Creation of an online adaptive sports & recreation training program for non-healthcare professionals

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Introduction
Participation in physical activity and adaptive sports is shown to have many benefits for participants including:

- Better physical health: people with disabilities are at a disproportionate risk for obesity, which can cause other health problems. One study said adults with a disability are 53% more likely to be obese than adults without disabilities [1]. Increased weight is also associated with wrist and shoulder injuries in wheelchair users.
- Better quality of life: one study found that participation positively influenced quality of life, overall health, quality of family life and quality of social life [2].
- Employment: it has been associated with an approximately 4% higher likelihood of employment per year of sports participation [3]. The Bureau of Labor Statistics published that 19.1% of people with disabilities are employed, compared to 61.9 percent of people without disabilities [4]. A 44% increase in employment could result.

The International Classification of Functioning, Disability and Health (ICF) is the World Health Organization’s (WHO) framework for measuring health and disability [5], based off the biopsychosocial model of disability (Figure 1) According to the WHO, the ICF framework uses the three levels of functioning: functioning at the level of the body or body part, the whole person, and the whole person in a social context. Disability can therefore be classified as dysfunction at one or more of these levels. Using the ICF framework, the Evidence Synthesis Program (ESP) associated with the Department of Veterans Affairs identified various barriers, facilitators, and motivators associated with adaptive sports participation among veterans.

Community-based adaptive sports and recreation organizations and events often utilize volunteers who may or may not have a healthcare background. The goal is to create an online education tool for volunteers who do not have a healthcare background so they can better prepare and better serve adaptive sports participants. Volunteers and staff of community based adaptive sports programs have asked for a training resource to ensure participants have a safe and positive experience. By educating volunteers, some barriers such as "limited accessibility" can be reduced or eliminated, as well potentially reducing the "fear of injury/pain" and "perception of disability" which have both been identified as barriers to participation. A volunteer education tool can also increase facilitators and motivators for participation. The ESP reported that having a supportive, stress free, and safe environment was reported by multiple veterans. One study specifically attributed continued participation to a welcoming environment that created a sense of belonging [5]. By better preparing volunteers, a safer, less stressful, and more supportive environment can be obtained.

Methods
To identify content for the course, a tiered system methods approach was applied, including a survey, interviews, and a review of current resources. The goal of the survey was to see what stakeholders thought should be included, whereas the goal of the review of current resources was to see what is currently being included. By using both surveys, gaps and overlaps emerged which were used to better tailor the information given in the online training. The results of the two methods were then synthesized and analyzed together as a whole.

The survey was developed using input from various medical professionals and ESP experts with experience volunteering at adaptive sports events. An in-person survey was distributed to adaptive athletes, non-healthcare provider volunteers, and healthcare volunteers at an adaptive sporting event. If time allowed, an interview accompanied the survey. An online survey was also distributed to adaptive athletes as well as professionals in adaptive sports such as coaches, team managers, and event coordinators. The online survey was created in Qualtrics, a web-based research platform. A total of 27 people were surveyed or interviewed using the in-person and online survey. Survey distribution ended when the answers provided reached saturation. Answers were then analyzed and grouped into categories based on similarities. The most commonly submitted responses were noted and duplicate responses were removed for data ease of use.

A review of current resources occurred concurrently with survey distribution. The review focused on volunteer training or information at sporting events, or for organizations with some sort of adaptive sporting division. Common resources reviewed included Disabled Sports USA, Adaptive CrossFit, Boy Scouts Disabilities Awareness merit badges, USRowing's guide to adaptive rowing, as well as information from major marathons with an adaptive division which may include things such as using a guide for persons with a Visual Impairment, handcycling, wheelchair racing, or using a support runner.

Results
The categories that emerged from the survey responses seemed to mirror the ICF model and included many of the barriers and facilitators noted by ESP. The initial categories that emerged, in no particular order, were equipment, terminology, event specific knowledge, disability etiquette, example scenarios, safety concerns, as well as common mistakes. The format of the training program was changed to use a more integrative approach rather than many discrete categories. The modules now included will be disability etiquette, diagnosis, and equipment. While it may seem as though important information such as safety has been removed from the training, the information was simply redistributed so that an integrative approach could be used. The course contains written materials and videos as well as interactive resources. The course is now housed in the Canvas online Learning Management System. There was a pilot testing period in which Subject Matter Experts piloted the course and gave feedback. The testing period is just recently been completed. Feedback was positive. After the pilot testing period, the course will be released and accessible to adaptive sports organizations and their volunteers.

Conclusion
The overall future impact of this course is to ensure people providing ASR programming to Veterans and Service members with disabilities have a basic understanding of the medical and functional aspects of disabilities as it relates to sports participation. This will result in increased competency in guiding individuals toward appropriate activities for which they are likely to be successful and enjoy their time volunteering. The course also aims to reduce identified barriers and increase facilitators to adaptive sports.

References
Figure 1. International Classification of Function, Disability, and Health (ICF) Model (5)
Figure 2. Identified Barriers to Adaptive Sports Participation, within the ICF framework [6]
Figure 3. Identified Facilitators of Adaptive Sports Participation with the ICF framework [6]