MORE THAN “JUST SPORTS”
Promoting & Measuring Health & Wellness Impacts through Adaptive Sports & Recreation
What is sportable?

- Adaptive sports non-profit founded in 2005 in Richmond, VA
- MISSION is to CREATE OPPORTUNITIES and TRANSFORM the LIVES of individuals with physical and visual disabilities through sport
- Currently offers 16 adaptive sport and recreation programs and...
  - Local tournaments and competitions
  - Camps and clinics
  - New wellness programs
  - Community events
Sportable provides 16 adaptive sports and recreation opportunities for nearly 500 athletes annually, from ages 3 to 83 with a variety of physical disabilities.

- Archery
- Boccia
- Kayaking
- Rock Climbing
- Cycling
- Road Racing
- Swimming
- Rowing
- Power Soccer
- CP Soccer
- Goalball
- Pickleball
- Wheelchair Basketball
- Wheelchair Lacrosse
- Wheelchair Rugby
- Wheelchair Tennis

Beyond our weekly programs, we also host clinics, camps, competitions, and other community events!

sportable.org
TEAM SPORTS
INDIVIDUAL SPORTS
Hi, I'm Caitlyn Berry! (she/her) I'm an Occupational Therapist that works for Sportable as their Health & Wellness Outcomes Manager. I volunteered for Sportable through a variety of programs and roles since 2014. I'm passionate about sharing the therapeutic impacts of adaptive sports for kids and adults with disabilities.
Hi, I'm Erica Wilson! (she/her) I'm an occupational therapy doctorate student at Duke University. I coached youth wheelchair basketball at Bridge2Sports for one season. Additionally, I played wheelchair basketball collegiately at the University of Illinois in Urbana-Champaign. My goal is to continue to engage individuals with disabilities in activities that are meaningful to them.
Tell us about you!

PollEV.com/CaitlynBerry033
Learning Objectives:

At the conclusion of this presentation, participants will...

- apply key takeaways from the evidence to describe how their program improves the overall health and wellness of individuals with disabilities in their community.
- recognize at least one strategy their program is already using that promotes or measures health and wellness and one new strategy they want to try.
- have at least one idea of a new strategic partner they can reach out to in their community to help grow and/or fund their program.
How much physical activity does the CDC recommend all kids get?
How much physical activity does the CDC recommend kids get?

Children 6 through 17 should get 60+ minutes daily of physical activity!

Mostly consisting of aerobic activities, plus...

- vigorous-intensity activities
- muscle strengthening activities
- bone strengthening activities

Each every 3 days per week

(Children 3 through 5 should “be physically active throughout the day”)

Children 6 through 17 should get 60+ minutes daily of physical activity!

Mostly consisting of aerobic activities, plus...

- vigorous-intensity activities
- muscle strengthening activities
- bone strengthening activities

Each every 3 days per week

(Children 3 through 5 should “be physically active throughout the day”)

Children 6 through 17 should get 60+ minutes daily of physical activity!

Mostly consisting of aerobic activities, plus...

- vigorous-intensity activities
- muscle strengthening activities
- bone strengthening activities

Each every 3 days per week

(Children 3 through 5 should “be physically active throughout the day”)

Children 6 through 17 should get 60+ minutes daily of physical activity!

Mostly consisting of aerobic activities, plus...

- vigorous-intensity activities
- muscle strengthening activities
- bone strengthening activities

Each every 3 days per week

(Children 3 through 5 should “be physically active throughout the day”)

Children 6 through 17 should get 60+ minutes daily of physical activity!

Mostly consisting of aerobic activities, plus...

- vigorous-intensity activities
- muscle strengthening activities
- bone strengthening activities

Each every 3 days per week

(Children 3 through 5 should “be physically active throughout the day”)

Children 6 through 17 should get 60+ minutes daily of physical activity!

Mostly consisting of aerobic activities, plus...

- vigorous-intensity activities
- muscle strengthening activities
- bone strengthening activities

Each every 3 days per week

(Children 3 through 5 should “be physically active throughout the day”)
How much physical activity does the CDC recommend all adults get?
How much physical activity does the CDC recommend all adults get?

Each week adults need...

150 minutes of moderate-intensity physical activity and 2 days of muscle strengthening activity.

= 30 minutes 5 times per week

Adults should move more and sit less throughout the day.

Some physical activity is better than none.

Adults who sit less and do any amount of moderate-to-vigorous physical activity gain some health benefits.
WHAT DO YOU DO TO STAY ACTIVE?

What benefits do you experience through those activities?
People with disabilities are underserved in many areas of life and access to physical activity through sport and recreation is no exception.
Barriers to Adaptive Sports Participation:

- Biases about what people with disabilities can or cannot do (both internal & external)
- Negative self-perceptions, identity, and readiness
- False belief that participation is unsafe or too risky
- Assumption that rules are too hard or the sport/activity can’t be adapted
- Lack of transportation, accessible facilities, and/or nearby programs
- Limited providers with adaptive sports and recreation expertise
- High cost of adaptive equipment
WHO Global Physical Activity and Sedentary Behavior Guidelines for People Living With Disability:

- There are NO MAJOR RISKS for people living with disability engaging in physical activity when it is appropriate to an individual's current activity level, health status, and physical function; and the health benefits accrued outweigh the risks.

- People living with disability may need to consult a health care professional or other physical activity and disability specialist to help determine the type and amount of activity appropriate for them.

- People living with disability should limit the amount of time spent being sedentary and replacing sedentary time with physical activity of any intensity (including light intensity) has health benefits.

- People living with disability should start by doing small amounts of physical activity and gradually increase the frequency, intensity, and duration over time.

Doing some physical activity is better than doing none!
Pediatric health care providers are urged to promote healthy, active living for CWD through physical activity, exercise, recreation, and organized sport by creating specific physical activity prescriptions suited to the child’s interests and ability. The benefits are substantial, not only for the children who participate but also for communities that welcome them.

Benefits of Adaptive Sports for Children:

**PHYSICAL CHANGES:**
- aerobic capacity/fitness
- muscular strength
- motor coordination
- balance
- bone density
- deconditioning
- disease progression (Muscular Dystrophy)
- morbidity (obesity, infection, pressure ulcers)

**PSYCHOSOCIAL CHANGES:**
- confidence & self-esteem
- friendships and social skills
- emotional adjustment/coping
- executive functioning and academic achievement
- overall quality of life
- loneliness & depression
- hyperactivity
- maladaptive behaviors

(Carbone et al., 2021)
Benefits of Adaptive Sports for Adults:

**PHYSICAL CHANGES:**
- Strength
- Stamina
- Balance
- Mobility
- Daily Function
- Chronic Conditions
- Hospitalizations
- Assistance Required
- Body Mass

**PSYCHOSOCIAL CHANGES:**
- Life satisfaction
- Quality of Life
- Disability Acceptance
- Self-efficacy
- Motivation and hope
- Relationships
- Stress
- Social Isolation
- Unemployment

People with disabilities experience loneliness, low perceived social support and social isolation at significantly higher rates than non-disabled peers (Emerson et al., 2021).

The Harvard Study of Adult Development (began in 1938 and still ongoing) is consistently finding that positive relationships keep us happier, healthier, and help us live longer (Waldinger & Shultz, 2023).

The physical health consequences of poor or insufficient connection include a 29% increased risk of heart disease, a 32% increased risk of stroke, and a 50% increased risk of developing dementia for older adults. Additionally, lacking social connection increases risk of premature death by more than 60% (U.S. Department of Health & Human Services, 2023).

On May 3, 2023, the U.S. Surgeon General released a new advisory calling attention to the public health crisis of loneliness, isolation, and lack of connection in our country.

- New National Strategy to Advance Social Connection

“Given the significant health consequences of loneliness and isolation, we must prioritize building social connection the same way we have prioritized other critical public health issues such as tobacco, obesity, and substance use disorders. Together, we can build a country that's healthier, more resilient, less lonely, and more connected.” - Vivek Murthy
HOW MIGHT YOU BE ABLE TO USE THIS RESEARCH IN YOUR PROGRAM?
Assessing Your Impact

- Mult-approach method
- Important to differentiate ourselves from healthcare
- Collaborate with others to create assessment plan (e.g. participants, coaches, students, local universities)
WHAT ASSESSMENTS DO YOU ALREADY USE?
Objective
“Standardized” Assessments

- Formal assessments that have been designed to measure specific characteristics and abilities
- Used in therapy and healthcare to show medical necessity for services
- Widely recognized and often used in research to show an intervention works
- Many, but not all, require specific training or background to administer
- Many assessments cost money to purchase test forms and materials, but many others are available for free
- Shirley Ryan AbilityLab has a Rehabilitation Measures Database with information on 500+ assessments measuring various factors: sralab.org/rehabilitation-measures
Patient-Reported-Outcomes-Measurement-Information-System (PROMIS) Global

- Created by the National Institute of Health (NIH), PROMIS is an expansive system of person-centered measures that evaluates and monitors functions, symptoms, behaviors, and feelings in a number of different domains.

- 122 different assessment domains, can customize question-set

- Pros: lots of well-designed questions to choose from across many domains, federally created

- Cons: so many questions and versions, can be overwhelming to find what you’re looking for

<table>
<thead>
<tr>
<th>Item</th>
<th>Excellent</th>
<th>Very good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>In general, would you say your health is:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>how would you rate your physical health?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>how would you rate your mental health, including your mood and your ability to think?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In general, how would you rate your satisfaction with your social activities and relationships?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent are you able to carry out your everyday physical activities such as walking, climbing stairs, carrying groceries, or moving a chair?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How often have you been bothered by emotional problems such as feeling anxious, depressed or irritable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How would you rate your fatigue on average?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How would you rate your pain on average?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scoring:
Re-code Global07. The recoded score ranges from 1 to 5.
(0 No Pain = 5; 1, 2, or 3 = 4; 4, 5, or 6 = 3; 7, 8, or 9 = 2; 10 worst pain imaginable =1)

After recoding, the
Global Physical Health score = SUM responses to G03 + G06 + G07 + G08.
Global Mental Health score = SUM G02 + G04 + G05 + Global10.
Craig Handicap Assessment and Reporting Technique (CHART)

- Based on the now outdated WHO ICIDH framework
- Assesses 6 domains: Physical Independence, Cognitive Independence, Mobility, Occupation, Social Integration, Economic Self-Sufficiency
- 32 items (long form), 19 items (short form)
- Administration options of interview or paper
- Pros: Comprehensive assessment, long and short form, could pull out specific questions as guide
- Cons: May be too comprehensive for our field, viewed as intrusive, and dated “Handicap” term in name

WHAT ASSISTANCE DO YOU NEED?
People with disabilities often need assistance. We would like to differentiate between personal care for physical disabilities and supervision for cognitive problems. First, focus on physical “hands on” assistance: This includes help with eating, grooming, bathing, dressing, management of a ventilator or other equipment, transfers etc. Keeping in mind these daily activities...

1. How many hours in a typical 24-hour day do you have someone with you to provide physical assistance for personal care activities such as eating, bathing, dressing, toileting and mobility?
   - _____ hours paid assistance
   - _____ hours unpaid (family, others)

ARE YOU UP AND ABOUT REGULARLY?

4. On a typical day, how many hours are you out of bed?
   - _____ hours

5. In a typical week, how many days do you get out of your house and go somewhere?
   - _____ days

19. Approximately how much did you pay last year for medical care expenses? (Consider any amounts paid by yourself or the family members in your household and not reimbursed by insurance or benefits.)
   “Would you say your unreimbursed medical expenses are...”
   - Less than 1000
   - 1,000 – 2,500
   - 2,500 – 5,000
   - 5,000 – 10,000
   - 10,000 or more
Reintegration to Normal Living Index (RNLI)

- Developed to assess the degree to which individuals who have experienced traumatic or incapacitating illness achieve reintegration into normal social activities (e.g. recreation, movement in the community, and interaction in family or other relationships).

- Research and found effective for testing a variety of disabilities (i.e. stroke, TBI, SCI, amputations, nervous system disorders).

- Pros - short, straightforward, scale or simple agree/disagree answer choices (RNLI - P).

- Cons - not as relevant to individuals born with their disability, hard to find assessment form, older created in late 1980s.

1. I move around my living quarters as I feel necessary.
2. I move around my community as I feel necessary.
3. I am able to take trips out of town as I feel are necessary.
4. I am comfortable with how my self-care needs (dressing, feeding, toileting, bathing) are met.
5. I spend most of my days occupied in a work activity that is necessary or important to me.
6. I am able to participate in recreational activities (hobbies, crafts, sports, reading, television, games, computer, etc.) as I want to or is necessary.
7. I participate in social activities with family, friends, and/or business acquaintances as necessary or desirable to me.
8. I assume a role in my family that meets my needs and those of other family members.
9. In general, I am comfortable with my personal relationships.
10. In general, I am comfortable with myself when I am in the company of others.
11. I feel that I can deal with life events as they happen.
Godin Leisure-Time Exercise Questionnaire

- Self-report measure of weekly physical activity
- Researched with M.S. and oncology patients
- Provides scoring categories of active, moderately active, and insufficiently active/sedentary
- Pros: short, easy to integrate into program sign-ups, can show change, easy to score
- Cons: only looking at physical activity, examples on form are not inclusive to disability

Weekly leisure activity score = \((9 \times \text{Strenuous}) + (5 \times \text{Moderate}) + (3 \times \text{Light})\)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Times per week</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strenuous exercise (Heart Beats Rapidly)</td>
<td></td>
<td>(x9)</td>
</tr>
<tr>
<td>Moderate exercise (Not Exhausting)</td>
<td></td>
<td>(x5)</td>
</tr>
<tr>
<td>Mild/Light exercise (Minimal Effort)</td>
<td></td>
<td>(x3)</td>
</tr>
</tbody>
</table>

**WEEKLY LEISURE-TIME ACTIVITY SCORE**

**EXAMPLE**
- Strenuous = 3 times/wk
- Moderate = 6 times/wk
- Light = 14 times/wk

Total leisure activity score = \((9 \times 3) + (5 \times 6) + (3 \times 14) = 27 + 30 + 42 = 99\)

<table>
<thead>
<tr>
<th>Godin Scale Score</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 units or more</td>
<td>Active</td>
</tr>
<tr>
<td>14 – 23 units</td>
<td>Moderately Active</td>
</tr>
<tr>
<td>Less than 14 units</td>
<td>Insufficiently Active/Sedentary</td>
</tr>
</tbody>
</table>

### Physical Activity Scale for Individuals with Physical Disabilities (PASIPD)

- **Modified disability version of the 10 item Physical Activity Scale for the Elderly (PASE), developed targeting individuals with visual/auditory and locomotor/SCI disabilities**
- **Assesses 5 distinct dimensions of physical activity: home repair, lawn and garden work, housework, vigorous sport and recreation, moderate sport and recreation, and occupation and transportation**
- **13 questions, each with 2 parts, assessing frequency then duration across past week**
- **Pros: Disability sensitive and specific, only 13 questions, looks at physical activity through a functional lens**
- **Cons: Some examples feel dated, may not account for differences in lifestyle and priorities (e.g. “In past 7 days, how often did you engage in outdoor gardening?”)**

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
</table>
| 4. During the past 7 days, how often did you *walk, wheel, push* outside your home other than specifically for exercise. For example, getting to work or class, walking the dog shopping, or other errands? | 1. Never (Go to question #3)  
2. Seldom (1–2d)  
3. Sometimes (3–4d)  
4. Often (5–7d) |
| 2. During the past 7 days, how often did you engage in **light** sport or recreational activities such as bowling, golf with a cart, hunting or fishing, darts, billiards or pool, therapeutic exercise (physical or occupational therapy, stretching, use of a standing frame) or other similar activities? | 1. Never (Go to question #4)  
2. Seldom (1–2d)  
3. Sometimes (3–4d)  
4. Often (5–7d)  
What were these activities?  
On average, how many hour per day did you spend in these **light** sport or recreational activities? | 1. Less than 1hr  
2. 1 but less than 2hr  
3. 2–4hr  
4. More than 4hr |
| 4. During the past 7 days, how often did you engage in **moderate** sport and recreational activities such as doubles tennis, softball, golf without a cart, ballroom dancing, wheeling or pushing for pleasure or other similar activities? | 1. Never (Go to question #5)  
2. Seldom (1–2d)  
3. Sometimes (3–4d)  
4. Often (5–7d)  
What were these activities?  
On average, how many hours per day did you spend in these **moderate** sport and recreational activities? | 1. Less than 1hr  
2. 1 but less than 2hr  
3. 2–4hr |
6 Minute Walk/Push Test

- Originally designed to assess patients with cardiopulmonary issues, but over time has been studied and found effective to assess nearly all ages (2 and older) and many disability types.
- Can be administered walking independently, walking with assistive technology, or pushing in a wheelchair.
- Uses some basic supplies including cones, tape, stopwatch, and RPE scale.

Pros:
- Can show change in cardiovascular fitness over time, can be integrated into practices.

Cons:
- Takes some training, uses script, takes time and space to administer, not valid for power mobility.
Subjective “Self-report” Data

Consider what you’re trying to achieve through your programs
Design questions around these goals and ask participants for feedback
Can include:
  - Satisfaction with program
  - General experiences
  - Changes in physical and mental health
  - Self-perceptions
Paper or online forms
  - Survey Monkey, Involve.me
Interviews
Great opportunity to choose questions specific to your community and what you want to know
  - “Have any of the athletic skills you've gained carried over into other areas of your life?”
  - “Why do YOU participate in Sportable programs?”

Please rate how the following physical health factors are affected by your participation in Sportable programs.

**Strength**
- 1 = Major Decrease
- 2 = Decrease
- 3 = No Change
- 4 = Increase
- 5 = Major Increase

**Coordination**
- 1 = Major Decrease
- 2 = Decrease
- 3 = No Change
- 4 = Increase
- 5 = Major Increase
### Physical Health (Required)

How satisfied are you with your physical health (strength, endurance, mobility, etc.)?

- Very Unsatisfied
- Unsatisfied
- Neutral
- Satisfied
- Very Satisfied

### Mental Health (Required)

How satisfied are you with your mental health (self-esteem, coping, overall mood, etc.)?

- Very Unsatisfied
- Unsatisfied
- Neutral
- Satisfied
- Very Satisfied

### Social Health (Required)

How satisfied are you with your social health (having meaningful relationships or friendships, social connection, and feeling sense of community)?

- Very Unsatisfied
- Unsatisfied
- Neutral
- Satisfied
- Very Satisfied
Combining Data:

What is our impact?

SPORTABLE ATHLETE OUTCOMES

- "I have better independent use of my wheelchair."
- "[My son] can now run faster and is more confident when he is in PE at school."
- "I have increased strength and balance to carry my son around in my wheelchair."
- "[Sportable] provides me with connection within the disabled community."
- "I've been able to on outings longer without getting tired."
- "I experience less MS flare-ups."

- 72% of athletes report increased mobility
- 76% of athletes report improved self-esteem
- 82% of athletes report increased strength
- 90% of athletes report increased social connection
- 88% of athletes report increased endurance
- 88% of athletes report improved overall health
● MENTOR Wellness Program
● Sportable Squad
● Wellness Webinars

This project and related materials are supported (in part) by Contract # A262 – 90012 from the Commonwealth Neurotrauma Initiative (CNI) Trust Fund administered by the Department for Aging and Rehabilitative Services. The contents are the sole responsibility of the authors and do not necessarily represent the official views of the CNI Trust Fund or DARS.
Why add wellness?

- To provide an accessible entry point for new athletes
- To promote overall health of our athlete community
- Because it’s a natural extension of what we’re already doing
- Because we’re uniquely positioned to do so
Evidence-based, 8 week virtual wellness program designed specifically for people with disabilities

Meets 5x/week
- Monday - Mindfulness
- Tuesday - Exercise
- Wednesday - Nutrition
- Thursday - Exercise
- Friday - Health Coaching

Classes are live, interactive group sessions via Zoom

It's completely FREE!

We've partnered with NCHPAD to lead MENTOR programs locally, but anyone can join

mentor.nchpad.org
Sportable Squad Events:
This new event series features inclusive fitness and recreation events throughout the year. Move your body, spend time in nature, try a new sport, explore new accessible locations, and make some new friends.

Wellness Webinars:
Monthly one-hour webinars with experts covering various Health & Wellness topics.

Topics Covered:
- Nutrition for Athletes presented by Emily Moore, Registered Dietitian
- Adaptive Athletes and Functional Fitness presented by Emily Kramer-Throckmorton owner of Kaizen Adaptive Training
- Pathways to Independence through Youth Adaptive Sports with Team USA Women’s Basketball Coach, Christina Schwab
- Empowering People with Disabilities to Promote their own Health presented by Patty Kunze, R.N. with a SCI

What did you like most about this Sportable Squad event?

“I got to hangout with my soccer friends and other people who are a part of the Sportable community!”

“This was a fun leisure activity with my peers in the adaptive sports community. I enjoyed seeing athletes that I would not normally see at the sports I play.”

“Fun to try something new and also realize that I can.”

“Feeling connected with others like myself.”
So you have an adaptive program, you know it’s promoting health, and you’re collecting data that confirms it. Now what? How do you use this information?
Partnerships: Recruiting Athletes

WHERE TO REACH OUT:
- Inpatient & Outpatient Therapy centers
- Local hospitals
  - Target relevant departments (e.g. Physical Medicine & Rehabilitation)
  - Target specific clinics (e.g. Spina Bifida clinic)
- Local Orthotic & Prosthetic businesses
- Local DME vendors
- Local school systems
- Centers for Independent Living
- Other organizations similar to yours

WHAT TO DO:
- Deliver posters and flyers
- Offer staff inservices
- Collaborate together
Partnerships:
Building sustainable programs

WHERE TO REACH OUT:
● State Rehabilitation Agency
● Local Parks & Recreation Departments
● Local Hospital and Rehabilitation Foundations
● Local universities (OT, PT, etc.)
● Local YMCAs
● Local schools
● Other community organizations doing similar but different work

WHAT TO DO:
● Trust your expertise
● Remember that often these organizations are trying to reach more people with disabilities
● Collaborate!
WHO DO YOU PARTNER WITH FOR RECRUITMENT OR SUSTAINABILITY?
Remember the evidence...

Just by creating opportunities for people with disabilities to be active and be a part of a community, YOU ARE ALREADY DOING GREAT WORK!
Questions?

REACH OUT ANYTIME!

Caitlyn@sportable.org
Erica.Wilson459@duke.edu

sportable.org
References:


