



SUPPLEMENTARY TABLES

Expert Appraisal of the 2022 Canadian Para Report Card on Physical Activity for Children and Adolescents with Disabilities

(Arbour-Nicitopoulos et al., 2022)



cdpp

Canadian Disability Participation Project

Le projet canadien sur la participation sociale
des personnes en situation de handicap

Supplement A: Data Source Profiles

1. National Physical Activity Measurement (NPAM) study (Feb 2018-2020):

The NPAM study is a 5-year (2018 to 2023) cross-sectional study of movement behaviors (i.e., physical activity, sedentary behavior, sleep) in Canadian school-aged children and youth (4-17 years) with physical, sensory, and developmental disabilities. It is a partnership between Canadian Tire Jumpstart Charities and the Canadian Disability Participation Project. The NPAM study is the only included data source that specifically recruits children and adolescents with disabilities (CAWD). Participants are recruited through a nationally organized sport and recreation-based charitable organization, as well as other community-based organizations and programs for CAWD. The current sample includes ~500 (n=494-473) CAWD, from all provinces and territories (except Nunavut), with self- or parent/guardian-reported data. Almost half (49.9%) of CAWD were reported by their parents to have a developmental disability (e.g., 42.8% autism spectrum disorder, 6.7% intellectual disability), whereas 13.3% and 3.8% of CAWD were reported to have a physical (e.g., 7.1% cerebral palsy, 4.2% developmental coordination disorder) or sensory (e.g., 6.4% visual impairment, 13.5% sensory processing-related) disability, respectively. The remaining 33% of CAWD were reported to have a combination of disabilities (e.g., 15.6% developmental and sensory, 8.3% developmental and physical), with 1.0% of the sample reporting 'other'.

Source: Arbour-Nicitopoulos, K., Martin Ginis, K., Latimer-Cheung, A., Voss, C., Bassett-Gunter, R., Moore, S. A., Best, K. L., Leo, E., Bremer, E., James, M. (2022, February 24). *National Physical Activity Measurement (NPAM) Study*. Open Science Framework. osf.io/5x7wy

2. Canadian Health Measures Survey (CHMS) Cycle 6 (2018-2019):

The CHMS is a repeated cross-sectional national survey led by Statistics Canada, in partnership with Health Canada and the Public Health Agency of Canada. Data is collected in 2-year cycles with the first cycle starting in 2007. Data collection sites are randomly selected, with probability proportional to site population size, from the five Canadian regions (Atlantic, Québec, Ontario, Prairies, and British Columbia), and households are randomly selected within these sites. The CHMS measures general health (including movement behaviors) across the lifespan (3-79 years) from sites in the 10 provinces. Disability status is self- or parent/guardian-reported as mild, moderate, or severe using the Health Utilities Index (HUI). The HUI examines combinations of different health attributes (e.g., vision, hearing, ambulation, pain) through the use of a utility score, ranging from 0 to 1 (perfect health state). Indicator-related measures are self- or parent-guardian reported, except for overall physical activity (i.e., MVPA), which was measured using accelerometry. Overall physical activity measures are based on respondents who met minimum wear time, defined as at least 4 days with at least 10 hours of valid data. Data from Cycle 6 contains ~1,200 children and adolescents aged 6-17 (610 children and adolescents with disabilities), but vary depending on specific questions. Sample weighting techniques are used to calculate estimates intended to be representative of the entire Canadian population. The sample excludes: persons living in the territories; persons living on reserves and other Aboriginal settlements in the provinces; full-time members of the Canadian Forces; persons who are institutionalized and residents of certain remote regions. Altogether these exclusions represent approximately 4% of the target population.

Source: Statistics Canada. (2019a, December 4). *Canadian Health Measures Survey*. <https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5071>.

3. Health Behavior in School-aged Children (HBSC) Canadian Survey (2018):

The HBSC Canadian survey is part of the Health Behavior in School-aged Children: World Health Organization's Collaborative Cross-National study. The HBSC is a repeated cross-sectional survey conducted every four years. The survey consists of a classroom-based questionnaire. The sample was designed according to the international HBSC protocol in that a cluster design was used, with the school class being the basic cluster and the distribution of the students reflected in the distribution of Canadians in grades 6 to 10 (ages 10 to 16). Canadian schools were selected for this study using a weighted probability technique to ensure that the sample is representative of regional geography and key demographic features such as religion, community size, school size and language of instruction. Schools from each province and territory, as well as urban and rural locations, are represented. The HBSC includes self-reported aspects of movement behaviors as well as an administrator questionnaire distributed to each school principal. Further, sample weighting techniques are used to calculate estimates intended to be representative of the entire Canadian population. In total, the sample included 21,753 children from all provinces and territories, including children self-identifying with a disability (i.e., intellectual disability [including autism] = 283; severe vision or hearing impairment = 674; physical disability = 87; and mental illness (depression, anxiety, bipolar) = 1,305). Disability was measured using the following item, "If you have been diagnosed with a learning exceptionality or special education need, please indicate which one (You may choose one answer, or more than one): I have not been diagnosed with a learning exceptionality or special education need; Autism/Asperger Syndrome; Behavior; Blind or Low vision; Deaf or Hard-of-Hearing; Attention Deficit Hyperactivity Disorder (ADHD)/Attention Deficit Disorder (ADD); Intellectual disability; Language/Speech impairment; Learning disability; Physical disability; gifted; Mental illness (e.g., Depression, Anxiety, Bipolar); Other (please specify)

Source: Government of Canada. (2022, January 6). *Health Behaviors of School-aged Children (HBSC) study in Canada*. <https://www.canada.ca/en/public-health/services/health-promotion/childhood-adolescence/programs-initiatives/school-health/health-behavior-school-aged-children.html>. Custom analysis.

4. Canadian Health Survey on Children and Youth (CHSCY) (2019):

CHSCY covers the population aged 1 to 17, living in the 10 provinces and the three territories. Excluded from the survey's coverage are children and youth living on First Nation reserves and other Aboriginal settlements in the provinces, children and youth living in foster homes and those who are institutionalized. Based on a study comparing the Canadian Child Benefit (CCB) file with the 2018 population estimates, the CCB covers 98% of the Canadian population aged 1 to 17 in all provinces and 96% in all territories. Bootstrap weights are created through resampling the original sample and applying similar adjustments to the bootstrap weights as to the sample weights. In total, the sample represents n= 702,300 children with disabilities aged 2-17 years. Disability is defined as no functional limitations, or any functional limitations (e.g., children and youth: <https://www150.statcan.gc.ca/t1/tb11/en/tv.action?pid=1310076501>).

Source: Statistics Canada. (2019b, February 11). *Canadian Health Survey on Children and Youth*. <https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5233>

Supplement Table A - Summary of indicator benchmarks, supporting evidence, and the panel notes.

	Benchmark(s)	Data Sources					Panel Notes
		NPAM	CHMS	HBSC	CHCSY	Other	
Overall Physical Activity (Grade: D)	% meeting the physical activity recommendation (an average of >= 60 mins of moderate-to-vigorous physical activity, daily)	- 1.8% (overall) - 2.4% (develop.) - 1.5% (physical) - 0% (sensory) - 1.2% (combo.)	- 41.1% of children with mild or moderate disabilities	- 47% (ID/ASD) - 54% (severe vision/hearing impairment) - 33% (physical) - 49% (mental illness) - 55% (no disability)	N/a	N/a	<ol style="list-style-type: none"> 1. The indicator is called Overall Physical Activity, yet light physical activity is not considered as a benchmark. This is problematic given that CAWD accumulate much of their physical activity in light-intensity activity. The panel strongly recommended that light physical activity be included as a benchmark (or its own indicator) in future iterations of a physical activity report card for CAWD. 2. The (Canadian) MVPA guidelines (Tremblay et al., 2016) were developed based on evidence of studies that excluded CAWD. Similarly the WHO’s 2020 MVPA guidelines for children and adolescents (Bull et al., 2020) include limited evidence for CAWD (primarily studies of autism, intellectual disability and attention deficit hyperactivity disorder). The panel strongly recommend more research to establish the dose-response relationship between physical activity and health outcomes for CAWD and consideration of the recently released UK’s Physical Activity Guidelines for CAWD that were released in March 2022 by the Chief Medical Officers (Department of Health & Social Care, 2022). 3. The CHMS was the only data source that included physical activity data collected via accelerometry. The panel raised great concerns with placing more weight on accelerometry (i.e., device-measured) for CAWD, particularly those with physical disabilities given the

							challenges concerning lack of validity in this population (Martin Ginis et al., 2021). It was recommended that multiple measures of physical activity (e.g., device-based, parent/child/and teacher report) be considered in the final grading of this indicator.
Organized Sport & Physical Activity (Grade: C+)	% who participated in organized sport or physical activity programs	Participated in physical activities with a coach /instructor: - 84.3% (overall) - 83% (develop.) - 88% (physical) - 90% (sensory) - 85% (combo.)	N/a	- 45% (ID/ASD) - 60% (severe vision/hearing impairment) - 65% (physical) - 55% (mental illness) - 70% (no disability)	- 62% of 3- to 17-year old children with any functional limitations participated in a sport in the last year vs. 72% with no functional limitations	N/a	<ol style="list-style-type: none"> 1. Access to sport programs is often an issue with participation in programs. Expert experience (i.e., programmers and a parent of two youth with sensory disabilities) flagged these participation rates data as high. 2. NPAM participation rates are higher than the other data sets likely due to the sample being recruited through diverse community programs (including sport programs), and thus a limitation when grading this particular indicator. Specifically, the focus of this indicator’s benchmark (i.e., % who participated in organized sport and physical activity programs) and the sampling method for NPAM (through community programs) does not provide a true indication of how many CAWD participate in organized sport/physical activity. Due to this sampling bias, the grade for Organized Sport & Physical Activity was based on the HBSC and CHCSY datasets - range 45% to 65% (mean of 57%). 3. Benchmark does not take into consideration what type of program, how often, and the quality of the program participation experience. These shortcomings will be noted as part of recommendations in our paper.

							Often, CAWD do not have a choice of the sport activities in which they engage; they participate in what is available and accessible not necessarily their preferred activity. This concern focuses on access and accessibility which is likely best to be considered in the Community & Environment and School indicators.
Active Play (Grade: F)	% engaging in active play and non-organized/ unstructured leisure activities for > 2 hrs/day	N/a	Time spent outside: - 144 mins/ day for children with mild, moderate, or severe disabilities	Time spent outdoors per day: - 17 mins (ID/ASD) - 18 mins (severe vision/hearing impairment) - 16 mins (physical) - 17 mins (mental illness) - 18 mins (no disability)	Outdoor specifically: - 16% of children with any functional limitations (aged 3-11 years) vs. 16% of children w/o functional limitations - 7% of youth (ages 12-17 years) vs. 4% of children w/o functional limitations	N/a	<ol style="list-style-type: none"> 1. The available data sources only focus on outdoor play. More research is needed on indoor play among CAWD to achieve a better understanding of the time spent in active play. 2. The panel discussed how outdoor play may present with greater parent-perceived risk for CAWD and more planning/scheduling from parents to make outdoor play a safe and quality play option for their child. Thus, indoor active play was strongly noted by the panel as an important contributor to active play of CAWD and a likely first step to engaging in outdoor play. 3. The question was raised of whether there is a gold standard for measuring active play in CAWD. As noted in (1), the available data sources focus on outdoor play and do not use a valid (or consistent) measure of active play to assess this indicator in CAWD. For the NPAM study, the International Physical Activity Questionnaire – Adolescence version was used but assessed structured vs. unstructured activities. This measurement limitation resulted in the NPAM data not included in the final grade for this indicator. Clear

							<p>operationalizations of active play and unstructured/unorganized physical activities (indoor and outdoor) in CAWD is lacking.</p> <p>4. The benchmark of > 2 hours of active play per day may feel overwhelming for parents of CAWD to support their child in achieving this guideline; in line with this idea is the need to establish if > 2 hours/day is evidence-based and a reasonable benchmark for CAWD.</p> <p>5. Another issue raised was the appropriateness of having one benchmark for all disability types. E.g., > 2 hours/day might be impossible for a child with a severe disability that makes movement very challenging whereas it might be reasonable for a child with a mild disability to achieve much higher levels of active play.</p> <p>6. Playground accessibility research, policy, and practice is important in understanding active play particularly among young children with disabilities and an avenue for future research.</p>
<p>Active Transportation (Grade: D-)</p>	<p>% who use active transportation to get to/from places (e.g., school, park, mall, friend's house)</p>	<p>- use walking and wheeling 2.5 days/wk, bicycle 0.4 days/wk, and motor 5.7 days/wk</p> <p>- 33.7% (overall)</p> <p>- 33% (develop.)</p>	<p>- 136.4 mins/day mean active transport time for children with mild or moderate disabilities compared to 117 mins/day for children with no disabilities</p>	<p>% any active travel:</p> <p>- 82% (ID/ASD)-86% (severe vision/hearing impairment)</p> <p>- 87% (physical)</p> <p>- 85% (mental illness)</p> <p>- 85% (no disability)</p>	<p>N/a</p>	<p>N/a</p>	<p>1. Accessibility of destinations such as parks, playgrounds, sidewalks, etc. often dictate the decision to use active transportation; the panel struggled to not factor this critical environmental aspect into the overall behavior of active transport. In the end, and because barriers and environment are considered in the Community & Environment section, the grade for Active Transportation only focuses on the behavior and not accessibility features of the environment.</p>

		<ul style="list-style-type: none"> - 40% (physical) - 37% (sensory) - 34% (combo.) 		<p>% walk/bike to school:</p> <ul style="list-style-type: none"> - 28% (ID/ASD) - 25% (severe vision/hearing impairment) - 31% (physical) - 21% (mental illness) - 26% (no disability) 			<ol style="list-style-type: none"> 2. No clear operationalization of ‘use’. Consider giving context to the benchmark (e.g., >3 times per week). 3. Data sources in future should reflect seasonal aspects of active transport (e.g., having questions that relate to winter and other question that relate to spring, fall, and summer). If access to basic physical environmental supports are limited (e.g., snow building up on the sidewalk perimeter) then this may prevent access even to sidewalks for wheelchairs or individuals with sight loss. Other examples with snow build-up are restrictive access or boarding of public transit.
Sedentary Behaviors (Grade: D)	% meeting the screen time recommendation (< 2 hours of recreational screen time each day, on average)	<ul style="list-style-type: none"> - 26.3% (overall) - 31% (develop.) - 24% (physical) - 44% (sensory) - 18% (combo.) 	- 61.2% of children with mild or moderate disabilities	<ul style="list-style-type: none"> - 5% (ID/ASD) - 9% (severe vision/hearing impairment) - 8% (physical) - 7% (mental illness) - 15% (no disability) 	N/a	N/a	<ol style="list-style-type: none"> 1. The panel took into consideration that the NPAM sample tends to be quite active thus rates of meeting the guidelines (i.e., being less sedentary) might be higher than the larger population of Canadian CAWD. However, from a guideline perspective, being active and being sedentary are not mutually exclusive. One could meet the 60 minutes of MVPA and still accumulate >2 hours of recreational screen time (e.g., Chastin et al., 2021). 2. The CHMS data show a much higher proportion meeting the screen time guidelines (i.e., B- range) than what has been typically reported within the literature for children and youth with and without disabilities. However, in previous Canadian report cards, the sedentary behaviors of particular age groups in the CHMS was always

							<p>unusual (i.e., one group being dramatically higher than the other). The CHMS was kept it in, so it should also be kept in for grading of this indicator for consistency.</p> <p>3. Future research that involves data collected on other forms of non-screen based sedentary behaviors is needed to have a better understanding of sedentary behavior patterns of CAWD.</p>
Physical Fitness (Grade: INC)	Average percentile achieved on certain physical fitness indicators based on the normative values published by Tomkinson et al. (2018)	N/a	N/a	N/a	N/a	N/a	<p>1. The panel voiced tremendous concern related to the ableist nature of the benchmark for this indicator. The notion of normative values fails to recognize diversity in physical functioning associated with disability. While no national data were available at the time of preparing this report card to grade this indicator on, a recommendation from the panel, is that future report cards take a more individual progress/change approach to the benchmarks for this indicator vs. making comparisons with 'normative' values /standards.</p>
Family & Peers (Grade: INC)	% of family members who facilitate physical activity and sport opportunities for their children	37.5% to 62.5%	N/a	N/a	N/a	N/a	<p>1. Our two parent knowledge users spoke strongly about how parent support for physical activity might occur differently for children with disabilities vs. those without disabilities (e.g., outside caregivers might facilitate opportunities to provide parents with respite). The panel had extensive discussions on how parent support has been measured in previous studies (i.e., using tools that were developed for research in families of children without disabilities) and how these types of measures may not account for the more labour-intensive ways that</p>
	% of family members who meet the guideline of >=150 minutes of moderate-intensity aerobic physical activity each week or do	35.7% (MVPA) (overall) 35% (develop) 44% (physical) 56% (sensory) 34% (combo.)	N/a	N/a	N/a	N/a	

	<p>>= 75 min of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity physical activity.</p>						<p>parents of children with disabilities may need to facilitate their child's physical activity (e.g., starting up a physical activity program in their community because there is no program currently available for their child to take part in; see Goodwin & Ebert's 2018 work).</p>
	<p>% of parents who are physically active with their kids</p>	<p>37.5%</p>	<p>N/a</p>	<p>N/a</p>	<p>- 65% with any functional limitation vs. 76% with no functional limitations (2-11 years) - 31% with any functional limitations vs. 36% with no functional limitations (12-17 years)</p>	<p>N/a</p>	
	<p>% of CAWD with friends and peers who encourage and support them to be active</p>	<p>N/a</p>	<p>N/a</p>	<p>N/a</p>	<p>- 45% of 12-17 years with vs. 60% of those without functional limitations report that most of their close friends regularly play sports/physical activity</p>	<p>N/a</p>	

	% of CAWD who encourage and support their friends to be active	N/a	N/a	N/a	N/a	N/a	
School^a (Grade: INC)	% of schools with active school policies (e.g., daily physical education (PE), daily physical activity, recess, “everyone plays” approach, bike racks at school, traffic calming on school property, outdoor time).	% Kindergarten to Grade 8 students receiving >= 150 mins of PE per week: - 32.6% (2.2 PE classes/week, 41.9 mins/class, mean of 92 min/week) % of high school students taking PE: - 86.4% (overall) - 89% (develop.)	% Kindergarten to Grade 8 students receiving >=150 mins of PE per week: - 20.1% of children with mild or moderate disabilities had 120+ minutes of physical activity per week during class time at school - 45.3% and 26.9% of children with mild or moderate disabilities had < 2 hours/week of PA in class time and in free time at school % of high school students taking PE: N/a	% Kindergarten to Grade 8 students receiving >= 150 mins of PE per week - 37% (ID/ASD) - 36% (severe vision/hearing impairment) - 26% (physical) - 38% (mental illness) - 44% (no disability) % of high school students taking PE: N/a	% Kindergarten to Grade 8 students receiving >=150 mins of PE per week: N/A % of high school students taking PE: - 68% of youth aged 12-17 years with any functional limitation vs.	% Kindergarten to Grade 8 students receiving >=150 mins of PE per week: N/A % of high school students taking PE: N/a	<ol style="list-style-type: none"> 1. The panel discussed how 150 minutes seems like quite an arbitrary cut-off for a benchmark (based on the PE benchmarks used in previous Report Cards in Canada (ParticipACTION, 2020). Questions were raised from panel members whether the 150 mins/week is an appropriate/achievable benchmark for CAWD given that there is likely less opportunity for adapted PE. 2. The lack of focus on quality participation for PE was a concern raised by the panel (particularly parents). Enrolment in PE class (a benchmark that is used in the Canadian Report Cards for Physical Activity in Children and Youth) does not equate to full participation. The benchmarks for the School indicator must consider whether CAWD are actually participating or if they are just being marked as in attendance for a PE class that they should be taking. Furthermore, the accessibility of facilities, training of educators on adapted PE, etc. needs to be included in the benchmarks and existing national surveillance on Canadian schools. There is ample research in the adapted physical activity field that highlights the concerns around quality PE participation for CAWD (e.g., Haegele & Zhu, 2017), and thus justification for this recommendation on

		- 87% (physical) - 100% (sensory) - 83% (combo.)			72% with no functional limitations		<p>measuring quality of PE for CAWD and the surrounding environment.</p> <p>3. The NPAM data focuses on participation while the benchmarks are directed towards access (not the same as participation).</p> <p>4. There are future reporting opportunities for this indicator based on (1) the current research that the Canadian Fitness and Lifestyle Research Institute (CFLRI) is doing within schools); and (2) the Abilities Centre is currently creating a Physical Literacy & Inclusion curriculum for educators. CFLRI is looking at policies that require dedicated strategies on inclusion of students with disabilities in PE and the provision of adapted infrastructure and materials for students with disabilities to participate in quality physical education and physical activity – this aligns with the Sustainable Development Goals Framework. When this study is complete, there will be data available on benchmarks 1-5 of this indicator.</p>
% of schools where the majority (≥80%) of students are taught by a PE specialist.	N/a	N/a	N/a	N/a	N/a	N/a	
% of schools where the majority (≥80%) of students are offered the mandated amount of PE (for the given state/territory/region/country)	N/a	N/a	N/a	N/a	N/a	N/a	
% of schools that offer physical activity opportunities (excluding PE) to the majority (>80%) of their students.	Participated in school physical activities with a coach/instructor: - 63.7% (overall) - 63% (develop.) - 71% (physical) - 63% (sensory) - 62% (combo.)						

	<p>% of parents who report their children have access to physical activity opportunities at school in addition to PE classes</p>	<p>28.3% (overall) indicated child participation in physical activity programs in school:</p> <p>30% (develop) 30% (physical) 16% (sensory) 27% (combo.)</p> <p>Mean minutes of days and time (per week) spent in the following at school (outside of PE class):</p> <p>Walking/ wheeling: 3.2 days/34.5 mins</p> <p>MVPA: 1.7 days/20.1 mins</p> <p>Vigorous PA: 1.2 days/13.5 mins</p>	N/a	N/a	N/a	N/a	
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	% of schools with students who have regular access to facilities and equipment that support physical activity (e.g., gymnasium, outdoor playgrounds, sporting fields, multipurpose space for physical activity, equipment in good condition).	N/a	N/a	N/a	N/a	N/a	
Community & Environment (Grade: INC)	% of communities/municipalities that report they have infrastructure specifically geared toward promoting physical activity	N/a	N/a	N/a	N/a	<p>Canada's Core Public Infrastructure (CCPI) Survey (2018):</p> <p>All municipalities 73.3% (Ice Arenas) 69.9% (Pools)</p> <p>Urban 70.8% (Ice Arenas) 70.9% (Pools)</p> <p>Rural 76.6% (Ice</p>	<ol style="list-style-type: none"> 1. In a follow-up communication with Statistics Canada (CCPI), we were unable to obtain further details on which aspects of the facilities were deemed 'accessible' (e.g., if a ramp was made available to enter the building but there were not accessible washrooms or activity spaces available to patrons did managers still rate the facility as 'accessible'. 2. The Abilities Centre's LEAD project could possibly align data it will collect from municipalities with the benchmarks for this Community & Environment indicator. 3. There is some CFLRI data that includes specific programming or scheduling targeted to individuals with disabilities, provision of training to staff to ensure knowledge and skills to deliver

						Arenas) 66.8% (Pools)	development activities for individuals with disabilities, availability of discounted fees structure to individuals with disabilities to participate in physical activity. However, these data are not specific to CAWD or parents of CAWD.
% of children or parents who report living in a safe neighbourhood where they can be physically active	N/a	N/a	N/a	91% of 2-17 year olds with any functional limitations consider it safe for children to play outside vs. 94% with no functional limitations	N/a	4. Crowdsourcing data from Access Now (https://www.accessnow.org/) and the Jooay app (jooay.com) are possible future directions to collect data on the accessibility of facilities, spaces, places, etc. 5. The benchmarks do not take into consideration the accessibility of the spaces (e.g., a playground that has woodchips/sand around its exterior would be inaccessible for a child who uses a wheelchair and therefore not an option to engage in physical activity). In previous neighbourhood accessibility research, none of the 44 fitness and recreation facilities that were identified by managers in Ontario to be accessible for persons with disabilities were completely accessible (mean accessibility ratings ranged between 31 and 63 out of 100, as per the AIMFREE tool (Arbour-Nicitopoulos & Martin Ginis, 2011). This study shows the lack of correspondence between staff perceptions and objective measures of facility accessibility.	

Government (Grade: C-)	<p>Evidence of leadership and commitment in providing physical activity opportunities for all children and adolescents</p>	<p>The following six criteria and scoring rubric from Ward et al.'s (2021) Promotion of Health-Enhancing Physical Activity (HEPA) Policy Audit Tool v2 was used to grade the Government indicator:</p> <p>Number and breadth of relevant policies (3/10) Six of the 13 (46%) provinces and territories have accessible acts in place (British Columbia, Ontario, Manitoba, Newfoundland and Labrador, Québec and Nova Scotia), and since 2019, the national Accessible Canada Act was passed.</p> <p>Identified supporting actions (10/20) Actions specific / relevant to physical activity in these policies for accessibility are limited, with a primary focus, if any, on the built environment and outdoor playspaces. For example, the Accessibility for Ontarians Disability Act (AODA) has accessibility requirements (mainly focused on the built environment) for outdoor play spaces such as playgrounds (https://aoda.ca/accessible-outdoor-play-spaces-requirements/). Other provinces, such as Nova Scotia, are in the process of creating accessibility guidelines for indoor and outdoor spaces (https://novascotia.ca/accessibility/resources/). Also in place is the Canadian Standards Association's Annex F (accessible outdoor recreational environments) and (optional) Annex H (Children's Playspaces and Equipment Standards) (focus on physical / built environment).</p> <p>Identified accountable organizations (15/25) In most cases, the provincial or federal governments are the lead organizations for their respective accessibility policies. For example, <i>The Accessibility for Manitobans Act (AMA)</i> sets out the responsibilities for the Minister responsible for the AMA, the Accessibility Advisory Council and the Compliance Director. However, not all policies (e.g., Ontario's AODA) has clearly identified responsibilities for delivery of actions, and no devoted focus on physical activity/sport at the provincial/municipal levels. For example, in Ontario, private and non-profit organizations and all public-sector organizations must make accessibility plans (Ontario) based on the AODA and carry those out accordingly. Furthermore, in Québec, the Accessibility Act only applies to the public sector (ministries, government agencies and municipalities), and "lacks clear goals" (as noted on the Québec Accessibility Act website).</p> <p>Identified reporting structures (10/15) The provinces that have their accessibility policies in place have a reporting structure. For example, Manitoba has a Minister's annual report. The British Columbia government will issue an annual progress report each year on progress of its accessibility act. It is not clear how much focus, if any, is placed on physical activity within these annual progress reports.</p>	<ol style="list-style-type: none"> 1. There does not appear to be specific mention of persons with disabilities (including CAWD) within the funding pledged by the federal government to remove barriers to physical activity – use of 'accessible to all' may not be enough. 2. The panel recommended that an examination of the role of non-government (e.g., non-profits) may be considered in the future as an indicator given the history of funding from some NGOs to support physical activity/sport for CAWD in Canada. For example, in the Fall 2017 Canadian Tire Jumpstart Charities pledge \$50M to support CAWD in PA and sport (2017-2022). In 2020/2021, Sport Canada provided ~\$11M for adapted sports (i.e., wheelchair basketball/rugby, boccia) and Special Olympics programming. Over 2020 and 2021, Jumpstart provided \$11.7M towards the parasport funding and infrastructure for inclusive sport and play spaces (e.g., playgrounds and multisport courts).
	<p>Allocated funds and resources for the implementation of physical activity promotion strategies and initiatives for all children and adolescents</p>		

		<p>Monitoring and evaluation plan (5/10) Many (> 50%) of the accessibility policies stipulate a compliance reporting for organizations. For example, the AODA has compliance reporting mandated for all private and non-profit organizations and all public sector organizations. An independent review of the implementation of the established accessibility policies is also stipulated to be carried out in all of the policies. For example, in both Manitoba and British Columbia, an independent review of the effectiveness of accessibility standards must occur every five years and the recommendations to be provided (in the case of Manitoba to the Minister). As noted for the reporting criteria, it is not clear how much focus, if any, is placed on physical activity within these independent reviews.</p> <p>No specific mention within the federal budget on how the spending towards the National Active Transportation Strategy or the \$80M towards ‘accessible to all’ sports programs will be monitored or evaluated to ensure these initiatives reach CAWD.</p> <p>Identified funding/resourcing (national programmes) (2/20) None of the accessibility policies make explicit reference to funding to support actions towards physical activity for persons with disabilities. The federal budget (2021-2026) pledged the following to support healthy and engaged lifestyles: \$80M to remove barriers to sport/kickstart local organized sports programs that are ‘accessible to all’ and \$400M to build new and expanded networks of pathways, bike lanes, trails and pedestrian bridges (as part of the National Active Transportation Strategy). No specific allocation of these funds is for persons with disabilities. The federal budget has also allocated \$503.3M to support a more equal Canada for persons with disabilities through: the creation of a national autism strategy, a new disability benefits programs to support full economic and social participation, and infrastructure to make communities and workplaces more accessible. There is no specific mention of PA within these federal funding commitments.</p>	
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<p style="text-align: center;">Sleep (Grade: B+)</p>	<p>% meeting the sleep recommendation (5- to 13-year-olds: 9-11 hours per night on average; 14- to 17-year-olds: 8-10 hours per night on average)</p>	<p>- 77% (overall) - 75% (develop.) - 87% (physical) - 77% (sensory) - 76% (combo.)</p> <p>Quality of sleep (not used for grading but including for further context):</p> <p>- 82.0% of parents reported their child to be achieving a ‘very good’ or ‘fairly good’ amount of sleep</p> <p>- 81.6% achieving ‘very good’ or ‘fairly good’ sleep quality</p>	<p>N/a</p>	<p>- 77% (ID/ASD) - 73% (severe vision/hearing impairment) - 68% (physical) - 66% (mental illness) - 82% (no disability)</p>	<p>75% of children and youth aged 3-17 with any functional limitations vs. 79% with no functional limitations.</p>	<p>N/a</p>	<ol style="list-style-type: none"> 1. Available data seems consistent at the B+ range. 2. Not only are CAWD getting enough sleep but the quality seems good as well (based on NPAM data). These data were not used for grading, since the benchmark does not consider sleep quality. For example, transition into adolescence was noted by one of the parent knowledge users in the panel as an important point of consideration for sleep; anxiety can be high throughout this transition and can influence sleep habits. Future research and benchmarking should consider the addition of quality measures of sleep. 3. More research into valid and reliable data collection methods of sleep for CAWD. Devices such as accelerometry may not be measuring sleep (rather time to bed/lying time) and there is a threat with algorithms used in commercial devices in how exactly sleep is being measured. 4. Research also needed into the sleep needs and patterns for CAWD (and if they are equivalent to those without disabilities) is recommended.
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<p>24-hour Movement Behavior (Grade: F)</p>	<p>% meeting the physical activity, screen time and sleep recommendations within the Canadian 24-Hour Movement Behavior Guidelines for Children and Youth</p>	<p>- 1% (overall) - 1% (develop.) - 2% (physical) - 0% (sensory) - 0% (combo.)</p>	<p>N/a</p>	<p>- 2% (ID/ASD) - 5% (severe vision/ hearing impairment) - 1% (physical) - 3% (mental illness) - 8% (no disability)</p>	<p>N/a</p>	<p>N/a</p>	<p>1. Full consensus from the panel that the data from NPAM and HBSC datasets are consistent with a grade of F for this indicator.</p>
<p>Physical Literacy (Grade: INC)</p>	<p>% meeting the recommended levels of physical competence, knowledge and understanding, motivation and confidence and daily behaviors needed for a physically active lifestyle</p>	<p>N/a</p>	<p>N/a</p>	<p>N/a</p>	<p>N/a</p>	<p>N/a</p>	<p>1. No national level physical literacy data in this population. However, there are many programs advertised as physical literacy programs for CAWDD. Therefore, there may be opportunity for research within these programs in the future. 2. The panel raised concerns about the current assessment tool used to set the benchmark for physical literacy (i.e., Canadian Assessment for Physical Literacy [CAPL]). This tool focuses on normative ways of moving, learning and understanding. In order to better understand physical literacy in this population, better physical literacy assessment tools, those that celebrate diversity, are needed.</p>

Note. CAWD = children and adolescents with disabilities; CHMS = Canadian Health Measures Study (2018); CHSCY = Canadian Health Survey on Children and Youth (2019); HBSC = Health Behavior in School-aged Children (2018); NPAM = National Physical Activity Measurement (2018-2020)

^aPhysical Education benchmarks of the 2020 Participation Report Card were used to grade Physical Education (PE), which has been a separate indicator in previous Canadian Report Cards.

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Supplement Table B - Summary of indicator grade and grade rationale.

Indicator	Grade	Grade Rationale
<i>Global Matrix 4.0 Core Indicators</i>		
Overall Physical Activity	D	Accelerometer data from 548 CAWD aged 6-17 years (CHMS) indicate that 41.1% of children with mild or moderate disabilities are meeting the benchmark of an average of at least 60 minutes of moderate-to-vigorous PA per day. The proportion of CAWD meeting this benchmark varies considerably between the two datasets using child and parent report physical activity measures: less than half (33% to 49%; child-reported) of CAWD in grades 6-10 (HBSC); few (0% to 2.4%; parent-reported) of CAWD aged 4-17 years (NPAM). The lack of validity for accelerometry as a measure of physical activity in persons with mobility impairments (Martin Ginis et al., 2021) and no representation of children with severe disabilities from the CHMS resulted in the panel downgrading this indicator to a D.
Organized Sport & Physical Activity	C+	The available evidence relied on parent and child report measures. This indicator's grade was based on the HBSC and CHSCY datasets (mean proportion of 56%). Participation rates within these datasets were noted though to appear higher from our knowledgeable users' experiences with programming and are inconsistent with the well-documented barriers to accessing physical activity for CAWD (Martin Ginis et al., 2021).
Active Play	F	The available evidence was limited to child and parent report measures of outdoor active play. No measures of indoor active play were available. Data trends were variable across data sets. In the CHMS, parents reported a mean of 144 minutes/day for the time children with mild, moderate, or severe disabilities spent outside. In the HBSC and CHSCY, few CAWD met the benchmark of > 2 hours/day of active play: CAWD in grades 6 to 10 reported a pooled mean duration of 17 minutes/day in outdoor play (HBSC); 16% of children aged 3 to 11 years and 7% of youth aged 12 to 17 years with any functional limitations spend > 2 hours/day playing outside (CHSCY).
Active Transportation	D-	This indicator's grade is based on the HBSC dataset, where the pooled mean proportion (26.2%) of CAWD self-reported walking or biking to/from school.
Sedentary Behaviors	D	Parent and child report data show inconsistencies in the proportion of CAWD achieving the recommended levels of screen time: 61.2% of children with mild to moderate disabilities (CHMS); 18% to 44% (mean proportion of 31%; NPAM); 5% to 9% (mean proportion of 7%; HBSC). The mean proportion across these datasets is 33%.
Physical Fitness	INC	No national data to support grading of this indicator.
Family & Peers	INC	A grade of INC was given due to the following concerns of the panel with the three benchmarks focused on parents: (a) reliance on measures that do not fully capture the

		nature and experiences of parent support for PA in CAWD and the more labour parents of CAWD perform to support their child's PA (Goodwin & Ebert, 2018); (b) the parent support research is not often contextualized within the many PA barriers that parents of CAWD must navigate to support their child's PA (Martin Ginis et al., 2021); (c) the data and benchmarks send an inappropriate message that parents of CAWD are not doing enough for their child; and (d) the available data does not align with the experiences of our parent knowledge users.
School	INC	Some (26% to 38%, pooled mean proportion of 32%) CAWD in grades 6 to 10 receive \geq 150 minutes of PE each week (HBSC) and most (68%) of youth with disabilities are enrolled in PE (CHCSY). In previous Report Cards in Canada, these data would be indicative of a C grade for the PE benchmark. Concerns of the lack of focus on quality PE for CAWD (Evans et al., 2018) were raised. Despite adequate data to grade PE specifically, a lack of national surveillance data on access to accessible and inclusive resources and infrastructure to support school PA participation of CAWD, meant there being no available data on the majority (four of six) Global Matrix 4.0 benchmarks for School. An INC was assigned to this indicator.
Community & Environment	INC	Data were only available for two of the seven benchmarks. Most (91%) parents of 2-17-year-olds with any functional limitations consider it safe for their child to play outside in the neighbourhood versus 94% of parents of children without any functional limitations (CHSCY). Most (73.3% and 69.9%) municipality asset managers report that the available ice arenas and pools are 'accessible' (Statistics Canada, 2022). With the very limited available data, the panel assigned an INC for this indicator.
Government	C-	Six of the 13 provinces and territories have accessibility legislation and in 2019 the national Accessible Canada Act was passed. The role of physical activity within these policies is unclear. The 2021 federal budget pledged \$80M to remove barriers to support sports programs 'accessible to all' and \$400M to build new and expanded networks of pathways, bike lanes, trails and pedestrian bridges (as part of the 2021 to 2026 National Active Transportation Strategy). The federal budget has also allocated \$503.3M to support the creation of a national autism strategy, a new disability benefits program to support full economic and social participation, and infrastructure to make communities and workplaces more accessible. There is no specific mention of PA for CAWD within any of these federal funding commitments.
<i>Additional Indicators included in Previous Canadian Report Cards (ParticipACTION, 2020)</i>		
Sleep	B+	The proportion of CAWD meeting the sleep recommendations was relatively consistent by dataset: 75% to 87% (NPAM); 68% to 77% (HBSC); and 75% (CHCSY). The mean proportion across these data is 75%, aligning with the largest dataset (CHSCY).

24-Hour Movement Behaviors	F	Parent report data from the NPAM study show that few (range of 0% to 2%) CAWD are meeting all three movement guidelines. Low proportions (range of 1% to 5%) were also reported in the HBSC dataset for CAWD.
Physical Literacy	INC	No national data to support grading of this indicator.

Note. CAWD = children and adolescents with disabilities; CHMS = Canadian Health Measures Study (2018); CHSCY = Canadian Health Survey on Children and Youth (2019); HBSC = Health Behavior in School-aged Children (2018); NPAM = National Physical Activity Measurement (2018-2020); PE = physical education. The additional indicators of Sleep, 24-Hour Movement Behaviors, Physical Literacy are commonly reported indicators in the ParticipACTION Report Cards of Physical Activity in Children and Youth in Canada. Given the Canadian context of this brief report, these three indicators were included in the current Canadian Para Report Card of Physical Activity in Children and Adolescents with Disabilities.