Disability Inclusion: Catalyzing Change Through Sport

May 5 - 7, 2025
Park City, Utah

MOVE UNITED EDUCATION CONFERENCE

Hosted By

NATIONAL ABILITY CENTER

Mass General Brigham
Spaulding Rehabilitation

Adaptive Sports Centers

Development of a Therapeutic Recreation Online Data Tool

Kathleen Salas, PT, MHA – Spaulding Adaptive Sports Centers
Elizabeth Dahlen, CTRS – Spaulding Adaptive Sports Centers
Brendan Cormier, CTRS – Kelley Adaptive Sports Research Institute; Northeast Passage

May 2025

Today's Objectives

1. Introduce the creation and evolution of our online documentation tool and its feasibility for research
2. Discuss therapeutic foundations of our research process model
3. Participate in a live survey
4. Highlight benefits and barriers of online documentation in the adaptive sports field
5. Discuss the future of the documentation tool for research and programs

Who We Are

Kathleen Salas, PT, MHA

Boston Coordinator
Ski & Ride Club Coordinator
Spaulding Adaptive Sports Centers

Elizabeth Dahlen, CTRS

Cape Cod Coordinator
Network Coordinator
Spaulding Adaptive Sports Centers

Brendan Cormier, CTRS

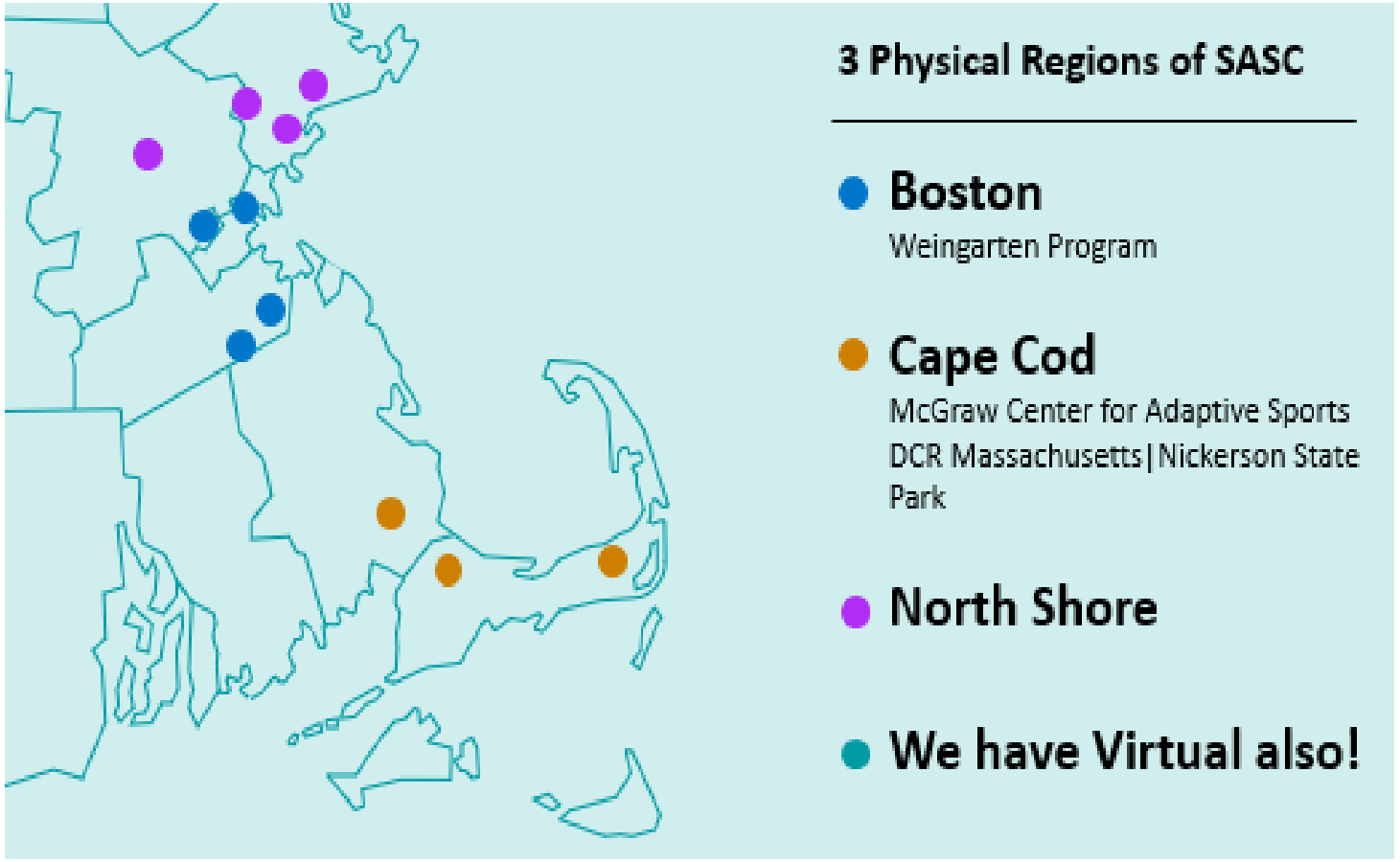
Research Coordinator
Kelley Adaptive Sport Research Institute
Program Specialist at Northeast Passage

Kelley Institute for Adaptive Sport Research (KASR)

Dr. Cheri Blauwet created KASR in 2014. It has become a national model researching the impact of adaptive sports on the well-being of individuals with disability and their communities.

The Institute’s mission is to "advance research that is participant-centered, collaborative, and outcomes-based in order to promote and expand inclusive opportunities for health and wellness among individuals of all abilities.”

Spaulding Rehabilitation Adaptive Sports Centers (SASC)



Mass General Brigham
Spaulding Rehabilitation

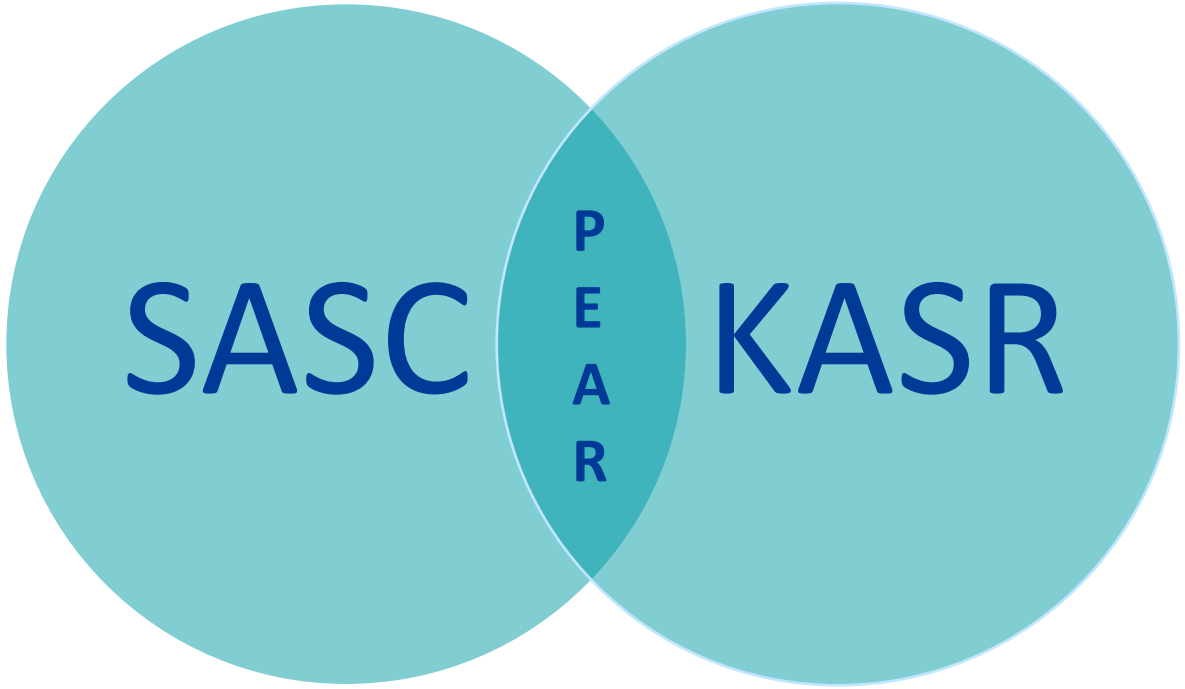
Adaptive Sports Centers

PT, OT, TR, Adaptive Sport Professionals

Over 46, low–cost accessible sport & recreation programs serving over 500 clients annually

Bridging the gap from rehabilitation to lifelong health and wellness

SASC - KASR Relationship

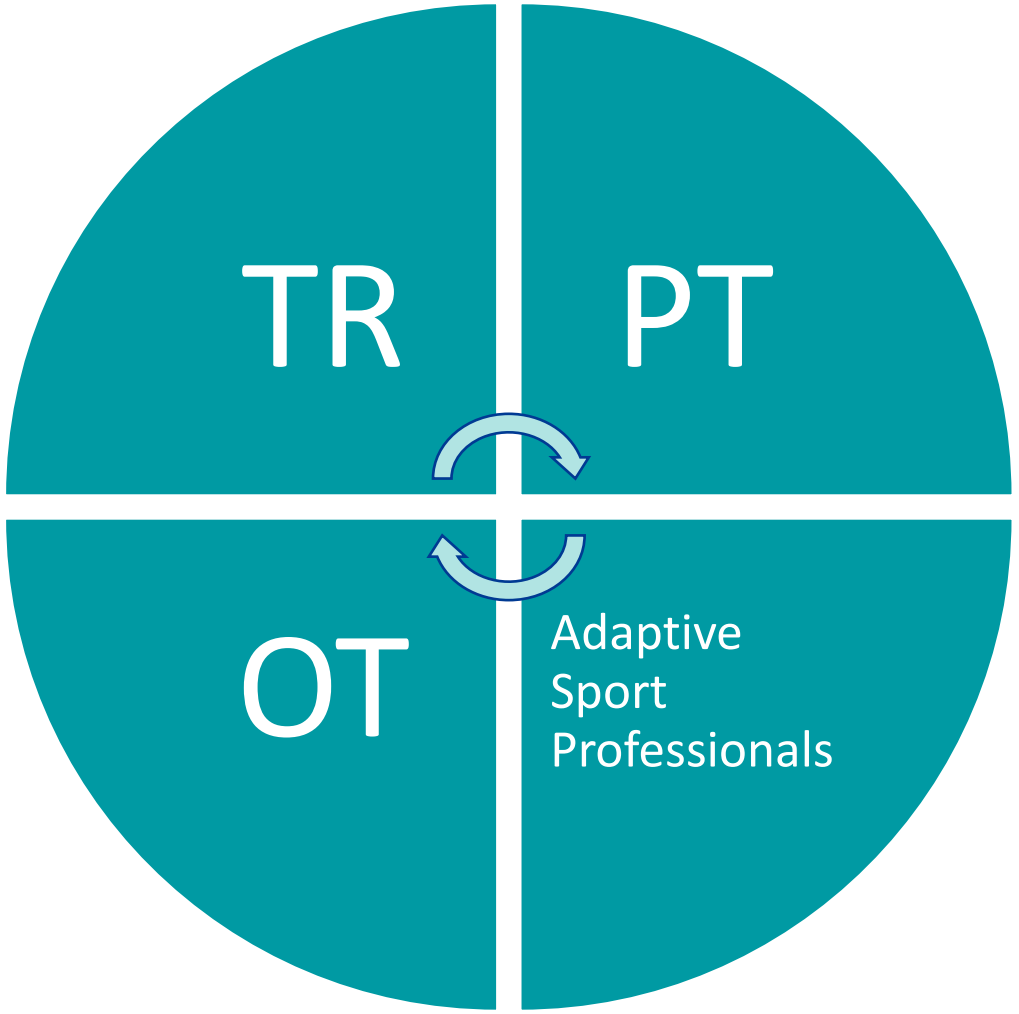


Programs
Education
Advocacy
Research

SASC – KASR Shared Goals

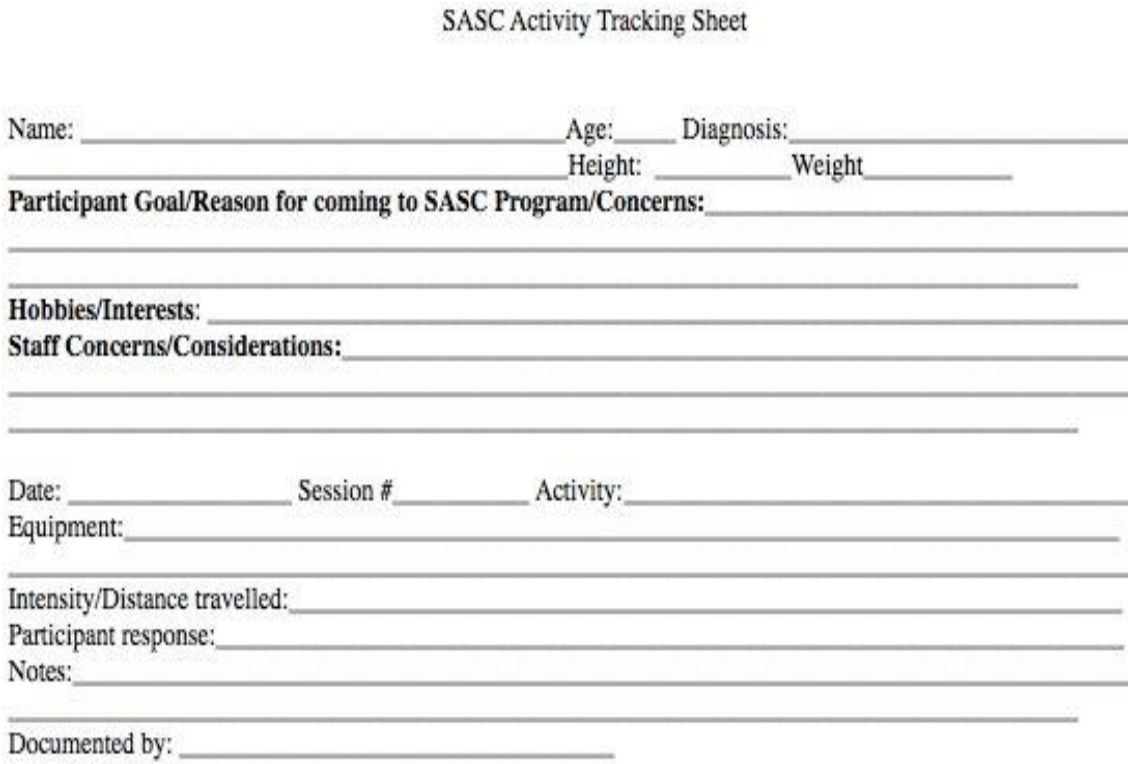
1. **Create** a system-wide documentation tool
2. **Collect** data on client outcomes to help demonstrate program benefits
3. **Educate** staff and participants to individualize sessions for goals and outcomes

Interdisciplinary Approach to Documentation



Early SASC Documentation & Survey

Physical (P) and Emotional (E) Factors	Mean Improvement	Standard Deviation
Flexibility (P)	58.3%	2.6%
Strength (P)	68.0%	2.4%
Endurance (P)	68.4%	2.3%
Balance (P)	61.4%	2.6%
Confidence and Self Esteem (E)	83.8%	1.8%
Mood (E)	85.0%	2.1%



SASC Activity Tracking Sheet

Name: _____ Age: ____ Diagnosis: _____

Height: _____ Weight _____

Participant Goal/Reason for coming to SASC Program/Concerns: _____

Hobbies/Interests: _____

Staff Concerns/Considerations: _____

Date: _____ Session # _____ Activity: _____

Equipment: _____

Intensity/Distance travelled: _____

Participant response: _____

Notes: _____

Documented by: _____

Participant Interviews for Goal Shaping

I want to…

- Build endurance
- Build strength
- Get exercise with adaptive sports
- Improve balance and coordination
- Increase ride distance
- Practice (emotional) coping
- Trial other bikes
- Improve my social life
- Get back to jogging
- Ride upright cycle
- Increase transfer independence
- Learn about grants for own cycle
- Try other adaptive sports with SASC
- Complete 2-day Advanced Bike Ride
- Make it over pedestrian bridge
- Get back to work
- Learn to drive

Goal Challenges

Winter Spin

“Get stronger”
Increase intensity & endurance

Target Sports

“Get better”
Increase accuracy

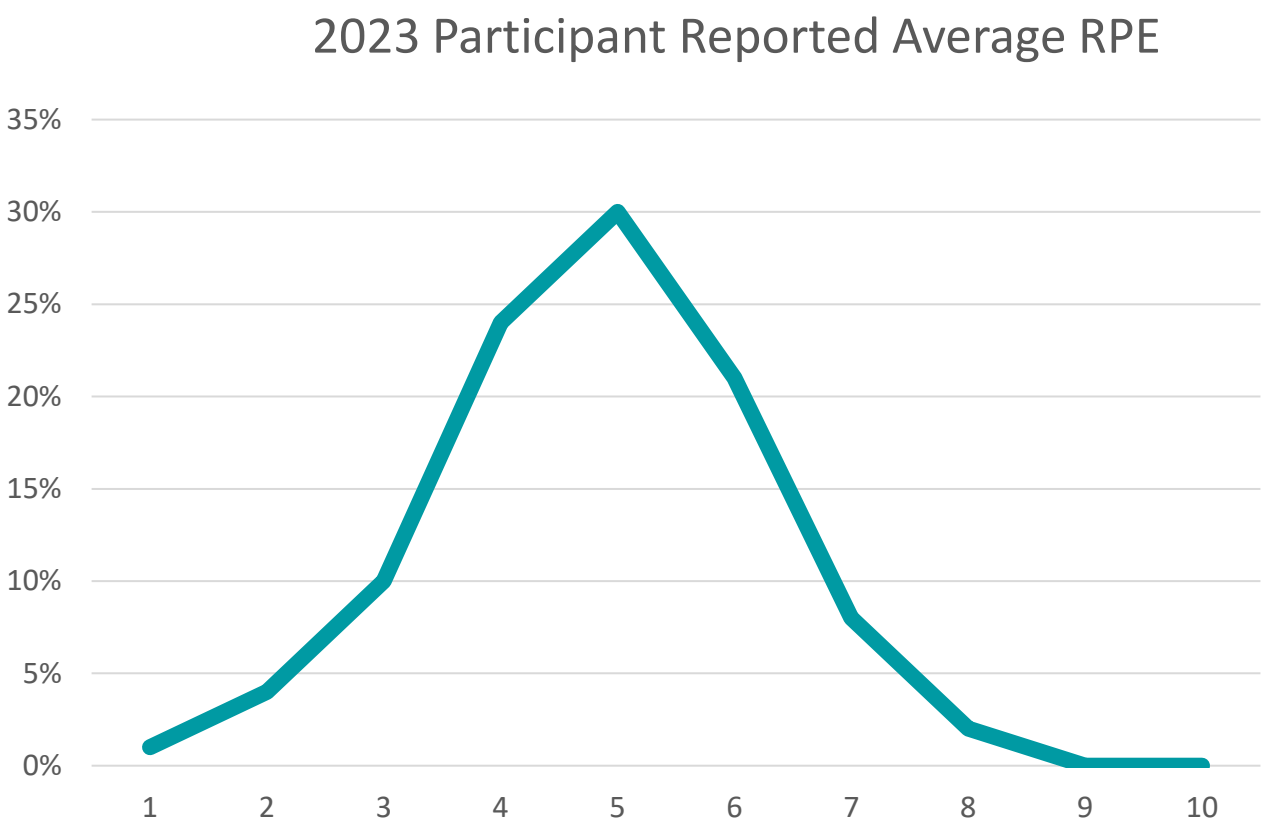
Summer Cycling

“Go farther & faster”
Increase distance & endurance

Getting SMARTer

Specific	Measurable	Achievable	Relevant	Timebound
Activity Transfer Sport Skill	Time Speed Distance Breaks	Realistic for status and participation	Can be achieved in SASC programs	Can be achieved in a season

Participant Rate of Perceived Exertion (RPE)



RPE Scale	Rate of Perceived Exertion
10	**Max Effort Activity** Feels almost impossible to keep going. Completely out of breath, unable to talk. Cannot maintain for more than a very short time.
9	**Very Hard Activity** Very difficult to maintain exercise intensity. Can barely breath and speak only a few words
7-8	**Vigorous Activity** Borderline uncomfortable. Short of breath, can speak a sentence.
4-6	**Moderate Activity** Breathing heavily, can hold short conversation. Still somewhat comfortable, but becoming noticeably more challenging.
2-3	**Light Activity** Feels like you can maintain for hours. Easy to breathe and carry a conversation
1	**Very Light Activity** Hardly any exertion, but more than sleeping, watching TV, etc

SMARTer Goals

Increase Intensity

Participant will complete
50-minute spin class
with 3 rests
achieving RPE range 3-7/10.

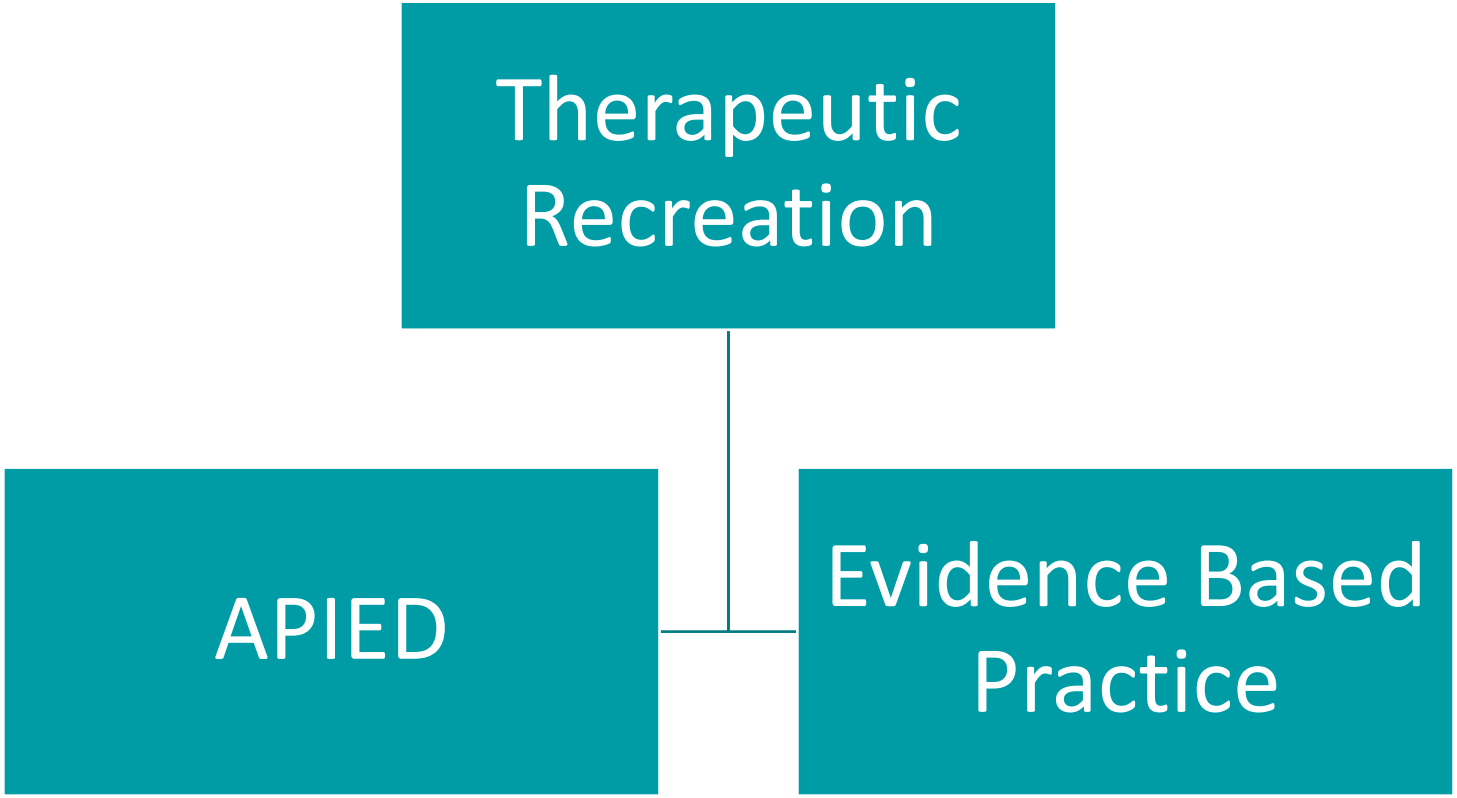
Increase Accuracy

Participant will
hit target 6 of 10 attempts
at 25-yard distance
with minimal safety cues
by season end competition.

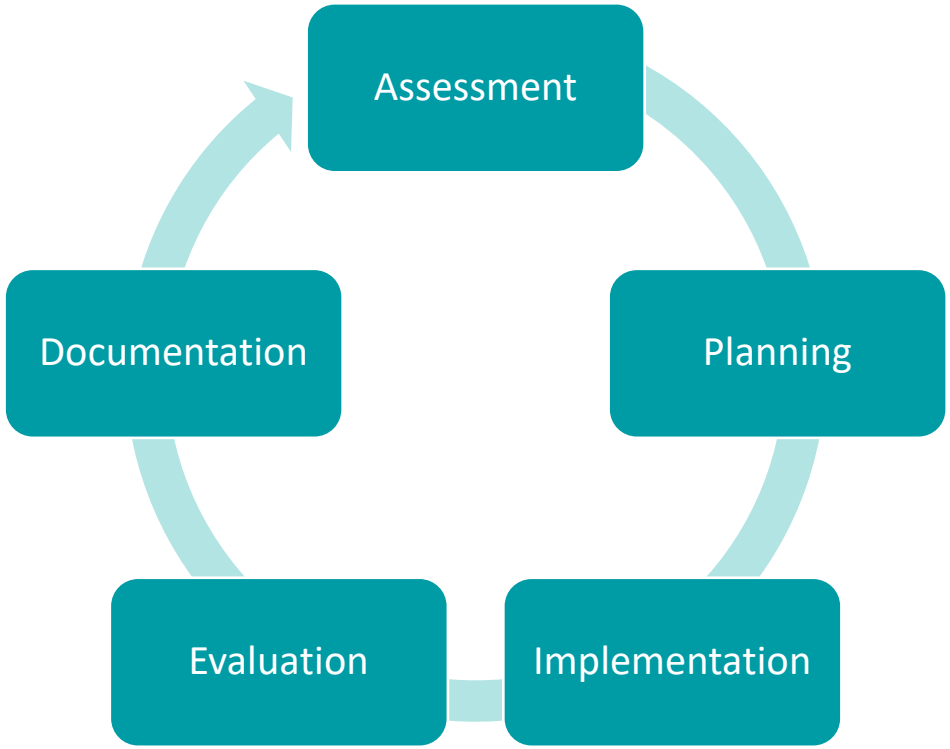
Increase Endurance

Participant will complete
20-mile ride
in 4 hours
by end of summer season
to achieve LTG of MVY trip.

Therapeutic Recreation Foundations



APIED Process



Helps programs standardize:

- Who test is given to
- How test is given
- How answers are scored
- Procedures to interpret findings

Serves as SASC Feasibility Outcome Measure:

- Each step becomes a Key Performance Indicator (KPI)
- Form completion goal of 75% for each metric

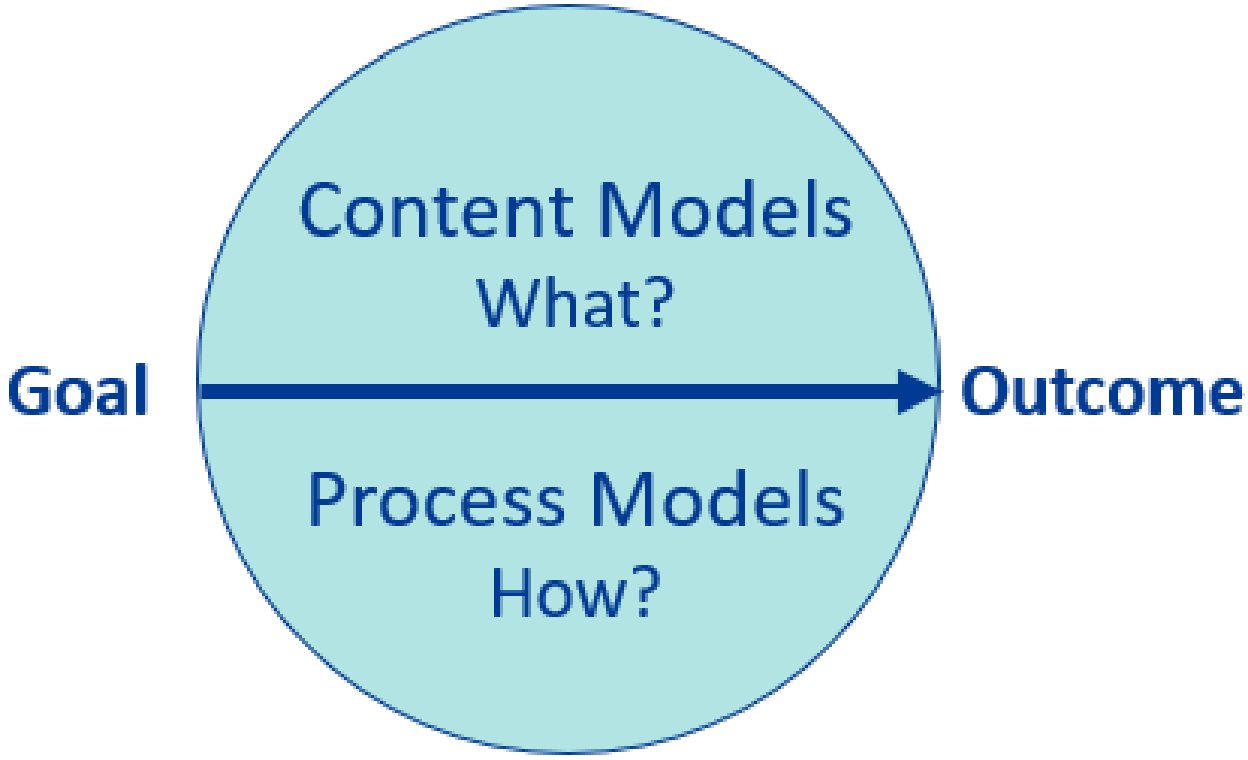
Evidence Based Practice

2021-2022:

- Goal Attainment Scale (GAS)
  - Provides both Content and Process
  - Not TR specific
  - Paper Form

2023-Present:

- Leisure Ability Model (LAM)
  - Provides Content
  - TR Specific
  - We utilized REDCap for the Process



Introducing REDCap

- Secure web platform for building and managing online databases and surveys
- Streamlined process for rapidly creating and designing projects
- Free to use survey software available to non-profit organizations that join REDCap consortium
- Supported by Mass General Brigham HealthCare System with unique MGB staff login
- First utilized with SASC in 2021

REDCap
Research Electronic Data Capture

First Steps

Goal Attainment Scale (GAS)

				Computerisation	
At Baseline	With respect to this goal do they have?	Some function	❑	-1	
		No function (as bad as they could be)	❑		-2
At Outcome: Was the goal achieved?	**Yes**	A lot more	❑	+2	+2
		A little more	❑	+1	+1
		As expected	❑	**0**	**0**
	No	Partially achieved	❑	(-1)	-1
		No change	❑	-1	-2
		Got worse	❑	-2	

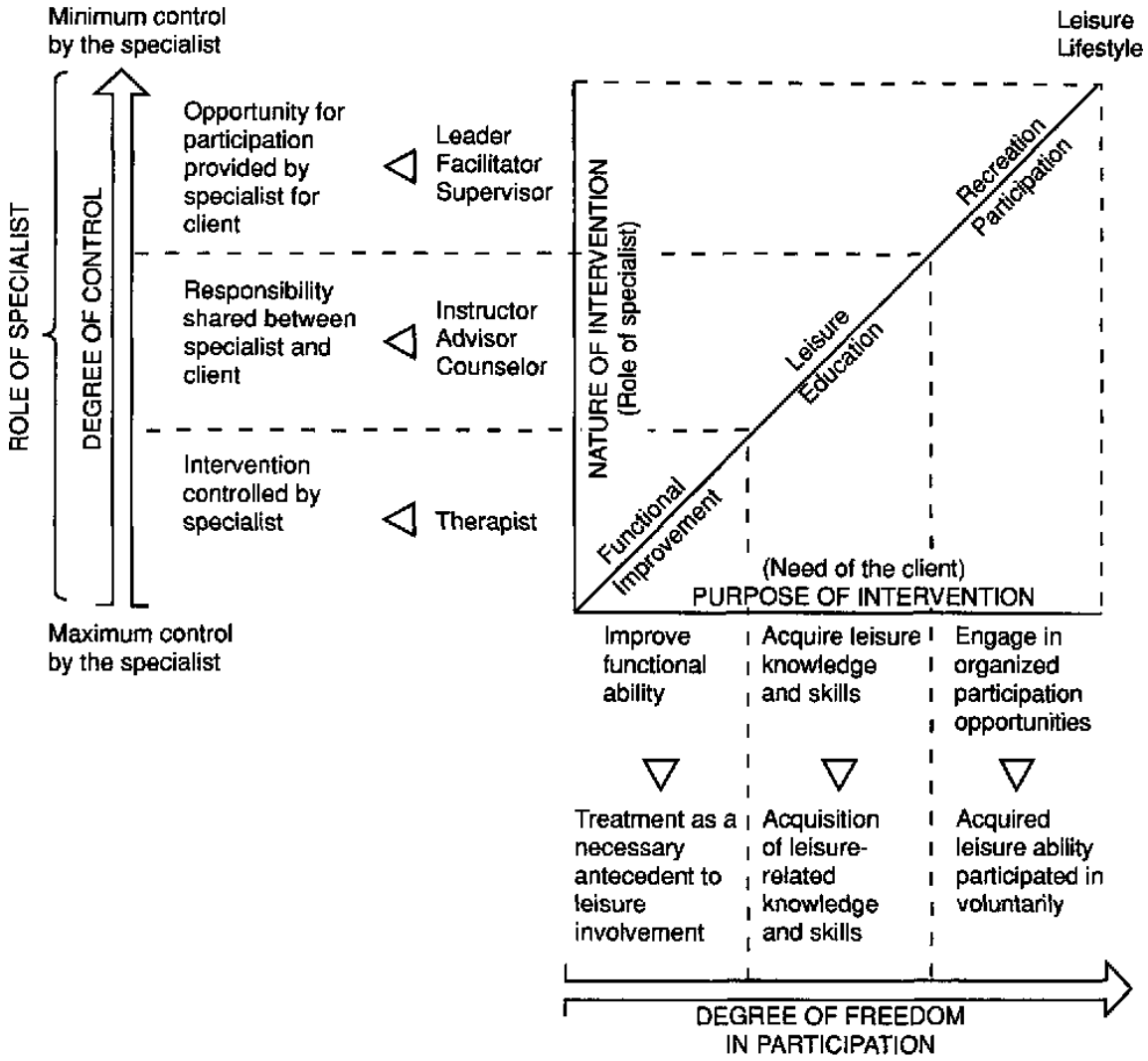
Standard Operating Procedure

First Session: give structured initial assessment to identify reasons for coming and consider goals

Second-Third Session: finalize goals and determine baseline GAS scores and enter into REDCap

End of Season: record participant and staff evaluation on goal achievement, outcomes and participant satisfaction

Leisure Ability Model (LAM)



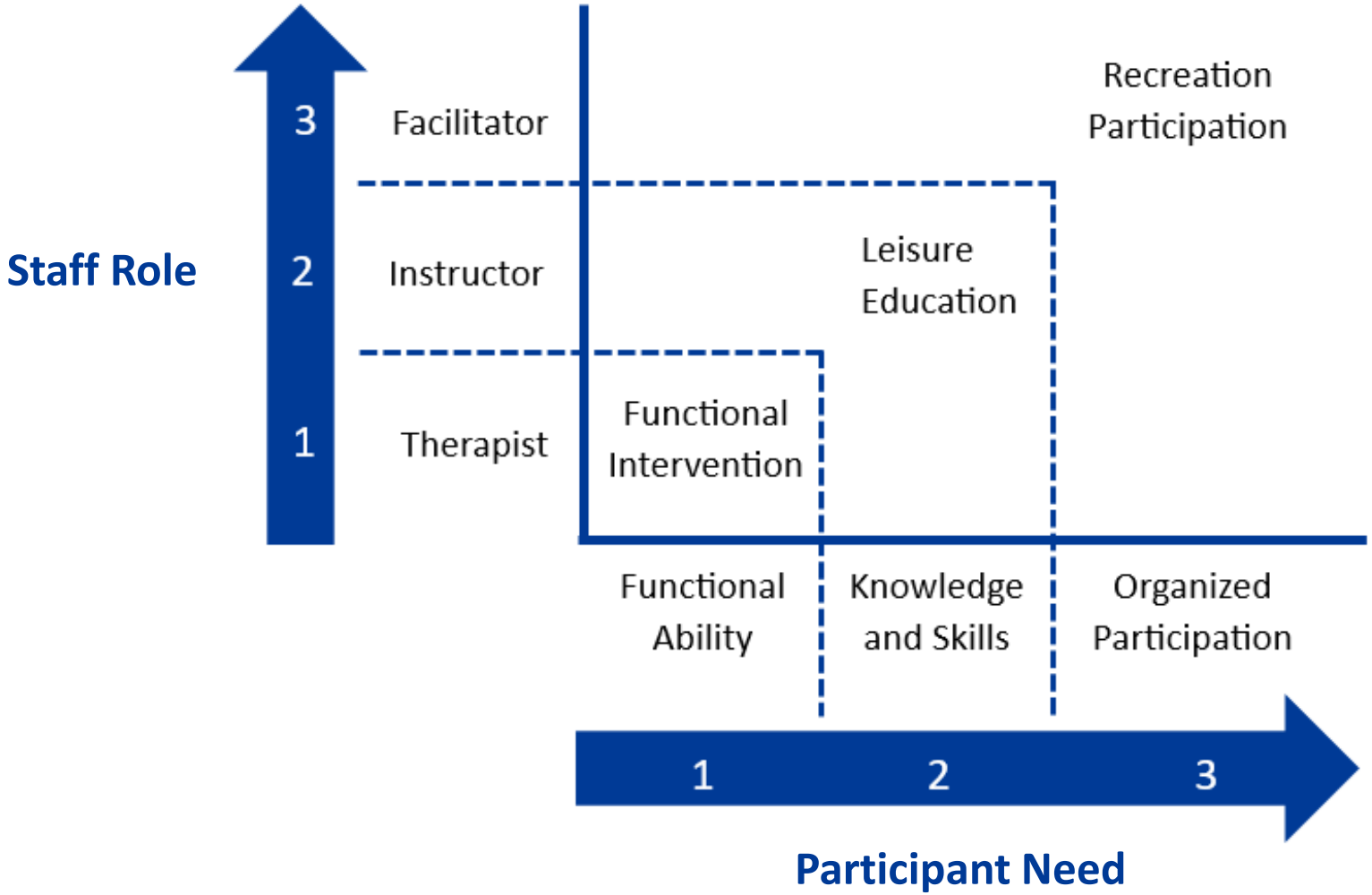
Qualitative Analysis of SASC Goal Documentation

16%	**Functional Intervention**
86%	Phyiscal
10%	Cognitive
5%	Emotional
0%	Social
29%	**Leisure Education**
14%	Leisure awareness
8%	Social interaction skills
73%	Leisure activity skills
5%	Leisure resources
53%	**Recreation Participation**
24%	Responsibility for personal leisure participation
16%	Decisions making skills regarding leisure involvement
39%	Leisure skills competence through practice and participation
21%	Sense of mastery through attainment and performance of skills
1%	**Long Term Goals**

Qualitative Analysis of SASC Goal Documentation

1	Functional Intervention (CTRS: Therapist)	2	Leisure Education (CTRS: Educator)	3	Recreation Participation (CTRS: Facilitator)
1a	**Physical**	2a	**Leisure awareness**	3a	**Leisure lifestyle**
1a1	Increase strength	2a1	Knowledge	3a1	Maintain healthy leisure lifestyle
1a2	Increase endurance	2a2	Self-Awareness	3a2	Ability to participate in activity of choice
1a3	Increase balance	2a3	Attitudes	3a3	Obtain personal sport equipment
1a4	Increase flexibility	2a4	Decision Making	3a4	Organized sport engagement
1b	**Cognitive**	2b	**Social interaction skills**	3b	**Specific sport practice**
1b1	Ability to follow directions	2b1	Dual	3b1	Sport specific- individual skill based
1b2	Orientation to time and space	2b2	Small Group	3c	**Specific sport mastery**
1b3	Attention to task	2b3	Large Group	3c1	Sport specific- performance based
1b4	Memory and Recall	2c	**Leisure activity skills**		
1c	**Emotional**	2c1	Traditional		
1c1	Emotional well-being	2c2	Non-traditional		
1c2	Emotional control	2d	**Leisure resources**		
1c3	Emotional expression	2d1	Activity Opportunities		
1d	**Social**	2d2	Personal		
1d1	Communication skills	2d3	Family and Home		
1d2	Appropriate interaction	2d4	Community		
1d3	Relationship building skills	2d5	State/National		

Leisure Ability Model



Using LAM to Scale Goals

Functional Intervention

Build endurance

Build strength

Get exercise through adaptive sports

Improve balance and coordination

Increase ride distance

Practice emotional coping strategies

Leisure Education

Trial other bikes

Increase socialization

Get back to jogging

Ride upright cycle

Increase independence with transfers

Learn about grants for own cycle

Try other adaptive sports with SASC

Recreation Participation

Do 2-day Martha's Vineyard Bike Ride

Make it over pedestrian bridge

Have fun

Long Term Goals

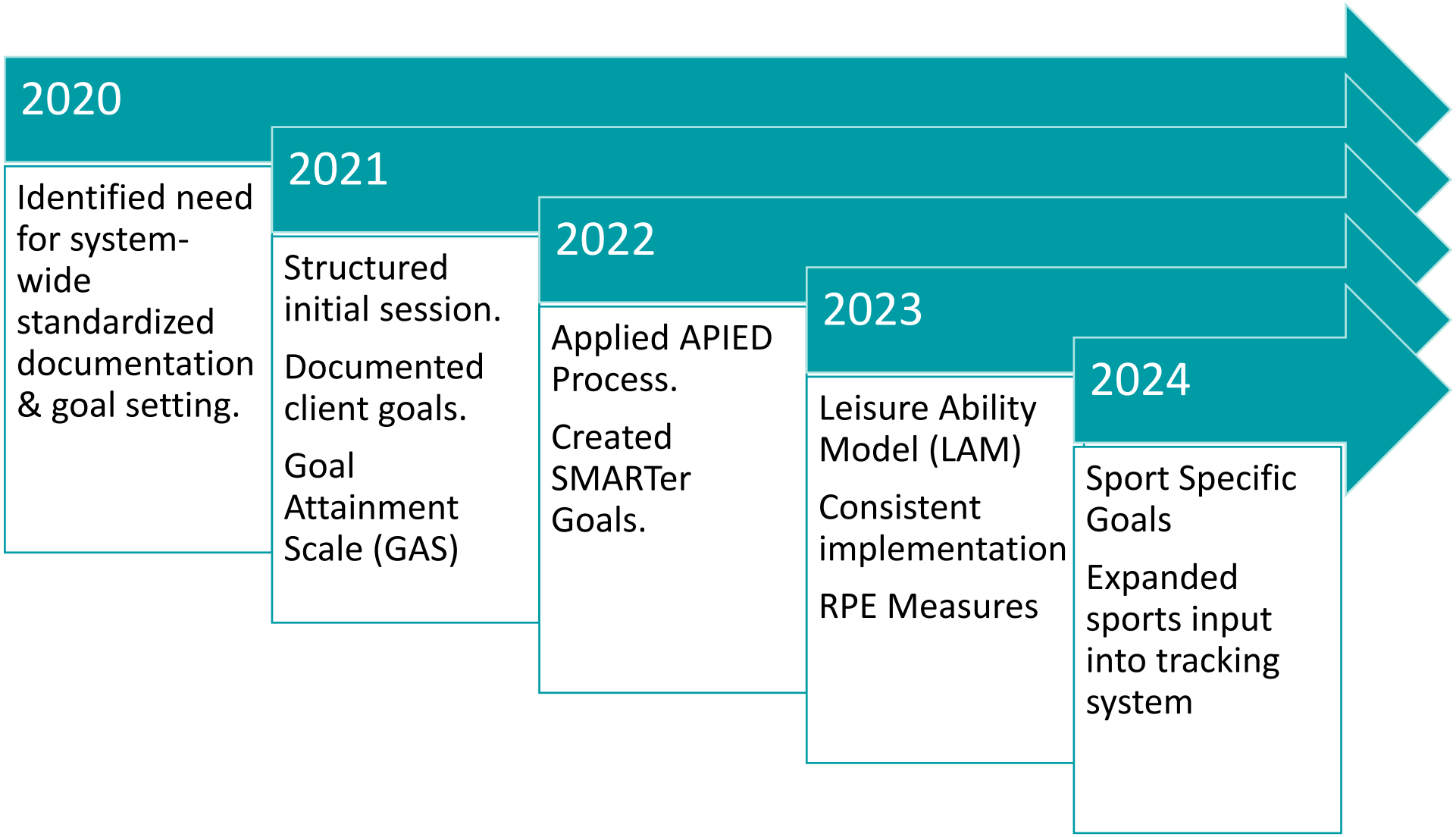
Get back to work

Learn to drive

Tracking Goal Progress

- Tracking forms filled out in REDCap upon completion of each session
- Helps staff plan next session to support participant goals
- Key components include:
  - Equipment and adaptations used
  - Session Details
  - Duration/Distance/Metrics
  - Rate of Perceived Exertion (RPE)

Tool Development



REDCap Demo

Live Poll

Sport Specific Documentation: Ski & Ride Club

☐ Mono-Ski	☐ Bi-Ski	☐ Outriggers
Type: _____ _	Type: _____	Type: _____

Student Learning Style:
☐ Auditory ☐ Visual ☐ Kinesthetic ☐ _____

Level Skier:	1 - Beginner: Skis conservatively, prefers slower speeds & easy to moderate slopes. 2 - Intermediate: Skis moderately, at variety of speeds & terrain, some difficult trails. 3 - Advanced: Skis aggressively, at high speeds, prefers steeper more challenging terrain.

Lesson Evaluation & Activities:_____

Goals & Recommendations for next lesson:_____

Participant Skills, Hobbies, Talking Points:_____

Sport Specific Documentation: Ski & Ride Club

☐ **Mono-Ski**	☐ **Bi-Ski**	☐ **Outriggers**
Type: Make/Model _____ DynAccess___ Monique ___ **Bucket Size** 14”___16”___18”___ **Other Adaptation Details** **What type of snow-ski used?** _____ **Any padding, foam, etc?**_____	**Type: Make/Model** _____ Dynamique __ Mountain Man__ **Bucket Size** _____ 14”___16”___18”___ **Other Adaptation Details** **Any padding, foam, etc?** _____	**Style: Flip-Up_____Filp-Down ___** **SASC #_____ (if not SASC, measure handle top to base of ski in down position)** **Length Setting _____**holes from top **Forearm Setting _____**holes from top **Flip _____** **Shape ____**

Terrain skied: Green beginner ____ Blue intermediate ___ Black Expert ___

Lesson Evaluation: What skills, drills, progressions & fundamentals did you work on? What worked well?

_____

Goals & Recommendations for next lesson: Add next steps, specific drills and/or verbal cues to continue.

_____

Sport Specific Documentation: Adaptive Swim

Assessment/Goals/Tracking	Staff Role	Participant Need	Leisure Ability Model
Breathing and Bobs			
Sculling Arms			
Back Float, Glide, Kick Back Stroke (trial arm & kick variations)			
Front Float, Glide, Kick Freestyle/Crawl (add arms & breathing)			
Side Stroke			
Breaststroke			
Treading Water			

* Based on SwimBox Training Curriculum & Skill Assessment to create categorized goals.

SASC: Benefits & Challenges

Benefits

- Expanded from small pilot phases
- Improving training new staff & students
- Standardizing best practices system-wide
- Greater documentation objectivity
- On-going SMART goal development
- Use of quality exercise intensity measures
- Discussion of seasonal accomplishments

Challenges

- Turnover of seasonal per diem staff & students
- REDCap documentation learning curve
- 2 info. systems: SASC Website and REDCap
- Time to review and revise goals for mid- and end season assessments
- Sport specific limits to objective measures
- Connectivity issues in the field

Increasing program quality for staff & clients.

Other REDCap SASC Applications

- Annual Waivers
- Equipment Fit Forms
- Surveys (post-events for travel and trainings)
- Van & Trailer log
- Staff training competencies

Van & Trailer Log

Ski & Ride Eval

Future SASC Steps

- Improve training quality for staff, students, and volunteers
- Implement competency system for REDCap documentation
- Identify metrics for objective goals and gains for tracking progress
  - QoL scales
  - PROMs including functional and social measures
- Develop “smart phrases” to improve documentation consistency and efficiency
- Expand documentation to include more sport programs
- Increase use of REDCap app in the field

Live Poll Results

Future KASR Steps

- Continue to improve feasibility numbers in the APIED process and expand database
- Develop research literature
  - Quality improvement, feasibility and acceptability
- Obtain funding to carry out MGB IRB approved human research study
- Include other adaptive sport organizations

References

Adair B, et al. The Effect of Interventions Aimed at Improving Participation Outcomes for Children with Disabilities: A Systematic Review. *Devel Med & Child Neurology.* 2015, 57:1093-1104.

Blauwet C, et al. Functional and Environmental Factors Are Associated With Sustained Participation in Adaptive Sports. *Phys Med &Rehab.* 2017 Jul;9(7):668-675.

Blauwet C, et al. Participant-Reported Benefits of Involvement in an Adaptive Sports Program. A Qualitative Study. *Phys Med & Rehab.* 2018 May;10(5):507-515.

Stumbo, NJ, Peterson CA. The Leisure Ability Model. *Therapeutic Rec Journal*. 1998 2nd Quarter:82-96.

Turner-Stokes DM FRCP. Goal Attainment Scaling in Rehabilitation: A Practical Guide. 1-14.

https://www.sralab.org/rehabilitation-measures/goal-attainment-scale

https://project-redcap.org/

Thank You!

For more information on SASC programs and interdisciplinary documentation:

https://sasc.spauldingrehab.org

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