the difficulties experienced was the accessibility and the exposure the adaptive sports program received by having some programs hosted in their state-of-the-art facility. Ability360 recognized the need to evolve its programs and equipment. The Hardesty Complex, being the newest of the three facilities, so new that some of its equipment was still being delivered, Long said, was settling into its new space and had a plan for a slow roll-out of new opportunities for members. As each facility grows and evolves, it will be interesting to see the changes that occur.

Membership and Marketing. As is evidenced in Table 3, there is a very large discrepancy between the membership size of the three cases in this study, with Ability360 and the Hardesty Complex/The Center having about one tenth of the membership of the YMCA. Even though the facilities offered similar amenities, it was interesting to note the differences in monthly membership cost: MFBY is about double the cost of the other facilities. Ability360 and the Hardesty Complex were run by private organizations and had specific missions to serve people who have disabilities and their families. The MFBY was open to the general public and offered support and accommodations for members who have disabilities. I was not able to find a reference for the percentage of the MFBY membership who had disabilities, though that would be an interesting statistic to have for comparison.

LaZear talked about their membership structure in relation to the overall organization of Ability360 and how the sports and fitness center had a separate membership structure from its parent organization. He also talked about collaborations with community partners, such as the hospitals and veteran's programs, and the importance of having value associated with

membership rather than just giving away free memberships. In my review of the City Bond Agreement, I read a clause that Ability360 was committed to providing a certain number of memberships at free or reduced rates for Phoenix residents. LaZear confirmed this clause in the bond and said, “We offer the \$25 annual membership to veterans, active duty military, and first responders, so I feel on many levels we meet our bond requirement.”

Table 3

Membership fee structure for each facility.

Membership Fees					
	Number of members	Adult (Monthly/Annually)	Family (Monthly/Annually)	Military (Monthly)	Military (Annually)
Ability360 Center *	2,765	\$35 / \$357	\$60 / \$612 (up to 6 people)	n/a	\$25
Hardesty Complex */**	1,500	\$30 (premium)	20% discount (household)	20% discount	20% discount
Mary Free Bed YMCA *	19,000	\$72	\$107	\$62 / \$94 (Individual/Family)	n/a

* = sliding scale/scholarships available, ** = must have a qualifying disability to become a member

LaZear also said, “We would offer field trips for free. Then we would say, the first field trip is free. Then we had to say we can’t do even that anymore. You know, we need to be paid for our time.” Adding value and generating revenue became more important after the facility experienced more activity and higher usage. LaZear also said, “Veterans would get a 12-visit punch pass for free, then all of a sudden it was a free membership, but we weren’t built just for vets. So, we started charging vets \$25 a year.” He also said a \$25 per year fee for family members would be added in the next round of membership dues increases in part “because we have to stay within our mission, and that’s one thing that’s really kind of important. We were built with the purpose and intention to serve people with disabilities, but we’re open to the public.”

LaZear briefly explained their initial marketing strategies, saying, “It was interesting. For publicity and marketing, we put out a calendar of adaptive sports, people working out. The first calendar, I don’t think any of the pictures were actually taken in our building because we hadn’t opened yet.” The calendar was a product of the marketing department and was used to raise awareness in the community of the existence of Ability360 and the services it offered.

As for marketing and creating a positive image of Ability360, Crawford said:

I will tell you our biggest mistake that we did, I think we all own it, to a degree, when it was launched, it was very intimidating to the stroke survivor and the brain injured survivor. Because all you saw, at the time that you would walk into the facility, and even now to a degree, are just bad-ass athletes. And they were para-, quad-, you know, more on the spine side. And I’ve said it for a long time, and I think one day it will happen, but there will be a showcase of a traumatic brain-injured person ambulating with a cane or a stroke-survivor. . . . But when it was launched, people would say, ‘Well, I can’t go to that gym because it’s only for really good athletes.’ So here you’ve spent all this money and so changing that mind-set was really hard.

Crawford explained how their marketing has changed over time to try to draw in a wider cross-section of people who have disabilities and to move away somewhat from the elite portrayal of the facility. A greater cross-section of their membership became part of the social media presence and was included in their later marketing materials, but it was a struggle in the beginning. Acquiring a grant from the Wounded Warriors program seemed to help broaden their membership outside of the elite wheelchair athletes, she said.

Interestingly, the feeling that Ability360 was a facility for elite athletes was also noted by

Mishler, Butzer, and Long during their research trips to Phoenix, while planning for their facilities. The photos in the vestibule just inside the front doors, the trophy cases, and the photos one sees along the hallway toward the gyms also gave that impression. It is important that the administration and those involved with Ability360 have recognized this as a barrier for participation by the person who has a disability but does not identify as an elite participant, in an effort to offer a welcoming tone to a wider segment of the population.

Long said The Center encouraged its staff to take classes and to work out at the facility. She said she wanted staff to “look at it as a benefit” of their employment, to use the facilities and participate in their programs rather than having a separate gym membership. At The Center, Long said, “Membership revenue only accounts for about 5% of our total revenue. Everything else we do is fundraising and grants. We have no insurance, no Medicare, no Medicaid, no third-party reimbursements. So, it is the support of our community.” There was not a separate membership at The Center for only the Hardesty Complex, so those memberships were lumped together with the parent organization. Long also said, “We fund-raise almost everything. We are a United Way agency, as well, but we look at United Way as a part of our fundraising efforts because we still have to apply to our United Way every single year.” Long said the growth they witnessed over the past year in memberships, while not large, was related to their programs for youth and veterans. They served 19 youth during their summer programs, and the majority returned for after-school or the home-school programs, she said. Another program that was new to them was a morning walking program and, as she pointed out, “What’s driving some of that conversation to have possibly community-based memberships is quite honestly this walking track. A lot of people just want to come walk. And they want an indoor place.”

Boulware echoed Long's assertion that the facility was only for their members, saying, "They aren't really trying to attract people that aren't physically challenged. I mean, they really want a place where they can come and feel comfortable and safe. And I mean it's really kind of the goal here." He said The Center wanted the public to know that the facility was an option "if they need it at some point," but it was not open to the public. In addition, when I reviewed the facility membership application, I noted it required the applicant to disclose their disability as a condition of membership.

Perry referred to some of the statistics about membership at the MFBY, saying, "Day 1, we had 3,300 members. Today we have 19,000. . . . We've grown by over 500%. Those are kind of all the metrics I'm capturing." At the time of our interview, he said he and Butzer were studying the impact of the facility design on membership rates and the cost effectiveness of universal design. Perry explained they were not creating new programs "just for someone with a disability, but they're included into the programs. So, when you see rock climbing for kids, you're going to see kids that are paraplegics climbing a wall, along with their able-body peers." Butzer said another advantage of having the YMCA run the operations was because it held membership drives throughout the year and advertised on television, radio, and in the print media.

In their own ways, each of the three facilities is part of a larger organization, and there were struggles that related to the interaction of those larger organizations. For Ability360, it was finding the support and fit within their larger organization, whose mission was to provide services solely to people who have disabilities. For MFBY, it was how to maintain awareness and support of the adaptive sports programs without their athletes feeling marginalized once again as the facility's general membership had grown beyond

expectations. For the Hardesty Complex, it was the management of the new programs, the slow rollout of those programs, and the stated intention to involve the whole person in The Center's overall programming. While each facility found a niche in their community, their ability to grow, expand, and survive might be affected by their ability to continue to garner support within their own organizations and to maintain progress serving people who do not fall neatly into their stated missions.

Inclusion. Perry spoke about the YMCA coming forward with a new vision of inclusivity at about the same time as the discussions were taking place about the potential sponsorship by the Guild. He said, "So it all kind of came together from a bunch of different angles. . . . The idea [inclusion] came out, and then it was about let's create the world's first universally designed building." He discussed the Guild becoming a partner through its mutual association with Butzer and believed those discussions occurred at the right time. The core value of being inclusive was a new concept YUSA added. Perry thought this helped move the conversation along to bring the focus of the newest YMCA in the Greater Grand Rapids area in line with this new core value. He observed that the inclusiveness of the facility was helping the MFBY community become more aware of the wheelchair and adaptive sports program. He said this was "helpful with adaptive sports" to gain exposure within the facility.

Besta said the inclusiveness and accessibility of the MFBY was "a great way for parents to incorporate all their kids together. Just because you have a disability doesn't mean you have to sit out on the side; you're playing and participating actively while we're all coming as a family." Mishler said, "The best part about it, that you're side by side." She enjoyed seeing the facility used by a variety of people, saying she regularly saw people who

used wheelchairs or who had other disabilities on the fitness floor or somewhere in the facility, and seeing that was evidence of the benefit that the design and equipment delivered to all members.

Butzer was a strong supporter of integration of people who have disabilities in the community setting. "My philosophy and the philosophy we adopted was one bringing everybody together in one facility, able-bodied, disabled," he said. He also said, "Wouldn't it be better to fully integrate everybody into a universally designed facility that could serve all people, including athletic teams that could range from a participatory to elite?" His belief, as he described it, was that elite facilities leave people out, which is what informed the decision to be inclusive at the MFBY, using the concepts of universal design to support his belief.

In Tulsa, the community recently had pushed for "diversity, equity and inclusion opportunities," Long said. Many conversations took place in their community in which she and her staff contributed, and she wanted that to be a focus at The Center, as well. She said she was committed to providing a place for members to learn new skills and then to try them "out in the community in that mainstream, inclusive environment." As discussed previously, she also said she was willing to welcome those members back to the organization if they chose to return.

Equity. Crawford discussed the survey performed in their community, prior to building Ability360, to determine if barriers existed to providing adaptive recreation to their communities. She said some of the responses pointed to lack of trained staff to work with people who have disabilities, lack of accessible equipment, and a lack of basic services such as accessible bathroom facilities. She said many community-based facilities, local recreation centers, were ill-equipped to promote their programs to people who have disabilities because

they were not sure how they would handle those situations. She said they also talked with their disabled sports participants, asking them about the barriers they perceived. The responses were similar: lack of knowledgeable staff, accessibility issues, and lack of equipment. One of the main things she found in talking to people who were involved, and from her own perspective, was, “We just never had a place to call home.” The only accessible gym at that time, she said, was at a local rehab hospital, and its hours for community access were two evenings a week. She said she had been asked from time to time if the plans for Ability360 were for separation rather than inclusion. Her response became, “The whole family gets to come. Can you tell me of a place where everybody can have the same services?” As a justification for the construction of their facility, she pointed to the need for people who have disabilities to use a different facility from one used by a family member.

Mishler said the MFBY was more about community integration, and the reason behind their gift was to provide that for the community. She said she enjoyed seeing people “coming in the same front door, using those same locker rooms, side by side, everybody in the community together.” It was interesting to note the Guild had to be strong to secure an agreement with the YMCA representatives about the stipulations of the Deed of Gift. As Mishler said, “We believed in it. We knew it was right for the community. And again, the community at large.” She believed this commitment produced a facility that exceeded initial expectations for community inclusion of their programs.

Besta expressed some reticence related to the inclusivity of the facility. She said, “So, it would be awesome still. Like this is awesome here, and I love it, but it would be ultimately the best if it was our facility first. We opened it to the public, but we get first choice on a space and what we want to use. And then everybody else has to

follow behind, kind of like reverse it. So, but I do think it's better to be in a place where there's the community so that people are side by side.

The statement, "Get first choice on a space" tells me there were issues with equitable use of the space for the wheelchair and adaptive sports programs, which was a primary reason places such as Ability360 pushed to build their own facility that they could open up to the public on their own terms. Besta offered words of advice for others who are planning to pursue building an integrated facility: "I think incorporating someone's disability right from the very start in your meetings is a good idea." Those are wise words to take on to other similar projects.

In summary, each of these cases demonstrated the ability, challenges notwithstanding, to provide their community with beautiful facilities that offer people who have disabilities a space to feel comfortable, to be physically active, and to find a social outlet. The ability to have space dedicated to your use, the accommodations to feel safe and supported, and to feel welcome is something only a handful of communities provide to their citizens and something I believe more should strive to provide.

The next chapter provides a summation of the evidence in this study and how the evidence relates to my research questions and the themes that emerged from the data analysis, discussion of the practical relevance and contributions of this study, discussion of study limitations, suggestions for future study, recommendations for future research, and I conclude with a brief reflection on the research process.

Chapter 5 – Conclusion

As I previously stated, the goal of my dissertation was to explore the challenges and successes involved with building community-based adaptive sports and fitness facilities to provide others with the information they need to begin such a project. The information learned through this research could be important to community planners, advocates for programs for people with disabilities, disability studies, and sports and fitness professionals. The following are the research questions I intended to answer and which are the focus of this chapter:

- Who are the key people involved in designing, funding, and building community-based adaptive sports and fitness facilities, and what is the importance of their roles in these projects?
- What steps are taken to make the vision of community-based adaptive sports and fitness facilities become a reality?
- What design features of the facilities are key components to meet the training, physical activity, and recreation needs of people with disabilities?
- What challenges and successes are encountered when building community-based adaptive sports and fitness facilities?

This research study's evidence was presented in Chapter 4. Here, I summarize that information related to my research questions, relate the evidence to current literature, discuss the practical relevance and potential contributions of this study, acknowledge study limitations, and make recommendations for future research.

After visiting the three community-based adaptive sports and fitness centers, I found they are places of excellence yet still exhibit deficits related to their provision of service for

people with disabilities. The staff and volunteers who put together these facilities, beginning with a blank canvas, are to be commended for their vision, commitment, and intention to improve equity in their communities for people who have the desire to be active and who have disabilities.

Conclusions Related to Research Questions

Key People, Motivations, and Collaborations

This section provides supporting evidence to answer the following research question: Who are the key people involved in designing, funding, and building community-based adaptive sports and fitness facilities, and what is the importance of their roles in these projects?

The evidence in this study shows that passion builds excitement, which drives people to envision something greater. In this study, that something greater was the construction of community-based adaptive sports and fitness facilities in three cities in the United States. The key people who helped bring the vision of a community-based adaptive sports and fitness facility to their communities had common passions, visions, desires to advocate, and were people who had the ability to build coalitions, develop relationships, and make minor and major decisions. Of the 11 people interviewed for this study, all appeared to be white, one person had an identifiable physical disability and was a retired competitive wheelchair athlete, two reported backgrounds as competitive swimmers, and three were actively involved in wheelchair and adaptive sports as administrators or managers of programs. All 11 had a personal connection to at least one of the organizations leading the projects.

There is an importance in incorporating multiple perspectives into planning adaptive sports centers, especially the perspectives of people who have disabilities and who might be

the primary focus of membership. The key people are those with knowledge of the benefits of physical activity and sport for disabled athletes and people with disabilities who have experienced the barriers in the built environment firsthand (Dolbow & Figoni, 2015; Fänge et al., 2002; Priestley, 1976; Rimmer, 2005; Rimmer et al., 2005). A facility committee, with a wide range of knowledge in sport and physical activity as well as strong leadership qualities, has knowledge of the essential services that are needed.

For some of the 11 people I interviewed, the dreams began many years before the ground was broken with a shovel. Those involved in wheelchair and adaptive sports described playing in basements, in parking lots, and in school cafeterias because those were the only locations they could access, the only places that would allow them to practice their sports. This led Pangrazio and his teammates to question if they could build their own facility and led to the conversations between Besta and Butzer about the needs of their athletes and programs.

Another area evident in the data was the importance of having leadership with the interest and the power to bring these ideas and dreams to reality. The people identified in this study included a cross-section of members of each community who were instrumental in bringing the ideas to fruition and included medical, fundraising, construction, and architecture professionals, as well as interested community members. They ranged from executive directors to volunteers within adaptive sports organizations. These key people represented their communities and brought together the components necessary to complete their projects. Pangrazio referred to those involved in the Ability360 Sports and Fitness Center (Ability360) project as “a committee of champions.” Certainly, the people who dedicated many hours to guide the construction of these facilities, which now are models for

physical activity and universal design, were people with motivation, passion, and courage, all components that could be used to describe a champion, but more importantly, were capable leaders.

Of those involved in the process, Crawford said, “There was no fear driver. There was only courage and optimism and joy and future.” In all three cases, there was a desire to hear the voices of those who would be affected by the design and construction decisions to help back up the decisions being made, which showed a willingness and desire to build capacity within the members of the organization as well as within those who might be affected by the outcome. The desire to collaborate and advocate were keys to providing spaces that met the accessibility needs related to physical activity of a wide cross-section of their community.

As for Ability360, the project was led by a man who has a disability, and the committee, LaZear said, was “easily half and half, if not more, people with disabilities.” Pangrazio led with “humbleness and his brilliant mind,” Crawford said, instilling confidence and inspiring those on the committee to work hard. Having the ability to build coalitions and advocate for others is a key tenant of the political frame of Bolman and Deal’s leadership framework (1991). Each of the main leaders for these projects had the ability to bring others to the table who could influence the outcome positively. Long, in Tulsa, spoke about her selfish desire to run a capital campaign, and, though she did not know how to complete all of the components, she sought support she needed by meeting with colleagues. Butzer and Perry, in Grand Rapids, had an established relationship through their membership on the board of directors of the Greater Grand Rapids YMCA and used that coalition to bring the Mary Free Bed Guild leadership into the fold as the main donor for their vision of their universally designed facility.

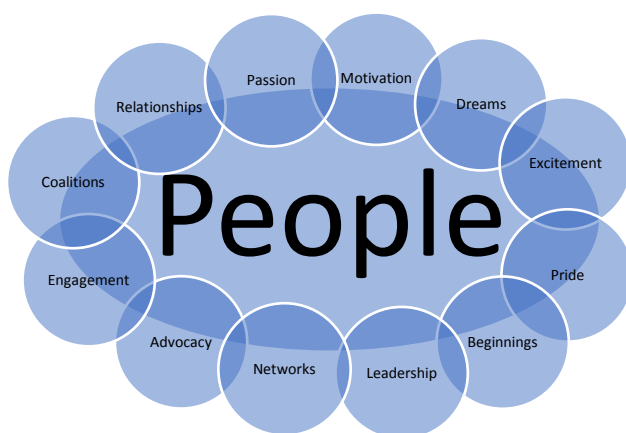
The pride exhibited by each of the individuals involved was palpable. Leading with a sense of achievement in one's work is infectious. Crawford was in awe of the magnitude of the building and what they accomplished in Phoenix; she knew that she helped provide those with whom she worked a facility that met their needs and that supported the sports programs of which she was a part. Her position as a recreation therapist led to her involvement in the development of Ability360, as was the case for many of the people who were interviewed for this study. Even the hired professionals for the Hardesty Family Adaptive Sports Complex (Hardesty Complex) project, Boulware and Thomas, had previously established personal connections to The Center. As Boulware said, "When we [his architecture firm] heard that there was a project, we knew. I mean, this was very near and dear to my heart, so we really went after the interview." For Besta—manager of the wheelchair and adaptive sports programs at Mary Free Bed Rehabilitation Hospital, the wife of a wheelchair athlete, and a recreation therapist—her interests collided in this project, allowing not only her husband to have a dedicated place to practice with his basketball team but also providing space for the teams with which she was professionally affiliated.

Pangrazio built the collaborative networks needed to push the Ability360 project through to the finish line. He asked friends to introduce him to a potential donor, he interviewed project managers and learned the necessary skills to lead the project himself, he developed relationships with politicians, and he had the proverbial determination to throw mud at the wall to see what stuck. Building networks, engaging others, and using personal motivators to build coalitions were at the epicenter of what emerged from the evidence I collected. It was more than a few people getting together to discuss dreams, but certainly that was where the three projects started. It was putting those dreams into actionable steps that

drew people to the table, as Crawford described, an oval table, without corners, so that everyone had a voice and that voice could be heard (Figure 27). Through Crawford's work of engaging with others while advocating and educating community members and potential donors, she found "these really high-profile people were just really down-to-earth." Being able to sell the product to others, no matter their position in the community, is all about convincing donors of the worthiness of the product, a key tenant in marketing strategy. The worthiness of these projects was evidenced in the visions of building an adaptive sports and fitness facility, decreasing or eliminating barriers to physical activity for people who have disabilities (Buffart et al., 2009; Craike et al., 2013; Dolbow & Figoni, 2015; Junker & Carlberg, 2011), and the potential changes that can occur in one's life through having access to physical activity (Groff et al., 2009; Lastuka & Cottingham, 2016).

Figure 27

Schematic of the key people and their attributes that facilitated their involvement and the project success.



Butzer talked about going directly to the leadership of an organization to gain its support, then utilizing the power of that relationship to win approval from the membership,

as was the case in the relationship that developed with the Mary Free Bed Guild. Mishler said it was Butzer who “really got the conversation going” about the Guild becoming the lead donor for the Mary Free Bed YMCA (MFBY).

While each facility had advisory groups, construction committees, and conducted focus groups or meetings to assist with the designing and programming processes, the evidence I collected during my interviews with representatives of two of the three cases, the MFBY and the Hardesty Complex, pointed to a discrepancy between the representation of people with disabilities and those who were making the ultimate decisions. These two projects were led by people who did not have disabilities, and, in the case of the MFBY project, Butzer said the athletes in the wheelchair sports programs were called in “on an ad hoc basis” to address issues that might come up during planning or construction phases. After I inquired about representation of people with disabilities on the committees, Perry clarified that with the MFBY project, there was representation of the wheelchair and adaptive sports programs, of another disability rights organization, and of a representative from the Guild on the advisory committee to the construction committee. However, the construction committee that regularly met with the contractors and architect was void of voices of people who had disabilities, which points to no direct impact on the day-to-day construction decisions for the MFBY.

The evidence suggested that the decision makers in all three cases engaged professionals and advisers who were known to them. Keeping those circles of influence close can lead to a lack of representation from minority populations within the community, especially of Black and Indigenous people of color and people who have disabilities, who, according to statistics from the American Community Survey, have a higher prevalence of

chronic disease and co-morbidities (Erickson, W. et al., 2017; Krahn et al., 2015). Another interesting observation related to those who made up the committees and advocated for these facilities to be constructed is the history that competitive sports play with regard to race and ethnicity. The National Collegiate Athletic Association (NCAA) statistics show the prevalence of white competitive student-athletes involved in Division I sports far exceeds those of other races and ethnicities (Table 4). As I discussed in the literature review, students who have disabilities account for less than 1% of the total participants in high school athletics and activities (NFHS MMS, 2020). This is compelling to me because it shows that for all sports activities, there remain disparities in the representation of anyone who falls outside of the description of a white person without a disability, as is evidenced by the participation in this study, as well.

Table 4

Statistics of race/ethnicity from NCAA, Division I student-athletes (Thomas, 2020).

Division/Subdivision	Title/Position	Race/Ethnicity	2020
DI FBS Autonomy Five Conferences	Student-Athlete	American Indian/Alaska Native	192
		Asian	784
		Black	8,195
		Hispanic/Latino	1,840
		Native Hawaiian/Pacific Islander	241
		Nonresident alien	2,769
		Two or more races	2,421
		Unknown	2,605
		White	25,592

The interest convergence theory, originally described by Bell (1980), essentially states that the interests of people with power must align with the interests of those in minority or marginalized communities in order for change to occur in society. This was evidenced in

this study as those who had the power to make changes to the provision of and design of fitness facilities were the main people involved in the projects. Butzer, in discussing fundraising, pointed out that people involved in the project must “have capacity and commitment . . . to be frank, commitment without capacity, you need some people with capacity.” Financial capacity of the people involved in these projects or the people they accessed to support their projects allowed these facilities to be built. People who have disabilities often do not have the level of financial capacity needed to invest in capital campaigns due to discrepancies in employment and income potential (Erickson, W. et al., 2017). The Hardesty Complex had a unique position within this study because the initiation of its project can be credited directly to key donors to the facility, people who had long-standing family history of supporting The Center and possessed the financial capacity and the interest to provide such support.

Evidence showed there is a wide range of people who were key in designing, funding, and building community-based adaptive sports and fitness centers. The participants in this study had connections to one of the organizations and had a personal or professional attachment to the work. Their passions and ability to lead were central to their ability to bring together other key constituents. As Thomas said, “It was the perfect opportunity” to combine her professional skills and her joy of being involved with The Center. When passions and purpose combine, hard work becomes joyful.

Planning for an Accessible Future

This section will provide supporting evidence to answer the following research question: What steps were taken to make the vision of a community-based adaptive sports and fitness facility become a reality?

Evidence found in this study showed these projects were launched by people who had a dream of what could be. Established connections existed in each case to the adaptive sports community and the desire to have a facility that would allow for those programs to grow and expand. Pangrazio and Crawford had been involved for many years in adaptive sport and fitness in their community, one as an athlete and the other as an organizer. In addition, Pangrazio headed the center for independent living, and his vision included athletics as an element important for a person with a disability to lead an independent life. His many years of sport participation and his leadership of the organization brought him to a position to initiate the facility plan. The need in Tulsa was identified by Long to expand offerings of youth programs and adaptive sports and, in working with her board and staff, a vision of a sports complex was realized.

One of the initial considerations for the MFBY project was the overlap of the two main organizations who came together to provide this facility in their community. Members of the board of directors of the Greater Grand Rapids YMCA recognized a need to replace a small, outdated facility, Perry said, at about the same time that Butzer and Besta had spoken about the need to provide an adaptive sports facility to give a home to their active wheelchair and adaptive sports programs. With Butzer and Perry serving on the YMCA board, an idea was born. Butzer's decision to approach the leadership of the Guild to become the lead donor for the new facility gave power to the requests to include adaptations that would meet the needs of the adaptive sports program. Bringing together those two organizations caused some to question if one was doing the work of the other, but Perry was able to communicate the desire to provide a facility that would offer universal design components that would meet the needs not only of the adaptive sports programs but of all members of the community, across

their lifespans. And Butzer provided evidence to the hospital constituents of the importance of having the structure of the YMCA to operate the facility due to its experience with that aspect of facility management. That type of partnership was discussed by Hale (2011) in the cases in Ohio and Nevada, where cities partnered with the YMCA to operate fitness facilities through public-private partnerships. This is a model that could benefit communities interested in building facilities with universal design features (Hale, 2011). Evidence from my research also supported the coming together of somewhat different organizations to help remove built barriers that are often cited as reasons for lack of physical activity participation by people who have disabilities (Buffart et al., 2009; Craike et al., 2013; Jaarsma et al., 2014).

In addition to the funding from the bond, a private donor to the Ability360 came from a fan of the wheelchair rugby team. That donor introduced Pangrazio to other donors as well as to other people in the community to assist with their efforts. In Tulsa, funding came primarily through private donations and grants. The capital campaign of the Hardesty Complex exceeded expectations, due in part to Long's enthusiasm and creative ways of engaging the community. She conducted video tours, which she called "hard-hat tours," of the facility to engage membership and interested community members through posts on social media.

The visions and dreams of the individuals in each city turned into planning sessions and contact with like-minded individuals to devise a plan, to lay the groundwork, and to make important decisions about where each facility would be located and how it would be funded. The committee work differed in each case with regard to the membership, focus, and finalization of decisions. For the Ability360, finding a location that suited their needs was

largely accomplished prior to the thought of building a sports and fitness center. Pangrazio wanted to find a space for the organization's offices as well as build a facility to provide office space for other disability-related organizations. The idea of adding a sports and fitness center came after he was brought to the location where the Ability360 campus was built.

Engaging the community was important, albeit in different ways in each case. In Tulsa, there was a concern that the neighboring community would attempt to block the addition of a second floor. In Grand Rapids, an initial site was identified that did not win approval from the local planning council. In Phoenix, a constraint was imposed by waiting for the bond funding to be released and all of the requirements that needed to be fulfilled related to the bond. Each organization leveraged relationships in the community to aid in navigating issues. Long was proactive in Tulsa regarding the neighboring community by being closely involved in initial discussions about the zoning rules the adjacent neighborhood was attempting to establish. She explained that she developed relationships with the leaders of that community to mitigate future issues and that she was able to secure approval for their building plans without difficulty.

Planning processes also helped to remove barriers, as was evidenced throughout discussions with participants. Boulware noted his ability to bring together multiple interested parties, including staff, members, community members, and board members, to find out what their needs and wants were and what their visions for their building project would look like. He said, "How can we pull your vision out of you?" From that point, he developed plans and presented them to the board and construction committees to confirm that his vision matched theirs. This was similar to the efforts of Perry at the MFBY. He and his design team held workshops for members of the YMCA and anyone interested in the design of the facility.

Their input was taken into consideration, which meant the facility was not conceived in a vacuum. The charrette-style design process engaged membership, provided Perry with valuable feedback, and encouraged ownership of the process from a wide variety of people.

Communication is another key area that presents challenges during committee work for all who undertake large-scale projects such as these. Securing involvement of multiple people, from multiple walks of life, to gain consensus is often a difficult task. Crawford cited the importance of having people who were willing to back up their convictions with solid reasoning, especially when discussions turned to controversial topics such as the inclusion of people with intellectual and developmental disabilities among the membership or specific design features such as a therapy pool or a certain number of basketball courts. It became evident that being able to have those difficult conversations within the committee was imperative to providing a facility that would meet the intended needs of the organization(s). In some cases, those decisions revolved around who and what was the primary focus of the facility.

Communication, compromise, the ability to adapt to change, funding, and planning are important components of committee work that lead to development of adaptive sports and fitness facilities. Connecting visions to budgets and finding a focus that can be mutually agreed upon are keys to successfully navigating the challenges and changes that occur throughout the process of envisioning a center that will meet community needs into the future. Ensuring the facility matches the expressed needs of membership, community members, and staff, as well as the vision of the funders, without becoming exclusionary to one aspect of those important groups is a challenge that must be considered at every step.

An Open Canvas, Putting It All Together

This section provides supporting evidence to answer the following research question: What design features of facilities are key components to meet the physical activity, recreation, and training needs of people who have disabilities? While the three facilities in this study differed greatly in design and specific features, there were some commonalities. What follows is a discussion of those specific features and the importance to accessible design.

In each case, evidence pointed to the need for storage. In the Hardesty Complex, a great deal of space was dedicated to storage, with each team or a set of teams having its own storage room. This not only helped to keep expensive equipment safe but also helped the overall organization of the space so that each team was aware of the space allotted to them. As was mentioned by Boulware, storage is usually an element that can easily be removed from a plan but is always needed. In the MFBY facility, a storage room was shared by the wheelchair sports teams and the facility. The space was organized, making it easy to find equipment, yet the teams had to request permission from MFBY staff to access their equipment, causing an extra step and additional time expenditure any time someone wanted to access their sport-specific chair, thus adding an institutional barrier to access. The storage at Ability360 was both organized and plentiful. Some equipment was stored in a corner of the ramp to the basketball courts and outside of the storage rooms but the majority of the storage for team-specific equipment was located in the basement, away from other members and behind locked fences. That allowed teams to access their own storage locker while not disturbing other equipment or supplies. Storage is a very important component of an adaptive sports and fitness facility because competitive wheelchair sports teams need to have

specialized wheelchairs for each sport in addition to the equipment that accompanies those sports. The Hardesty Complex had an active adapted cycling and wheelchair racing program, with equipment that is much larger than a standard wheelchair, making their storage and transportation more difficult. Sport-specific wheelchairs are also often more difficult to transport due to their specific design and componentry, making storage at the facility much more convenient for the athletes.

By far the most impressive design features for accessibility that I observed during my site visits was the central ramp at the MFBY. It was not only a functional piece of design but was impressive in design. This ramp, while I imagine was difficult to ascend after a tough workout or wheelchair basketball game or practice, provided equal mobility from one floor of the facility to the next. Each of the three facilities also had an elevator, all of which were oversized to accommodate multiple people and their mobility-related equipment. Butzer said, “It’s more than automatic doors and better bathrooms and better parking.” Universal design provides easier access as well as ease in use (Björk, 2009; Hums et al., 2016).

Each facility had multiple entry points into the pool(s) for people with mobility impairments. The step-down access at the MFBY was unique in its design and allowed those who were able to slowly enter the water independently rather than needing assistance at the automatic lift chair. Each facility also had an array of accessible fitness equipment, including cable weight machines with benches that were adjustable and/or removable, FES bikes, hand-crank indoor cycles, and wheelchair scales.

In addition to the specific equipment and storage spaces, having staff specially trained is an accessibility feature that often is overlooked. At the MFBY, there was a commitment that the personal training staff will become CIFT certified trainers, per the stipulation of the

Deed of Gift from the Guild. Both the Hardesty Complex and the Ability360 staff includes recreation therapists in addition to others with specific training in exercise physiology and adapted equipment. The literature points out that another barrier to physical activity as identified by people with disabilities is the lack of trained or knowledgeable people (Buffart et al., 2009; Jaarsma et al., 2014; Manuel Sá et al., 2012; Rimmer, 2005; Rimmer et al., 2005).

In my observations, the little things become the big things at facilities. Things such as touch-free automatically opening doors, easy to open locker handles, and the availability of equipment that is easy to use are widely appreciated. The convenience of having a wheelchair accessible scale can also be a big thing because typically, fitness facilities have only standard scales available for their members. Some facility teams might consider a wheelchair scale as too costly and unnecessary, but its presence is an instant indicator that people who have mobility-related disabilities are welcome. At the Hardesty Complex, Thomas pointed out flaws in the design of handrails and doorstops that would interfere with the mobility of people who use sight canes. This relatively small, inexpensive change to design plans could result in a larger cost savings related to risk management, preventing a potential trip hazard (Björk, 2009; Mion, Eric G., 2017). Automatic opener switches on main doors such as restrooms; areas where there is a potential for slipping, such as the pool; and high traffic areas assist in access as well as in safety. Design features such as wall color at the MFBY were purposefully chosen to assist with a variety of activities such as concentration and way finding.

The family restrooms at each facility were important for members who needed the extra space and for those who were accompanied by a caregiver. A design issue present at

MFBY and the Ability360 was that the elevated mat table did not have clearance underneath for a mechanical lift. At MFBY, a shortage of accessible family restrooms became apparent because they also were used for convenience by parents with small children.

Throughout the facilities, there were many components that were specially designed to maximize independent participation of their members. The features mentioned here are not an all-inclusive list but rather were the features most evident in this study.

Building Equity in the Community for People Who Have Disabilities

This section provides supporting evidence to answer the following research question: What challenges and successes were encountered when building a community-based adaptive sports and fitness facility?

In each city, growth of the facility was a challenge but for different reasons. For Ability360, growth was slow and generated concern among the administration and donors. The first few years required a great deal of patience and willingness to find ways to evolve. Pangrazio was concerned that the facility would not be financially viable, but his patience has paid off as the facility membership continues to grow and programs expand. At MFBY, growth far exceeded expectations, causing concerns about the ability to accommodate all of their members in the spaces that were designed.

Providing a facility that meets ADA requirements was not the goal in any of these cases. At each site, there was evidence that the ADA was a minimal design guideline that did not meet the functional needs of members or staff. Each architect, as well as committee members, alluded to the fact that they designed not only with universal design features but to what was deemed needed and functional by members, staff, or others who have disabilities. Those considerations earned the MFBY the first ever facility certification in universal design

from the Global Universal Design Commission as well as the 2018 Zero Project innovation award. Those awards recognized the efforts of Perry, as the architect and designer, and the construction committee to provide a facility that was a model for ease of use and incorporation of features to meet the needs of a wide cross section of people who have disabilities. Universal design does not need to significantly add to overall costs of building a facility, either, as is evidenced by a recently published article written by two of the participants in this study (Butzer et al., 2020). Their research showed that the universal design features of the MFBY accounted for a 1.7% increase in costs over a more traditionally designed facility (Butzer et al., 2020). One of the largest additional costs was the central ramp that was, in my opinion, an iconic feature of the MFBY facility. Universal design is supported in the literature as not only a potential cost savings for facility design but is considered good design, meeting needs the ADA does not fully address in relation to facility design, such as accommodations for sensory, visual, or hearing impairments (Arbour-Nicitopoulos & Ginis, 2011; Elwell Bostrom et al., 2017; Hums et al., 2016; Logan, 2016; Maisel & Ranahan, 2017; United States Access Board, 1990).

An obstacle that faced Ability360 was its image of being an elite facility. Participants in this study pointed to the photos and trophies that lined the entryway walls as being intimidating. Such an image can be related to the literature about the supercrip phenomena in which elite athletes and regular people who have disabilities do not regard themselves as being like one another (Berger, 2008; Howe, 2011; Purdue & Howe, 2012). In this study, the literature is supported by evidence from the MFBY and the Hardesty Complex project participants as a factor in some of their decision making. Crawford also admitted to this being a problem that was recognized shortly after opening. She explained that people who

had strokes had expressed to her their discomfort with the imaging at the Ability360, having a feeling that they did not belong at such a facility. Over the ensuing years, she said the administration worked to show a more diversified membership that included people with different types of disabilities, not solely elite athletes. Ensuring there is representation of everyone, both on committees and in marketing materials, as well as in depictions at the facility itself, helps more people feel welcome and engages more people from the start (Baker et al., 2007; Fänge et al., 2002).

Site development and related construction costs were other challenges supported by evidence in this study. In each case, there were unexpected additional costs, ranging from limited contractor labor availability in Grand Rapids to the need to do a hard dig through granite in Phoenix. While Pangrazio figured out how to mitigate large amounts of water flowing through the ground and the need for pumps and moisture barriers, Boulware needed to convince the city planners in Tulsa to allow an enclosed corridor building linking the old facility to the new facility at The Center over utility lines. Those challenges were unique to the sites and were not anticipated. In each case, the use of contingency funds was necessary for successful mitigation of the problem because the budget did not contain a line item for either issue. The unknowns of a site can present major concerns and challenges, but as was evidenced by their ability to complete their projects, a little creativity can go a long way.

As has been mentioned, funding for a facility can present challenges yet can be one of the biggest successes. In Tulsa, Boulware was amazed at Long and her committee's ability to raise money and their ability to fit almost all of their wish list into their facility as a result. In addition, Long and Meussner incorporated three years of operating expenses into the capital campaign to allow the facility to grow at a pace that was manageable without concern for

fundraising in the near future. Little did they realize that a year into being open, a pandemic would shutter their facility for months. The largest component of the funding for the Ability360 was the government obligation bond. Pangrazio explained he and the committee worked on the proposal for the bond and presented at city council meetings during the time the organization was looking for property on which to build their campus. He pointed to their success in acquiring this bond—Ability360 received the largest amount given to any organization that year—to the relationships they built with politicians and influential community members. In addition, he used the bond as leverage to acquire other funding from foundations and private donors. Butzer described similar circumstances related to the fundraising for the MFBY but with regard to the community of donors looking favorably on the collaboration of the two organizations, the YMCA and the Guild.

Ability360 faced another unique challenge, among the cases in this study, from within its own community, people who receive independent living services from Ability360 and people who work for that portion of the organization. Some did not see the connection between sports and independent living services, and Ability360 opened, members did not see the connection between rentals to groups outside of the disability community as matching their mission. LaZear explained his need to communicate with those members and showed them how those connections made sense to assist the organization with its operations as well as to develop community integration and support. The desire to provide a space solely for those with disabilities is a discussion that will need to continue to be addressed, in my opinion, in coming years.

On the opposite side of this was the MFBY, a fully integrated, community-based sports and fitness center with a large membership population that provided space for the

wheelchair and adaptive sports programs of the Mary Free Bed Rehabilitation Hospital through a legal document referred to as the Deed of Gift. Prior to the partnership between the YMCA and the Guild, Perry said the national YMCA organization had adopted a focus on inclusion, making a perfect opportunity for this collaboration to occur. Components of the Deed of Gift stipulated certain design elements and services would be available to the wheelchair and adaptive sports programs. One of those included storage space and dedicated gym rental times. While those components were available and continued to be provided, there has been some question about the level of those services and the maintenance of the specialized staff training that was part of that document. In addition, the program has had some difficulty with accessing an adequate amount of storage for sport-specific wheelchairs. Chambers indicated that the entire facility lacked storage, in part because of the unexpected growth in membership since the opening. While the MFBY did support the stipulations of that agreement, Besta explained there was still a feeling the disabled athletes were not given the power that other members had. She said, “We could be made to feel a little bit more like we’re members as well.” This was evidenced in the program paying \$12,000 a year for court time, tournaments, and access of the facility. The disparity of being the minority population continued to exist in this fully integrated facility and was supported by literature that pointed to marginalization of people with disabilities in fitness facility access as another barrier to participation (Mulligan & Polkinghorne, 2013; Rimmer, 2005).

In each case, the evidence pointed to community collaborations, creative problem solving, and having a solid financial support network either from private donors or memberships as components to build a sustainable facility. Even though discrepancies continued to exist with regard to the wheelchair and adaptive sports program being fully

supported at the MFBY, the support received in this facility was beyond what it would have received in many other facilities that do not have the same accessibility features.

What does a sustainable, fully accessible, community-based sports and fitness facility look like? These three cases, each with its own design, its own organizational structures, and its own financial structures, are evidence of sustainable, fully accessible, community-based sports and fitness facilities. There are many lessons to be learned from this in-depth look at these facilities, as well as many questions still to be answered in future research, as is discussed next.

Many studies have shown that physical activity participation of people with disabilities is limited due to their inability to feel comfortable or welcome in sports and fitness facilities (Manuel Sá et al., 2012; Mulligan & Polkinghorne, 2013; Rimmer, 2005; Rimmer et al., 2005). The evidence in my study shows that it is important to include people who have disabilities in every aspect of the planning, design, and construction process in order for their needs to be truly met in community-based adaptive sports and fitness facilities that are being proposed. As was suggested by Björk, universal design without user intervention can inhibit the ability to make products that adhere to the principles of universal design—and I believe this applies to facility design, as well (Björk, 2009).

The lack of availability of sports and fitness facilities specifically designed for people with disabilities was a primary reason for undertaking this research. I recognized firsthand the disparities that exist in access through my positionality as a physical therapist for people with disabilities as well as a person who has dedicated much of my career to provide opportunities for youth with physical disabilities to participate in sports. Building such facilities is a step toward equity though a long journey remains for the realization of true

equity in the provision of physical activity opportunities for people with disabilities. To my knowledge, no new facilities have been developed during my research, leaving the United States with far too few community-based adaptive sports and fitness facilities that provide fully inclusive services and dedicated or prioritized use of space for people with disabilities.

Summary

Much of what has been accomplished by the organizations that built the three facilities visited in this study was because of people who had a sense of wanting something more in their communities for people with disabilities. These projects were facilitated by and, in one case, conceived by people who dreamed of having a space in a world where those spaces did not exist. They wanted better facilities; more-accessible facilities; and facilities that would provide equity in use, participation, and belonging for their members. They wanted the membership to feel a sense of ownership rather than feeling like a visitor of the facility. Many of the participants of this study alluded to having to use facilities in the past that were inadequate—whether in space, accommodations, or accessibility, if they had access at all. The administrators saw an opportunity in building these facilities to provide increased programmatic offerings to athletes and teams of athletes with disabilities as more dedicated court usage would be accommodated. In addition, the advocates for universal design hoped to remove barriers to participation for people with disabilities by designing the facilities in such a way that mobility within the walls and the infrastructure around the building site would offer ease of movement so that any type of mobility challenge could be accommodated.

Equity can come only after people are made aware of the needs of those who have experienced inequity. People with power, financial capacity, and social and political clout

often need to be introduced to the concepts of adaptive sports and universal design. These introductions can be through visits to other facilities, as each of the planning committees of these facilities experienced, or through direct education and awareness, such as that provided by Perry, architect and board member, of the MFBY. It is through education and awareness that barriers can be broken down.

Practical Relevance and Potential Contributions of This Study

The information I have diligently analyzed and presented shows that a combination of factors played into the provision and building of community-based adaptive sports and fitness facilities in the United States. The main practical application of the information contained in my dissertation is its potential to be used as a blueprint for development of similar facilities. The following list provides some additional practical applications that have emerged from this study:

- **Voices from multiple perspectives:** In the planning process for new facilities, the importance of having people who have disabilities involved cannot be overstated. The experiences of people who have disabilities will help to plan specific spaces and can speak directly to barriers that need to be addressed in order for the facility to be the most accessible. In addition to needing motivated leaders and committee members, making connections and networking with community members such as politicians and other high-level decision makers is necessary to assist with public transportation access and city zoning requirements. Evidence from my research supported the coming together of multiple perspectives to help remove built barriers cited by Buffart et al. (2009), Craike et al. (2013), and Jaarsma et al. (2014), as the reason for a lack of participation in physical activity by people with disabilities.

- **Benefit of primary usage:** The facilities with a primary focus of being an adaptive sports and fitness center, Ability360 and Hardesty Complex, provided dedicated spaces to people who have disabilities. At those facilities, discussions were held about the integration of people who do not have disabilities into those spaces, yet the group that was typically marginalized did not have to continually advocate for use of space. At MFBY, where there was a philosophy of full inclusion, full equity might not have been provided to the minority population, in this case the wheelchair and adapted sports programs and people who have disabilities, due to competition for space with the larger percentage of the membership. An organization's intent for service provision is an important consideration when planning to build a new facility.
- **Universal design:** Universal design does not present a significant additional expense in new buildings but is a significant piece of the puzzle in welcoming people who have disabilities at fitness facilities. A study recently published by Butzer et al. (2020) showed that universal design features of the MFBY added 1.7% to the overall costs to build the facility, supporting assertions by other authors (Arbour-Nicitopoulos & Ginis, 2011; Björk, 2009). Providing features such as ample storage for sport-specific wheelchairs and equipment, multiple entry points for pools, automatic doors, easy to use locker handles, accessible equipment, and, as is often cited in research, specific staff training (such as CIFT certifications) are key components to allow full accessibility of a facility by the widest range of people who have disabilities and those who do not. Having designers, contractors, and architects who are knowledgeable about and interested in universal design will assist organizations who

wish to build adaptive sports facilities to design the spaces to specifications that accommodate the largest portion of their population.

- **Selling the vision:** Marketing and publicizing the intent and benefits of an adaptive sports and fitness facility to potential donors is a key to a successful capital campaign. Having people involved in that process on a committee who can articulate the dream and vision adds credibility to fundraisers. It is important to strategically approach those with whom the organization wishes to partner in order to provide this asset to a community.
- **Contingency planning:** Just as there is no perfect facility, there is no perfect plan for a facility. There were missed opportunities and obstacles were encountered throughout the design and building of the three facilities. Having a contingency fund of about 15% of the overall budget was suggested as a cushion to help mitigate any unexpected expenses. In addition to the contingency fund, two of the facilities built initial operating expenses into their capital campaign. This helps to alleviate the need to build membership more quickly than is comfortable for an organization that might be new to running a sports and fitness facility.
- **Marketing to all:** Engaging potential members through the reflection of themselves in marketing and promotional materials can build their engagement and help to develop their own capacity and willingness to become a member. If a facility is deemed, upon first impression, to be too elite or exclusionary, it is less likely a person would become a member. This reinforces the feeling of being marginalized in society and is not seen as helpful in the fight for accommodation and improved access by people with disabilities. This is another barrier to participation cited in the literature

(Manuel Sá et al., 2012; Mulligan & Polkinghorne, 2013; Purdue & Howe, 2012).

While marketing materials alone will not necessarily change the ongoing marginalization of people who have disabilities in society, being able to see a wide diversity of active people in those materials might have an effect on diminishing societal attitudes and increasing a feeling of self-efficacy for people who have disabilities.

- **Programming the facility:** Organizers who wish to build adaptive sports and fitness facilities in their communities can use the information from this study that is related to accessible features and equipment utilized by people who have disabilities to help inform their decision making and programming of the spaces within the facility. It is important to have a clear vision of the community's needs.
- **Do your research:** Each of the committees found it important to visit other sites prior to starting their own projects. The willingness of each group of people to share knowledge is a huge benefit to anyone looking to embark on this type of construction in their community. Visits to other adaptive sports and fitness facilities by key members of organizing committees, incorporated in the planning phase of each organization in this study, will help to determine what will best meet the needs in other communities.

Study Limitations

Due to my specific focus and my inclusion/exclusion criteria, this study included a small sample of the available adaptive sports and fitness facilities. I limited the investigation to facilities that were opened in the 10 years prior to my research. Expansion of this time frame, while I might not have had access to every participant involved in the original design

and building processes, might have given more insight about how these types of facilities were initially conceived. The participants I interviewed were highly involved and highly invested individuals who had a personal relationship to the organization and its mission, and their responses reflected that level of investment. Interviewing others, such as employees of the facility at the time it opened or the athletes and members who utilized the facility, might have offered more insight into the facility limitations and benefits. I did not interview the architect of the Ability360 and therefore there could not be a cross-case analysis related to the positionality of participants from each site. I do not have a mobility disability, which means that what I see in facility use and design might differ from someone who has that lens. I was a novice researcher for whom everything I completed in this study was a new experience, and it is likely I did not think to ask some pertinent questions or think about other issues that could have elicited additional useful information about the birth and completion of the facilities described in this study.

Recommendations for Future Research

There would be value in an investigation of older facilities, those outside the 10-year window I used for this study, to determine the keys to success related to their longevity. Such an investigation could examine operations, facility management, and programmatic structures. Additional ideas for research are:

- Compare facilities built with an inclusive philosophy and those built specifically for people with disabilities as the primary membership base.
- Investigate the rapid growth of the MFBY membership and how universal design features, location, size, and amenities impacted that growth.

- Use critical race theory, specifically DisCrit, to broaden the examination of the involvement of people who have disabilities in planning and design of other sport and recreation facility projects.
- Examine budget decisions with a lens of DisCrit theory to determine discrepancies and power issues that might have led to decision making within these facilities.
- Compare cost benefit analyses of sports and fitness facilities with recreational facilities, such as sports venues or arenas, where universal design principles were utilized throughout the design and programming.
- Investigate the impact of marketing materials and visual representations of a variety of bodies on the comfort of people with disabilities versus elite disabled athletes with regard to willingness to invest in membership at the facility.

Research Reflection

I realize and acknowledge the privilege I had to conduct and complete this research. I was able to fully support myself and my family while being away for research activities, taking unpaid time off to do so, as well as having all of the tools necessary to complete the project to the best of my abilities. My ability to travel to each facility enhanced the overall study through use of my personal lens, capturing the workings and the interactions of the individuals who agreed to be interviewed and with whom I interacted. I believe the people I interviewed were comfortable sharing information with me. They have been communicative since my visit and have participated in post-visit communications and sharing of information. It also was fortunate that I completed the in-person visits prior to the onset of the COVID-19 pandemic and resulting public health emergencies that disallowed travel and caused the three facilities to close for a period of time. While it was a long, sometimes arduous journey, I

learned a great deal about myself and the processes of qualitative research. In the future, I would be more ruthless with my coding, I would use parent and child codes, and I would read and write more. However, as I do not plan to pursue another doctorate, these guiding principles would need to be applied to nondegree-seeking research activities.

I also had the privilege to learn about the facilities and individuals with whom I interacted throughout the process and who have offered ongoing assistance in my future endeavors to build a facility similar to theirs in Albuquerque. I will be forever grateful for their willingness to share this journey with me, even if through small interactions.

Appendix A

Adaptive Sports and Fitness Facilities

State	Facility Name	Address	Amenities
AL	Lakeshore (1984)	4000 Ridgeway Drive Birmingham, AL 35209	Aquatics center Fitness center Track Gymnasium Rock climbing wall Archery/rifle range
AL	University of Alabama Stran-Hardin Arena (2018) Parker-Haun Tennis Facility (2021)	410 Peter Bryce Blvd. Tuscaloosa, AL 35401	Basketball gymnasium Locker rooms Office suite Weight/workout rooms Storage rooms Film analysis spaces
AZ	Ability 360 Center (2011)	5031 E. Washington St. Phoenix, AZ 85034	7,500 sq ft fitness room group fitness room aquatic center indoor rock wall full size courts indoor track
AZ	University of Arizona	Disability Resource Center, Highland Commons 1224 E Lowell St. Tucson, Arizona 85721	Fitness center
CA	BORP Adaptive Sports & Recreation	3075 Adeline Street, Suite 200 Berkeley, CA 94703-2578	Group fitness room

State	Facility Name	Address	Amenities
CA	Goodwill Fitness Center	1601 E. Saint Andrew Pl Santa Ana, CA 92705	Fitness center
CA	Break the Barriers (2003)	8555 North Cedar Ave Fresno, CA 93720	Gymnastics gym Pool Stage Taekwondo room Small fitness center Archery room Dance studio
CO	Kelsey Wright Building Adaptive Sports Center (2019)	10 Crested Butte Way Treasury Center, Lower Level Mt. Crested Butte, CO 81225	Participant assessment space Equipment modification and fit-up area Physical therapy and exercise room Ski-in, ski-out access for winter adventures Indoor climbing wall Participant lodging Industrial kitchen Meeting area and classroom Administration offices Basement locker rentals
IN	Turnstone (2004)	3320 N Clinton St Fort Wayne, IN 46805	Gymnasium Indoor track Meeting rooms Activity rooms Pool

State	Facility Name	Address	Amenities
MI	Mary Free Bed YMCA (2015)	5500 Burton Street SE Grand Rapids, MI 49546	Fitness center Locker rooms Sports fields Aquatics center Indoor track Tennis courts Gymnasium Rock climbing wall
OH	Spire (2009)	5201 SPIRE Circle Geneva OH 44041	Gymnasium Aquatics center Banquet center Indoor fields Outdoor stadium & track Indoor track & field
OK	The Center for Individuals with Physical Challenges Hardesty Family Adaptive Sports Complex (2019)	815 South Utica Ave Tulsa, OK 74104	Gymnasium Aquatics center Catering kitchen Meeting rooms Multipurpose group fitness rooms Indoor track
TX	West Gray Community Center (2006)	1475 West Gray Houston, TX 77019	Aquatics center Fitness center Track Gymnasium Rock climbing wall
TX	Verne Cox Multipurpose Recreation Center (date unknown)	5200 Burke Road Pasadena, TX 77504	Gymnasium Pool Locker rooms Softball fields Activity rooms Weight room Fully functional kitchen
TX	Adaptive Training Foundation (2014)	4125 Old Denton Rd. Carrollton, TX 75010	Fitness/ Adaptive training center

Appendix B

Validity Threats Matrix

What do I need to know?	Why do I need to know it?	What kind of data will answer the questions?	Analysis Plans	Validity Threats	Strategies for dealing with validity threats
<p>What steps are taken to make the vision of a community-based adaptive sports and fitness facility become a reality?</p> <p>What challenges and successes are encountered when building a community-based adaptive sports and fitness facility?</p>	<p>There is little information available in the current literature about how community-based adaptive sports and fitness facilities are designed and built within US.</p>	<p>Semi-structured interviews of individual participants, site visits, review of relevant documents, photographs, notes taken during interviews and facility tours, reflective memos.</p>	<p>Audio Tapes, transcription, content analysis, coding and re-coding, re-reading, detailed/ descriptive notes of observations, member reflections of transcriptions & data themes.</p>	<p>Bias:</p> <p>A. The participants who are well known will assume I know what they are going to tell me.</p> <p>B. Questions will be too specific & leading.</p> <p>C. Questions will be too vague to get depth of information.</p>	<p>Bias:</p> <p>A. I will look for all possibilities in the responses, not just what I want to find.</p> <p>A. I will place my bias out in the open for interviews & survey.</p> <p>B & C. I will ask for input from critical friends to analyze interview questions.</p>
<p>Who are the key people involved in designing, funding, and building community-based adaptive sports and fitness facilities, and what is the importance of their roles in these projects?</p>				<p>Reactivity:</p> <p>D. Potential for limited variability in narratives/ survey responses.</p> <p>E. Participants will not remember important details.</p> <p>F. I will miss information or code improperly.</p>	<p>Reactivity:</p> <p>D. Triangulation of narratives, documents, photos, notes, memos.</p> <p>E. Inclusion of multiple voices through interview process.</p> <p>F. increase potential rigor in analysis.</p>
<p>What design features of facilities are key components to meet the physical activity, recreation, and training needs of people who have disabilities?</p>					

Appendix C

Interview Questions

- When did you become involved in the process of designing/building your facility?
- Why did you want to be a part of this project of building the facility?
- Who first conceptualized or had the vision (the context makes clear the meaning of the word ‘vision,’ which means quotation marks are not necessary) of the facility?
- What barriers or facilitators did you experience during the design phase?
- What partnerships were important during the design/building process?
- Tell me about your experience with the processes of:
 - Funding
 - Budgeting
 - Designing
 - Committee work
 - Publicity/marketing
- What was the overall process like?
 - What challenges did you/your team encounter in the process?
 - What were key successes that you experienced?
 - What parts of the process were below, met, or exceeded your expectations?
 - Was there something that occurred that you didn’t expect to happen during the project?
- How were decisions made about the budget?
 - Where did the funding come from?
- How were decisions made about the location?
 - The facility size/design/components?
- Who were other key people/instrumental decision makers in the process of building your facility?
- What documents could you identify that I could review or have copies of that were instrumental in the process?
- Additional information you’d like to share?

Other information to collect:

What year did the design process begin?

- Year built?
- Year opened?

Size of community?

Population of the area?

Current membership size:

- Expected membership size:

Membership costs to participants:

Yearly budget for operations:

- For programs:

Follow-up interview(s)?

- Yes – Date:
- No – Why:

Identification in the research documentation: Your name: Y/N Your pseudonym: Y/N

Appendix D

IRB Consent Form



From Vision to Reality:
Building Adaptive Sport & Recreation Facilities in Communities across the United States
Informed Consent for Interviews
2019-09-19

John Barnes, Ph.D., Principal Investigator, and Mary Beth Schubauer, student researcher, from the University of New Mexico, College of Education, Health, Exercise, and Sport Sciences Department are conducting a research project. The purpose of the research is to describe how adaptive sport and recreation facilities in the US are built. You are being asked to participate because you have been identified as being an instrumental person in the development of an adaptive sport center in your community, your facility was built or conceptualized within the past 10 years, and the center is a full-service, stand-alone facility consisting of indoor courts for team sports, multi-purpose fitness spaces, aquatic area(s), changing/dressing/bathroom/shower areas, and programming specifically for people with disabilities.

Your participation will involve one-on-one interviews, up to two times, to discuss your role in and knowledge of the building of the adaptive sports center. Each interview should take about 120 minutes to complete. Each interview will be audio recorded, using digital recorder(s), transcribed as soon as possible after the interview by the researcher, and you will be provided a transcript to review for your reflections and/or to provide further information following the transcription. The interview includes questions such as, but not limited to:

- When did you become involved in the process of designing/building your facility?
- Why did you want to be a part of this project?
- Who first conceptualized or had the “vision” of the facility?
- Was there something that occurred that you didn’t expect to happen during the project?

You will be asked to provide the researcher with copies of important documents that relate to the design, conceptualization, funding, and building of the adaptive sports center. The researcher will also request to take photos of the adaptive sports center. In all cases, you will be given the choice of having identifying information redacted from interviews, documents, and photos to maintain your confidentiality and the confidentiality of your facility.

Your involvement in the study is voluntary and you may choose not to participate or to withdraw at any time. During the interview process, you are permitted to skip or refuse to answer any question that makes you uncomfortable and you can stop the interview at any time. You may also request that your interview not be included in the research project report and findings at any time. If you choose to withdraw from the study after the data has been analyzed, all of your information will be de-identified, but your data will remain as a part of the study.

Participation in this study will take a total of up to four hours, over a period of one to two interviews of two hours each, inclusive of time for gathering documents and reviewing your interview transcriptions. Additional time of one to two hours may be necessary for facility tour(s) and descriptions. The researcher will travel to your site for the interviews and tours, however, if you are not available or would prefer, the interview could take place via video chat or conference call.



There are minimal risks in this research, but some individuals may experience discomfort or loss of privacy when answering questions or stress and inconvenience with the interview process.

Funding Disclosure: No outside financial support has been received for this research study.

The data that is recorded for this research will be stored on a password protected lap top computer and/or external drive and in a secure internet-based cloud storage platform that is accessible only to the researchers. All interviews will be downloaded into electronic files and saved on the computer and/or external drive and in the cloud. Transcriptions will be completed by the student researcher. The document copies will be scanned into the student researcher's electronic files and all paper copies will be kept in a locked file cabinet in the student researcher's home office.

If you choose to have all or any of the information you share be unidentifiable, all identifying information and/or marks will be removed and original copies will have any identifying information crossed-out by permanent black marker prior to being placed in the locked file cabinet at the student researcher's home office. In addition, a pseudonym will be assigned when reporting your responses in the final reports and publications. The data will be destroyed 10 years after the completion of the study. Only the researchers will have access to the data. While we will take measures to protect the security of all your personal information, we cannot guarantee confidentiality of all study data. The University of New Mexico Institutional Review Board (IRB) that oversees human subject research and/or representatives of Ability360, Inc., may be permitted to access your de-identified records. Your name will not be used in any published reports about this project without your permission.

At the completion of this study, all identifiable information (e.g., your name/facility name/location/logo) will be removed from the information collected in this project. After we remove all identifiers, the information may be used for future research or shared with other researchers without your additional informed consent.

The findings from this project will provide information on the processes involved in building of adaptive sports facilities. If published, results will be presented through individual quotes and summary format.

If you have any questions, concerns, or complaints about the research, please feel free to contact Dr. John Barnes or Mary Beth Schubauer, Department of Health, Exercise, and Sports Sciences, Johnson Center B16A, MSC05 3040, 1 University of New Mexico, Albuquerque, NM 87131. (505) 277-5151 or (505) 238-2247. jbarnes@unm.edu or mbschu@unm.edu.

If you have questions regarding your rights as a research participant, or about what you should do in case of any harm to you, or if you want to obtain information or offer input, please contact the UNM Office of the IRB (OIRB) at (505) 277-2644 or irb.unm.edu.

By signing below, you will be agreeing to participate in the above described research.

Name of Adult Participant	Signature of Adult Participant	Date
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Name of Research Team Member	Signature of Research Team Member	Date
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Appendix E

Codes/Themes Matrix

Themes	Categories	Codes
Involvement of the people: Courage and optimism and joy and future	MOTIVATIONS	Personal attachment
	Reasons for getting or staying involved	Dreams/visions
		Leadership
		Passion
		Excitement
Involvement of the people: Building networks to accomplish a common goal	COLLABORATION	Beginnings of the projects
	Getting to the ideas and dreams	Barriers to participation, Lack of access
		Advocacy
		Build coalitions through Engagement
		Development of Community partnerships and relationships
		Networks of interested parties
		Stakeholder, Expert consultants
Involvement of the people: Planning for an active, accessible future	INTENTIONS	Committee
	Interaction of people and ideas	Planning
		Timeline
		Decision making
		Compromise, Challenge, Communication
Putting it all together, logistics, utilization, and operations	LOGISTICS	Innovation
	An open canvas	Expansion
		Location, location, location
		Accessibility, Infrastructure, Safety
		Facility design considerations
		Knowledge/learning, Design features,

Building equity in the
community for people who
have disabilities

UTILIZATION

Making sense of the
space

Universal design, Social connection

Develop capacity and Empowerment

Funding

Awareness, Fundraising, Budget, Naming
rights

Planning for contingencies

Construction, Change

Facility use

Space utilization

Storage

Accessible Equipment

Missed Features and opportunities

OPERATIONS

Making it
sustainable

Organizational structure, staff training

Facility operation

Programs

Membership & Marketing

Inclusion

Equity

References

- Ability360. (2021). *About Ability360*. Ability360, Phoenix. <https://ability360.org/about-ability360/>
- Ability360 Campus. (2021). Ability360, Phoenix. <https://ability360.org/ability360-campus/>
- Arbour-Nicitopoulos, K. P., & Ginis, K. A. M. (2011). Universal accessibility of “Accessible” fitness and recreational facilities for persons with mobility disabilities. *Adapted Physical Activity Quarterly*, 28(1), 1–15.
- Baker, S. M., Holland, J., & Kaufman-Scarborough, C. (2007). How consumers with disabilities perceive “welcome” in retail servicescapes: A critical incident study. *Journal of Services Marketing*, 3, 160.
- Barnes, C. (2011). Understanding disability and the importance of design for all. *Journal of Accessibility and Design for All*, 1(1), 55–80. <https://doi.org/10.17411/jaccess.v1i1.81>
- Bell, D. A. (1980). Brown v. Board of Education and the interest-convergence dilemma. *Harvard Law Review*, 93(3), 518–533. <https://doi.org/10.2307/1340546>
- Berger, R. J. (2008). Disability and the dedicated wheelchair athlete: Beyond the “Supercrip” critique. *Journal of Contemporary Ethnography*, 37(6), 647–678. <https://doi.org/10.1177/0891241607309892>
- Björk, E. (2009). Many become losers when the universal design perspective is neglected: Exploring the true cost of ignoring universal design principles. *Technology & Disability*, 21(4), 117–125. <https://doi.org/10.3233/TAD-2009-0286>
- Black Larcom, A. (2018). Access for all: IHSA are striving to make health and wellness activities more inclusive. *Club Business International*, May, 69–71.

- Bloomberg, L. D., & Volpe, M. (2012). *Completing your qualitative dissertation: A road map from beginning to end*. Sage Publications.
- Bolman, L. G., & Deal, T. E. (1991). Leadership and management effectiveness: A multi-frame, multi-sector analysis. *Human Resource Management*, 30(4), 509–534.
<https://doi.org/10.1002/hrm.3930300406>
- Buffart, L., Westendorp, T., van den Berg-Emons, R., Stam, H., & Roebroek, M. (2009). Perceived barriers to and facilitators of physical activity in young adults with childhood-onset physical disabilities. *Journal of Rehabilitation Medicine*, 41(11), 881–885. <https://doi.org/10.2340/16501977-0420>
- Butzer, J. F., Virva, R., Kozlowski, A. J., Cistaro, R., & Perry, M. L. (2020). Participation by design: Integrating a social ecological approach with universal design to increase participation and add value for consumers. *Disability and Health Journal*, 101006.
<https://doi.org/10.1016/j.dhjo.2020.101006>
- Connell, B. R., Jones, M., Mace, R., Mueller, Jim, Mullick, A., Ostroff, E., Sanford, J., Steinfeld, E., Story, M., & Vanderheiden, G. (1997). *The principles of universal design, version 2.0*. North Carolina State University, The Center for Universal Design, Raleigh, NC.
https://projects.ncsu.edu/design/cud/about_ud/udprinciplestext.htm
- Connelly, F. M., & Clandinin, D. J. (1990). Stories of experience and narrative inquiry. *Educational Researcher*, 19(5), 2–14.
- Craike, M. J., Hose, K., Courneya, K. S., Harrison, S. J., & Livingston, P. M. (2013). Perceived benefits and barriers to exercise for recently treated patients with multiple

- myeloma: A qualitative study. *BMC Cancer*, 1. <https://doi.org/10.1186/1471-2407-13-319>
- Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches*. Sage Publications.
- Denzin, N. K., & Lincoln, Y. S. (2005). *The Sage handbook of qualitative research*. Sage Publications.
- DePauw, K. P. (1997). The (in)visibility of disability: Cultural contexts and “sporting bodies.” *Quest*, 4, 416.
- Dolbow, D. R., & Figoni, S. F. (2015). Accommodation of wheelchair-reliant individuals by community fitness facilities. *Spinal Cord*, 53(7), 515–519.
<https://doi.org/10.1038/sc.2015.26>
- Edwards, K. (2019). *HWF Poster KE Revised.pdf*.
- Elwell Bostrom, H., Shulaker, B., Rippon, J., & Wood, R. (2017). Strategic and integrated planning for healthy, connected cities: Chattanooga case study. *Preventive Medicine*, 95, S115–S119. <https://doi.org/10.1016/j.ypmed.2016.11.002>
- Erickson, W., von Schrader, S., & Lee, C. (2017). *Disability statistics from the American Community Survey (ACS)*. Cornell University Yang-Tan Institute (YTI).
<http://www.disabilitystatistics.org/>
- Fänge, A., Iwarsson, S., & Persson, Å. (2002). Accessibility to the public environment as perceived by teenagers with functional limitations in a south Swedish town centre. *Disability and Rehabilitation*, 24(6), 318–326.
<https://doi.org/10.1080/09638280110089906>

- Glesne, C. (2016). *Becoming qualitative researchers: An introduction* (5th ed.). Pearson Education, Inc.
- Grimwood, H. (2019, January 24). Center for Individuals with Physical Challenges unveils new sports complex. *Tulsa World*. https://tulsaworld.com/news/local/center-for-individuals-with-physical-challenges-unveils-new-sports-complex/article_cc63001d-1c15-5b58-b4c1-73e8ae2f387a.html
- Groff, D. G., Lundberg, N. R., & Zabriskie, R. B. (2009). Influence of adapted sport on quality of life: Perceptions of athletes with cerebral palsy. *Disability and Rehabilitation*, 31(4), 318–326. <https://doi.org/10.1080/09638280801976233>
- Hale, L. (2011). Public-private partnerships on recreation facilities offer advantages to each group. *Club Industry*. <https://www.clubindustry.com/nonprofits/public-private-partnerships-recreation-facilities-offer-advantages-each-group>
- Howe, P. D. (2011). Cyborg and supercrip: The Paralympics technology and the (Dis)empowerment of disabled athletes. *Sociology*, 45(5), 868–882. <https://doi.org/10.1177/0038038511413421>
- Howley, E. T. (2018). ACSM's top 10 fitness trends. What's hot and what's not: A look back. *ACSM's Health & Fitness Journal*, 22(6), 18–23.
- Hume, T., Karimi, F., & Thompson, N. (2016, July 7). *Oscar Pistorius sentenced to 6 years in prison for girlfriend's murder*. Cable News Network. <https://www.cnn.com/2016/07/06/africa/oscar-pistorius-sentence/index.html>
- Hums, M. A., Schmidt, S. H., Novak, A., & Wolff, E. A. (2016). Universal design: Moving the Americans with Disabilities Act from access to inclusion. *Journal of Legal Aspects of Sport*, 26(1), 36–51.

IBISWorld US - Industry, Company and Business Research Reports and Information. (n.d.).

Retrieved February 9, 2019, from <https://clients1-ibisworld-com.libproxy.unm.edu/reports/us/industry/productsandmarkets.aspx?entid=1607>

Iezzoni, L. I., McCarthy, E. P., Davis, R. B., & Siebens, H. (2000). Mobility impairments and use of screening and preventive services. *American Journal of Public Health*, 90(6), 955–961.

Jaarsma, E. A., Geertzen, J. H. B., de Jong, R., Dijkstra, P. U., & Dekker, R. (2014). Barriers and facilitators of sports in Dutch Paralympic athletes: An explorative study: Barriers and facilitators of sports. *Scandinavian Journal of Medicine & Science in Sports*, 24(5), 830–836. <https://doi.org/10.1111/sms.12071>

Junker, L., & Carlberg, E. B. (2011). Factors that affect exercise participation among people with physical disabilities. *Advances in Physiotherapy*, 13(1), 18–25. <https://doi.org/10.3109/14038196.2011.556752>

King, G., Curran, C. J., & McPherson, A. (2013). A four-part ecological model of community-focused therapeutic recreation and life skills services for children and youth with disabilities. *Child: Care, Health & Development*, 39(3), 325–336. <https://doi.org/10.1111/j.1365-2214.2012.01390.x>

Krahn, G. L., Walker, D. K., & Correa-De-Araujo, R. (2015). Persons with disabilities as an unrecognized health disparity population. *American Journal of Public Health*, 105(S2), S198–S206. <https://doi.org/10.2105/AJPH.2014.302182>

Lastuka, A., & Cottingham, M. (2016). The effect of adaptive sports on employment among people with disabilities. *Disability and Rehabilitation*, 38(8), 742–748. <https://doi.org/10.3109/09638288.2015.1059497>

- Logan, K. (2016). Level playing field: A group of recent projects demonstrates that true universal design goes beyond mere accessibility. *Architectural Record*, 204(3), 112.
- Lundberg, N. R., Taniguchi, S., McCormick, B. P., & Tibbs, C. (2011). Identity negotiating: Redefining stigmatized identities through adaptive sports and recreation participation among individuals with a disability. *Journal of Leisure Research*, 43(2), 205–225.
<https://doi.org/10.1080/00222216.2011.11950233>
- Maisel, J. L., & Ranahan, M. (2017). *Beyond Accessibility to Universal Design*. Whole Building Design Guide. <http://www.wbdg.org/design-objectives/accessible/beyond-accessibility-universal-design>
- Manuel Sá, M., Azevedo, R., Martins, M. C., Machado, O., & Tavares, J. (2012). Accessibility of sports facilities for persons with reduced mobility and assessment of their motivation for practice. *Work, Supplement 1*, 2017–2023.
<https://doi.org/10.3233/WOR-2012-0425-2017>
- Mary Free Bed YMCA. (2021). Progressive AE.
<https://www.progressiveae.com/portfolio/mary-free-bed-ymca/>
- Maxwell, J. A. (2013). *Qualitative research design: An interactive approach*. Sage Publications.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. Jossey-Bass Publishers.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook*. Sage Publications.
- Mion, Eric G. (2017, March 22). *Building types/Community services/Fitness centers*. U.S. Cost, Inc. <http://www.wbdg.org/building-types/community-services/fitness-centers>

- Moola, F. J., & Norman, M. E. (2012). Transcending 'hoop dreams': Toward a consideration of corporeality, crossroads and intersections, and discursive possibilities in disability and theory. *Qualitative Research in Sport, Exercise and Health*, 4(2), 284–295.
<https://doi.org/10.1080/2159676X.2012.685103>
- Mulligan, H., & Polkinghorne, A. (2013). Community use of a hospital pool by people with disabilities. *Disability and Health Journal*, 6(4), 385–390.
<https://doi.org/10.1016/j.dhjo.2013.04.004>
- National Disability Authority. (2020). *Centre for Excellence in Universal Design*.
<http://universaldesign.ie/What-is-Universal-Design/>
- NFHS MMS. (2020). National Federation of State High School Associations.
https://members.nfhs.org/participation_statistics
- North Carolina State University. (2019). *The Center for Universal Design—Universal Design History*. The Center for Universal Design.
https://projects.ncsu.edu/design/cud/about_ud/udhistory.htm
- Oliver, M. (1990). The individual and social models of disability. *People with Established Locomotor Disabilities in Hospitals*, 7.
- Participation Statics. (2018).
<https://www.nfhs.org/ParticipationStatistics/ParticipationStatistics/>
- Priestley, M. (1976). *Fundamental principles of disability*. The Disability Alliance.
http://www.disability-archive.leeds.ac.uk/authors_list.asp?AuthorID=174&author_name=UPIAS

- Purdue, D. E. J., & Howe, P. D. (2013). Who's in and who is out? Legitimate bodies within the Paralympic Games. *Sociology of Sport Journal*, 30(1), 24–40.
<https://doi.org/10.1123/ssj.30.1.24>
- Purdue, D. E. J., & Howe, P. D. (2012). See the sport, not the disability: Exploring the Paralympic paradox. *Qualitative Research in Sport, Exercise and Health*, 4(2), 189–205. <https://doi.org/10.1080/2159676X.2012.685102>
- Rimmer, J. H. (2005). The conspicuous absence of people with disabilities in public fitness and recreation facilities: Lack of interest or lack of access? *American Journal of Health Promotion*, 19(5), 327–329. <https://doi.org/10.4278/0890-1171-19.5.327>
- Rimmer, J. H., Riley, B., Wang, E., & Rauworth, A. (2005). Accessibility of health clubs for people with mobility disabilities and visual impairments. *American Journal of Public Health*, 95(11), 2022–2028. <https://doi.org/10.2105/AJPH.2004.051870>
- Saebu, M., & Sørensen, M. (2011). Factors associated with physical activity among young adults with a disability: Physical activity and disability. *Scandinavian Journal of Medicine & Science in Sports*, 21(5), 730–738. <https://doi.org/10.1111/j.1600-0838.2010.01097.x>
- Schwandt, T. A. (2015). *The Sage dictionary of qualitative inquiry* (4th ed.). Sage Publications.
- Smith, B., Bundon, A., & Best, M. (2016). Disability sport and activist identities: A qualitative study of narratives of activism among elite athletes' with impairment. *Psychology of Sport and Exercise*, 139.
- Smith, B., & McGannon, K. R. (2018). Developing rigor in qualitative research: Problems and opportunities within sport and exercise psychology. *International Review of Sport*

- and Exercise Psychology*, 11(1), 101–121.
- <https://doi.org/10.1080/1750984X.2017.1317357>
- Staeger-Wilson, K., & Sampson, D. H. (2012). Infusing JUST design in campus recreation. *Journal of Postsecondary Education and Disability*, 25(3), 247–252.
- Stoelzle, H., & Sames, K. (2014). Disabilities Act compliance of fitness facilities in an American metropolitan area. *International Journal of Therapy & Rehabilitation*, 21(4), 169–174.
- Taub, D. E., & Greer, K. R. (1998). Sociology of acceptance revisited: Males with physical disabilities participating in sport and physical fitness activity. *Deviant Behavior*, 19(3), 279–302. <https://doi.org/10.1080/01639625.1998.9968089>
- Thomas, D. (2013, November 20). *Diversity Research* [Text]. NCAA.Org - The Official Site of the NCAA. <http://www.ncaa.org/about/resources/research/diversity-research>
- Thompson, W. R. (2018). *Worldwide survey of fitness trends for 2019*. 22(6), 8.
- United Nations Educational, Scientific and Cultural Organization. (2015). *International Charter of Physical Education, Physical Activity and Sport*. <http://www.unesco.org/new/en/social-and-human-sciences/themes/physical-education-and-sport/sport-charter>
- United States Access Board. (1990). *ADA Standards*. <https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/ada-standards>
- United States Department of Justice (USDJ). (2015). *Overview of Title IX of The Education Amendments of 1972, 20 U.S.C. A§ 1681 Et. Seq.*

<https://www.justice.gov/crt/overview-title-ix-education-amendments-1972-20-usc-1681-et-seq>

U.S. Department of Health and Human Services. (2019). *Healthy People 2020*. Healthy People 2020. <https://www.healthypeople.gov/2020/topics-objectives/topic/physical-activity>

Wiat, L., Darrah, J., Kelly, M., & Legg, D. (2015). Community fitness programs: What is available for children and youth with motor disabilities and what do parents want? *Physical and Occupational Therapy in Pediatrics, 1*, 73.

Yazan, B. (2015). Three approaches to case study methods in education: Yin, Merriam, and Stake. *The Qualitative Report, 20*(2), 134–152.