

Examination the Size and Scope of Youth Disability Sport Participation in the United States

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Table of Contents

Data Collection	4
Organization identification	4
Survey development and provision	4
Results	5
1.a Participation numbers	5
1 b. Participation rates in other programs	5
2. Rates of participation respective to geographic areas	6
3. Frequency of populations served, accounting for all physical disabilities in this study and classification of participants into three categories	8
4. Numbers of participants in various sports	9
5. Efforts used to recruit participants	10
6. Types of Programming	11
7. Frequency of sport participation	12
Conclusions and Potential Recommendations	12
Points of Strength When Considering Advancing Efforts to Expand Disability Sport at the Collegiate Level	12
Geographic diversity of participation	13
Points of Concern or Caution	13
Additional Considerations Related to Developing Collegiate Wheelchair Sports	13

This technical report makes a number of assumptions that should be considered when exploring these findings.

1. Programs were identified when individuals working on this project systematically examined each state, exploring various websites, and used word-of-mouth from already contacted programs. As a result, we identified a total of 917 programs nationwide. After a full review it was determined that a number of these were programs with multiple wings or subsidiary programs, and thus we revised and determined there were 732 programs. While we have made every effort to identify all programs, it is possible that some were not included (meaning our estimates could be lower than actual number).
2. Programs were asked to self-report participation levels. Programs had no incentives to under or over report their participation rates. That being said, all numbers were self-reported, and numbers could be above or below these estimates if programs were not honest in their reporting.
3. Programs were asked to estimate participation overlap. In short, what percentage of their participants also concurrently participates in other programs. This is not a first-hand account but instead an estimate; this should be taken into consideration.
4. Some programs noted that they currently did not have participants but did in the past and plan to recruit future participants. Because they had no participants at the time of data collection, they were excluded in this study.
5. Some programs stated they specifically did not want to have their data shared. Reasons varied from simply not wanting to be counted to justifications such as “dance is not a sport so we should not be part of this” or “being deaf is not a disability so we should not be included.” When specifically requested to not be included, we excluded these programs from our data set in its entirety.
6. Out of the 732 programs, 335 programs did not complete the survey but did not state they did not want to be included. Each program was contacted at least seven times (emailed at least three times, at least two phone calls, and then sent follow-up emails twice). We did not examine programs that did not participate until all data was collected from actively participating programs. First, we categorized all participating programs by noting size, geography, population density, and promotional efforts. We then examined any information we could on the non-participating programs including the aforementioned factors, what sports or programs were offered, information that the website provided, and information from media outlets on the programs. This process was arduous, but we attempted to estimate participation rates for these programs as accurately as possible. Because these are our estimates and not the programs estimates, we acknowledge that this technical report presents the self-reported numbers for participating programs and all numbers including participation rates reported plus our estimates. It should also be noted that while approximately half the programs we identified did complete a survey, these were generally the smaller programs. Consequently, the vast majority of participants identified were reported by organizations with the estimated programs making up a minority of participants.
7. These numbers represent participation of at least one time in the last year. While most programs practice frequently, other organizations provide one-off events (such as sports camps or weekend events a few times a year). Consequently, these numbers may not represent any participation. We have included some additional metrics, so anyone reviewing these materials can search and

examine the data in ways that interest them. That being said, there are still some limitations to understanding how frequently all of these participants are indeed practicing or training.

8. Participation rates represent participants from 50 states, plus Washington DC, and Puerto Rico.
9. This is not the full potential pool of athletes who would be able to participate in collegiate sports. In addition to those with early acquisition and congenital disabilities, an additional pool outside of these identified participants could potentially exist. These may include those with later life acquired disabilities (such as in early adulthood), international athletes, and military service people with acquired traumatic injuries would be potential recruits.

Data Collection

Organization identification. Programs were systematically identified by a state-by-state search. Google searches, social media searches, and traditional media searches were all used to identify programs. In addition, programs affiliated with a disability sport governing body were included as these contacts are publically available. Moreover, each survey asked participants to identify other programs in their area of which we may not be aware. We received suggestions, and although most were programs we had already identified, we added a small number to our database of programs.

Survey development and provision. Several surveys were designed depending on if the targeted program was a governing body, a single disability sport providing program (i.e. an independent junior wheelchair basketball team), a multi-sport program (i.e. a single rehabilitation hospital supports youth wheelchair basketball, youth and adult track and field, and youth and adult wheelchair tennis), state athletic associations, or schools for the blind and deaf. Each of these types of organizations had slightly different models, which impacted some of the secondary questions in the data. Therefore, the surveys needed slight adjustments to accommodate these differences. In addition, after distributing surveys to some of the organizations, we realized a few of the secondary questions were misinterpreted; and therefore, we modified the questions. None of these differences impacted our questions relating to participation levels.

Each identified organization was emailed at least three times, then received at least two phone calls, and then was emailed twice more. These communications greatly increased response rates. In addition, the number of identified programs decreased substantially as we received multiple surveys. This is primarily due to the way that many of these organizations were structured. For example, a wheelchair basketball team might seem to be an independent entity but has a relationship with a parks and recreation district that offers basketball (but does not pay for travel funding) as well as wheelchair soccer, and adult and youth beep ball. As surveys were completed, these trends were identified, and the survey from the basketball team was removed as it had also been counted in the survey completed by the parks and recreation department. In this way, we made every effort to only count the numbers from the organization at its highest point.

Results

1. a Participation numbers. These are the raw reported numbers not taking into account participants in other programs (see Table 1):

Table 1			
<i>Participation Numbers</i>			
Age	Measured	Estimated	Total
<15	29,404	8,173	37,577
15-18	24,423	11,347	35,770
Grand Total	53,827	19,520	73,347

1 b. Participation rates in other programs. To address cross participation, we asked organizational representatives to estimate what percentage of their participants also concurrently participated in at least one other program. We categorized all programs into three sizes: large programs, or programs with over 100 participants, medium programs or programs with between 21-100 participants, and small programs with less than 20 participants. The average cross-participation rates are presented in bullets below. Not all programs reported their cross-participation percentages, so we provided them with a base percentage rate of 26% cross participating. We used 26% as default rate of cross participation for any program not reporting (includes estimated programs). Of those participants with cross participation, we assumed 2/3 of participants also participated in at least one other program and 1/3 of them also participated in two other programs. (see Table 2)

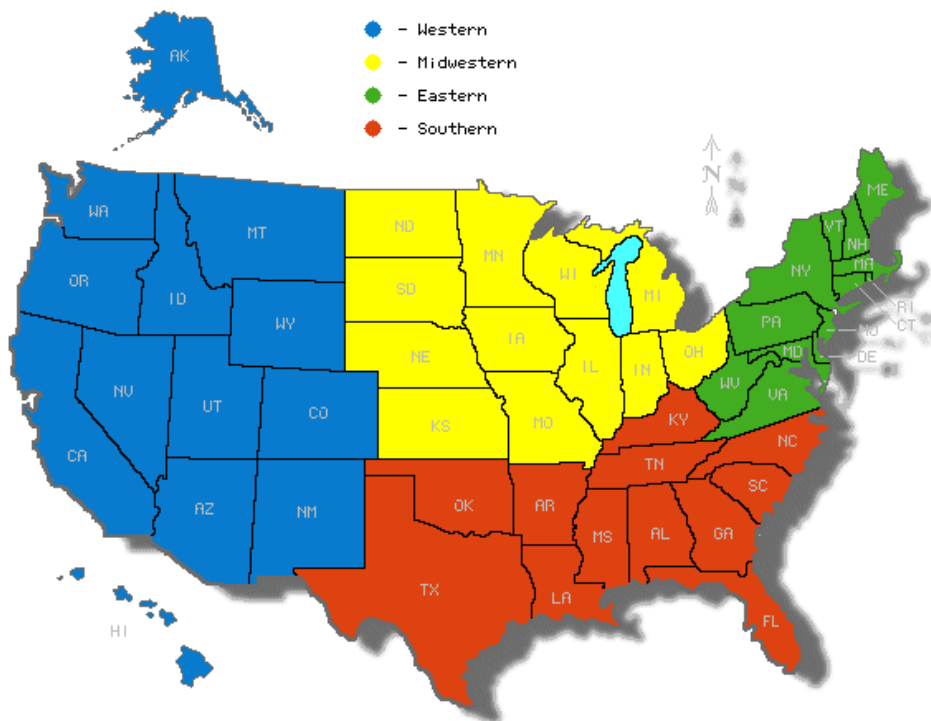
- Large (100+) = 29%
- Medium (21-100) = 23%
- Small (less than 20) = 27%
- Average = 26% of participants are in other programs

Table 2			
<i>Participation Numbers: Accounting for participants in other programs</i>			
Age	Measured	Estimated	Total
<15	24,777	6,992	31,770
15-18	20,634	9,707	30,342
Grand Total	45,411	16,700	62,112

Note: All calculations below use the rates accounting for participants in other programs.

2. Rates of participation respective to geographic areas. Below we have provided regional and state breakdowns for participation. It should be noted that several programs were located across two or more states. Participation in these programs was low (158 youth), and they were added to the first state listed. It should be noted that these are where the states were housed; it is possible that participants in programs near state borders may be from a border state. (see Table 3 and 4)

<i>Rates of Participation Respective to Geographic Areas</i>			
Region	Age <15	Age 15-18	Total
Eastern	5,568	4,882	10,450
Midwestern	4,600	6,116	10,716
Southern	9,447	8,392	17,840
Western	12,154	10,941	23,095
Grand Total	31,769	30,331	62,101



<i>Participation by State</i>			
State	Age <15	Age 15-18	Total
AK	70	100	171
AL	449	488	938
AR	437	278	714
AZ	226	209	435
CA	1,861	1,570	3,431
CO	3,473	2,767	6,240
CT	157	178	335
DC	51	64	116
DE	40	56	97
FL	1,446	1,462	2,908
GA	911	1,009	1,920
HI	155	213	368
IA	241	540	782
ID	146	140	286
IL	665	700	1,365
IN	254	303	556
KS	81	176	258
KY	77	94	171
LA	561	591	1,152
MA	1,661	632	2,294
MD	400	515	915
ME	47	103	150
MI	368	630	998
MN	850	1,862	2,712
MO	562	436	998
MS	99	156	254
MT	150	210	359
NC	523	905	1,428
ND	77	138	215
NE	162	162	324
NH	503	566	1,069
NJ	324	398	722
NM	235	154	389
NV	9	17	26
NY	803	873	1,675
OH	431	461	892
OK	11	13	24
OR	359	329	688
PA	365	423	788

PR	0	9	9
RI	299	227	526
SC	193	244	437
SD	95	88	182
TN	80	94	175
TX	4,661	3,058	7,719
UT	4,869	4,712	9,581
VA	230	233	464
VT	655	570	1,225
WA	713	584	1,297
WI	669	481	1,149
WV	33	44	77
WY	34	77	111
Grand Total	31,770	30,342	62,112

3. Frequency of populations served. We wanted to account for all physical disabilities in this study and asked programs to broadly classify participants into three categories (see Table 5):

- a. Mobility impairments
- b. Visual impairments
- c. Hearing impairments

We have some reservations with these numbers because after discussions with practitioners, we had an impression that many people misinterpreted the multiple disability categories. For example, spinal cord injuries, cerebral palsy, and/or amputees should have all loaded on mobility impairments, so we present the following findings with some caution.

Table 5			
<i>Frequency of Populations Served</i>			
	Age <15	Age 15-18	Total
Blind	726	867	1,593
Deaf	453	606	1,059
Deaf & Blind	214	308	522
Multiple Dis.	24,492	20,868	45,359
Mobility	4,487	5,141	9,628
(blank)	1,397	2,553	3,950
Grand Total	31,770	30,342	62,112

4. Numbers of participants in various sports. This data may provide perspective on potential sports offered. Not every organization answered this question, and in theory, athletes noted in this specific question might participate in multiple sports or in multiple programs offering the same sport. That being said, these results should provide some perspective on sports to target development. (see Table 6)

<i>Numbers of Participants in Various Sports</i>		
	# Programs	# Participants
Wheelchair Basketball	108	2,598
Wheelchair rugby	24	189
Wheelchair football	19	442
Wheelchair tennis	69	1,148
Wheelchair table tennis	13	111
wheelchair track and field programming	67	926
Sled hockey	61	1,475
Power soccer/football	46	729
Wheelchair soccer/handball	26	834
Hand-cycling programming	62	1,454
Sitting volleyball	20	416
Aquatic sports	95	8,012
Skiing and related winter programming	63	12,330
Goalball	33	2,591
Other blind sports	30	2,624
Other deaf sports	7	272
Adaptive dance	24	2,072
Adaptive golf	37	431
Adaptive archery	48	3,096
Multi-adapted sports days or camps	83	9,319
Other	96	7,844
Total	1,031	58,913

5. Efforts used to recruit participants. (Scale rating 1=less used, 5=most used)

Youth with disabilities are difficult to recruit for sports because many programs are not offered through schools, and youth with disabilities may not matriculate through the same social service programs or a physical rehabilitation system. Results indicate that word-of-mouth is the most effective mechanism to attract participation, followed by social media and hosting kick-off events. (see Table 7)

<i>Efforts Used to Recruit Participants</i>						
	Frequency of Ratings					Average
	1 (less used)	2	3	4	5 (most used)	
Rehab hospital	93	41	65	35	52	2.69
Community organizations	40	32	75	68	71	3.34
Host major event	43	27	47	58	111	3.58
Word of mouth	8	7	43	84	144	4.22
Medical supply	123	49	47	40	27	2.30
Website & social media	17	27	44	83	115	3.88
Schools	61	50	64	49	62	3.00
Do not actively recruit	125	56	58	27	20	2.16
Total	510	289	443	444	602	3.14 (mean)

6. Type of programing.

- a. Competitive or recreational
- b. Adults and youth or just youth

Results indicate that organizations that offer both competitive and recreational programs are the most popular while exclusively competitive programs less frequently utilized. We did not define competitive or recreational for these organizations, instead allowing organizations to respond to the terms. (see Table 8 and 9)

Due to the nature of locating participants, development of adaptive sport skills (such as chair skills), the size of programs, and access to people to compete against, some programs strictly offer youth programs, some have adult and youth but separate, and some allow adults and youth to participate and compete against each other. This practice is sanctioned through most disability sport governing bodies. The most common organizational structure was both youth and adults participating and competing together. Presumably an experienced youth athlete with a disability would be as or more capable than a new spinal cord injury learning to use a wheelchair for the first time. For this reason, practices and events might be divided more by skill rather than age.

Competitive or recreational programs:

<i>Competitive or Recreational Programs</i>				
	# Programs	Participants		
		Age <15	Age 15-18	Total
COMP	91	1,634	2,080	3,715
CR	306	16,230	14,721	30,951
REC	185	11,500	8,983	20,483
(blank)	150	2,405	4,558	6,963
Grand Total	732	31,770	30,342	62,112

Programs for different age groups:

<i>Programs for Different Age Groups</i>				
	# Programs	Participants		
		Age <15	Age 15-18	Total
Adult programming	2	0	3	3
Adults separate from youth	56	1,568	1,190	2,759
Youth only	114	5,638	5,168	10,807
Youth and Adults together	476	23,413	21,438	44,851
(blank)	84	1,151	2,543	3,694
Grand Total	732	31,770	30,342	62,112

7. Frequency of sport participation.

The following data asked about organizational programming and how frequently they offered programs. Presumably some organizations function for special events and multi-sport introductions while others provide more frequent training and education. The questions varied slightly between survey styles as questions differed depending on the types of organizations they were participating in the survey. This is why there are some overlapping between categories. (see Table 10)

Table 10	
<i>Frequency of Sport Participation</i>	
	# Programs
Once a year	7
Few times a year	32
1-3 times a month	45
1 time a week	112
1-2 times a week	7
2-3 times a week	73
3 or more times a week	28
3-5 times a week	4
Daily	3
(blank)	421
Total	732

Conclusions and Potential Recommendations

As previously noted, this data is one of the potential streams for college disability sport participation. These numbers are only estimates provided by the organizations, but they are very encouraging numbers. Our single concern with our findings may be with the winter sports reporting. Winter sports tended to be highly reported, presumably from individuals who traveled to participate a few times a year. At home programs may not have considered the participation of periodic winter events when estimating cross participation. For this reason, we may be overestimating these numbers as unique participants.

Points of Strength When Considering Advancing Efforts to Expand Disability Sport at the Collegiate Level

The number of potential participants coming directly from youth sports programs is a sign of strength. The number of participants both in mid to late high school age and earlier levels of participation show a potential strong pipeline.

The confidence in these numbers is an additional point of strength. As the minority of participation falls into the estimated numbers, we feel confident in these numbers.

Participation rates in mobility impairments are quite strong. This data would indicate that this might be an ideal point to focus when advancing collegiate opportunities for people with disabilities. This does not mean to imply efforts should not be made to advance opportunities for the blind and deaf, only that the youth participation pool is somewhat smaller.

Geographic diversity of participation. Participation across the country is generally strong and with a few exceptions, seems to match general population density in most areas.

Points of Concern or Caution

A substantive portion of the participants in youth disability sport are participating at a recreational level. Presumably these athletes would need to matriculate into more competitive programming to increase stronger play at the collegiate level.

Programmatic participation ranges greatly with many programs practicing less frequently than traditional high school programs. This is perhaps due in part to the fact that the vast majority of programs are not provided through high schools, and access and transportation make daily practice difficult. These findings do not note the frequency of training; they do note organizationally sponsored practices. Athletes could be practicing outside of these sanctioned organized practices, but we cannot determine that in this study.

Growth in youth disability sport will continue to be challenging because the primary mechanism to locate additional participants is through word-of-mouth and relationships among parents and within the disability community.

Additional Considerations Related to Developing Collegiate Wheelchair Sports

We believe this data supports advanced participation in collegiate disability sport in both organized teams as well as individual teams. There may be real value in developing collegiate sports based on youth participation levels. Presumably the ideal institutions to increase disability sport would be in states with greater youth participation, but some states may not be able to sustain numerous collegiate programs due to low participation rates. This of course would be dependent on international participation rates, young adult traumatic injuries and military service related injuries, which could all increase participation far beyond these numbers presented throughout this technical report.