Irish Para Report Card on physical activity of children and adolescents with disabilities

Abstract

For the first time, data on children and adolescents with disabilities in Ireland is reported based on the Active Kids Global Alliance Para Report Card methodology. The most recent data from the last 10 years were used in the grading process (A+ to F) and indicators with insufficient data were graded as incomplete. Of the 10 indicators from the Global Matrix Para Report Cards, grades were assigned to Overall Physical Activity (F), Organised Sport (D), Active Transport (D-), Sedentary Behaviour (D-), Family & Peers (C), Schools (C-), Community & Environment (B-), and Government (B). Irish disability sport organisations were invited to assess the research-led audit and provided commentary around the final grading. The contextual discussion of the grades are presented through the lens of strengths, weaknesses, opportunities, and threats (SWOT) with the purpose to provide direction for the reduction of physical activity disparities among children with disabilities.

Keywords: youth; disability; special education; policy

In 2014, the first Physical Activity Report Card (RC) from Ireland (the Republic of Ireland and Northern Ireland) was published as part of a physical activity Global Matrix (Harrington et al., 2014). It serves as an advocacy tool for influencing PA policy and programming based on aggregating the best available data and translate results to grades for several key indicators at the individual, inter-individual and macro levels (Harrington et al., n.d.). The exercise was repeated in 2016, whereby Harrington and colleagues noted minimal disability specific data was available and called for addressing the data gap in Ireland (Harrington et al., 2016). The 2022 RC is the third iteration in Ireland, as part of the Global Matrix 4.0 on PA RCs (Aubert et al., review), with data disaggregated by disability.

Between 2016 and 2019, 5-6% of students across Ireland have an official status of having special education needs (Ramberg et al., 2020). This might be an underestimate of children and adolescents with disabilities as special education status may not apply to all children and adolescents with disabilities. The Ireland's National Physical Activity Plan (Healthy Ireland, 2016) and the Sport and Physical Activity Strategy for Northern Ireland (Communities, 2022) emphasise the importance of PA for people with and without disabilities. However, people with disabilities in Ireland, including children and adolescents, are reported to be at a higher risk of physical inactivity (CARA, 2020). Therefore, this paper aims to report the results of PA Para Report Cards for the 10 global matrix indicators for Irish children and adolescents with disabilities and outline some implications from these findings.

Methods

Published studies and reports from 2010 with data, disaggregated by disabilities, on the Para Report Card indicators (Overall PA, Organised Sport, Active Play, Active Transport, Physical Fitness, Sedentary Behaviour, Schools, Family & Peers, Community & Environment, and Government Strategies & Investments) were reviewed. Only the latest data were used from repeated studies. Where studies had variables aligned with the indicator

benchmarks and were not published, data requests were made through the study providers. National studies with disability data included were Growing up in Ireland (GUI) infant cohort (wave 5) and child cohort (wave 3), Children's Sport Participation and Physical Activity (CSPPA), Health Behaviour in School-aged Children (HBSC), Irish Sports Monitor (ISM), and the Young Persons Behaviour and Attitude Survey (YPBAS). The most recent data were used in the grading process and indicators with insufficient data were graded as incomplete (INC). Prevalence for each indicator were converted into a grade using the standardised cut offs as in earlier report cards (Aubert et al., 2018) with some additional disability specific indicators presented in the overview paper of this issue (Ng et al., Review). For the government indicator, the health-enhancing physical activity Policy Audit Tool (HEPA PAT) was used (Ward et al., 2020).

In the case where indicators had several benchmarks, such as the family & peers indicator, the weighted average of the data was calculated prior to converting to a grade. The researchers discussed the final grades prior to consultation with national disability sport organisations. The representatives and their organisations requested to remain anonymous. Online one-to-one meetings took place to discuss the strengths, weaknesses, opportunities and threats (SWOT) to their organisation with a view on the broader policy development process (Helms & Nixon, 2010) based on the grades for the indicator. Each session lasted approximately two hours and notes were shared between representatives and the research team. As part of the Global Matrix of Para Report Cards, the grades were submitted for external audit (Ng et al., Review). These independent auditors were selected to review the grades based on their knowledge of the Global Matrix protocol. Following this process, the grades were approved for reporting purposes.

Results

Five national surveys included measures for disability and no disability specific survey with PA was found. Measures in the study ranged from the Washington Group on Disability Statistics (Cappa et al., 2018), to single item measures. The disability prevalence estimates from the study ranged from 4.0% in GUI Wave 5 to 18.7% in YPBAS. More details of the disability prevalence can be found from the national report (Carlin et al., 2022). Rationale and evidence for the grades is in Supplementary Table 1. The spread of the data for each graded indicator is presented in Figure 1. From data and studies gathered across Ireland, grades were assigned for eight of the 10 indicators. Two indicators (active play and physical fitness) were graded as INC due to a lack of data on the benchmarks. The lowest performing indicator was overall physical activity (F). The highest grade was in the government (B) indicator (Table 1). Discussions with national disability sport organisations were divided into the different SWOT headers.

Strengths

There were adequate data from national surveys to assign grades for eight of the 10 indicators for children and adolescents with disabilities. The highest grade was in the government indicator (grade = B), with examples of specific policy documents on physical activity by the Northern Ireland Assembly (McCallion, 2021) and just under 1 Million EUR for Sport Inclusion Disability Officers across all 29 local sport partnerships in the Republic of Ireland (CARA, 2020).

The community indicator was graded B-. Between 55%-95% of children and adolescents with disabilities perceived their neighbourhood as safe and appropriate for PA participation. Stakeholders raised current agendas to increase provisions for accessible playgrounds around Ireland, although data were lacking at the time of grading. Specifically, the first Diversity Park was opened in Portstewart, Northern Ireland with accessible play

equipment as well as a fully equipped spacious toilet area with changing facilities (Fields in Trust, 2022). Building up the task force to increase inclusivity of PA opportunities is another area that shows great promise. For example, CARA, a national body has delivered over 200 short courses in 12 months, each with between 15-20 people in attendance (CARA, 2020).

The family & peers' indicator (grade C) was mainly based on 53-65% of children and adolescents with disabilities reported PA participation with family or peers. The stakeholders agreed, the majority of children and adolescents with disabilities have supportive families and peers who are able to co-engage in PA in the community. Specific opportunities with and without family members have arisen due to the employment of sport inclusion disability officers in local sport partnerships (CARA, 2020).This compares favourably with the family and peers indicator in the overall national PA Report Card (children and adolescents without disabilities) was graded D+ (Carlin et al., 2022).

Weaknesses

There were not enough data on active play or physical fitness among children and adolescents with disabilities. Despite recent plans to build accessible playgrounds, data on its usage are lacking in both outdoor and indoor settings. There was one study on 92 children on the autism spectrum that used a modified test battery of stork balance test, standing broad jump, sit and reach, grip strength and the 20m shuttle run (Coffey et al., 2021). After the results were compared against the norms for the general children population, the grade would be F. No other recent studies were found relating to this benchmark and it could be due to differences in administering physical fitness tests among children and adolescents with disabilities (Király et al., 2019), making it difficult to make comparisons that are used in this Para Report Card.

The lowest grade was in overall PA (Grade = F) from the four data sources (CSPPA, HBSC, GUI3, GUI5), consultation with stakeholders, and confirmation from the audit

process. When compare to the national report card, overall PA has improved from grade D- in 2014 to grade of C- in 2022 (Carlin et al., 2022), yet for children and adolescents with disabilities, the grade was F, highlighting an average difference in excess of 20% in overall PA levels between population groups (without and with disabilities). Multisectoral approaches are needed to address this matter urgently, as even systems approaches have not outlined the connections specific to improving PA among children and adolescents with disabilities (Rutter et al., 2019). For some children and adolescents with disabilities, individuals may perceive time spent at therapeutic sessions as part of their overall PA. Stakeholders reported, the lack of understanding of the settings where PA takes place is a weakness in the interpretation of the results. Furthermore, data collected were from self or proxy report surveys and device-based measures may give more indication of the intensity of movement. Yet, accurate device calibration for children and adolescents with disabilities is lacking, and improvements on the description of PA in the surveys is needed.

Opportunities

The main opportunities arise from the availability of data for the indicators. Building on this current knowledge, it is possible to make regular assessments over time to assess trends within eight of the 10 indicators. More work is needed to collect data on the active play and physical fitness indicators for children and adolescents with disabilities in Ireland.

The school (grade = C-) is a critical environment that can promote PA. Based on two data sources, between 62-68% of children and adolescents with disabilities reported that their school had adequate sports facilities. In the Republic of Ireland, the Active School Flag is a whole-of-school programme funded by the Department of Education, and recently, additional training has been given to teachers in schools with students with special needs. Stakeholders reported, the need for less competitive and more inclusive extra curriculum activities.

Furthermore, one of the most popular resource requests to CARA are for materials on how to adapt physical education lessons.

There was a grade D assigned for active transportation and it was based on three data sources, where between 26% and 41% of children and adolescents with disabilities walked or cycled to school. These figures seemed rather high to the stakeholders, who suggested that many children and adolescents with disabilities rely upon transportation services to get to and from school. More data is needed to understand how the public infrastructure can promote active transportation among children and adolescents with disabilities, including consideration of accessible bike paths and storage facilities.

Threats

A wide range of children and adolescents with disabilities (44-87%) spent more than 2h per day watching TV programmes or DVDs (grade C-). Sedentary behaviour includes more behaviours than viewing in front of screens, and the grade was perceived as overly optimistic for children and adolescents with disabilities. The stakeholders highlighted challenges for active teaching practices in schools. Some children and adolescents with disabilities rely on assistive devices or support to engage in active breaks or classes, thus could leave more children and adolescents with disabilities with the perception they spend more sedentary time than their peers without disabilities.

Although the vast majority of children and adolescents with disabilities attend general schools at the post-primary level (Ramberg et al., 2020), it is unclear if children and adolescents with disabilities were excluded from some school-based national data collection efforts. This may lead to samples that are unrepresented and is a major barrier to understanding PA behaviours of children and adolescents with disabilities, hence interpretation of the results need to be treated with caution.

Discussions

This is the first-time data on Irish children and adolescents with disabilities have been pooled together and translated into grades according to the global matrix PA RC methodology. There was sufficient data to produce grades for eight of the 10 indicators from national surveys that included children and adolescents with and without disabilities. Disability and PA specific relevant modules in surveys seem to be lacking to exploit the weaknesses and threats identified in this paper.

This leaves a knowledge gap between disability policy and PA policy as there were either no timely disability specific studies with measures on PA or studies did not match the Para Report Card benchmarks. Even though the 2016-2020 National PA plan strived for 1% per annum increase in the proportion of children meeting PA recommendations (Healthy Ireland, 2016), the grades in this report were lower than the general report, suggesting children and adolescents with disabilities are being left behind from policy efforts. Some study limitations include, across the five national surveys, there were different sampling techniques, data collection procedures, as well as disability measures, leading to different disability prevalence estimates and difficulties to compare findings across data sources. As a result of the Global Matrix methodology, the spread of data across the benchmarks forced an average grade rather than recognise how wide the results were. Further studies, outside the scope of the Global Matrix, are needed to understand the possible confounders that lead to wide spread of results, particularly in the Organised Sport, Sedentary Behaviour, School, and Community indicators. Caution should be made when interpreting grades from the island of Ireland because not all the indicators had disability specific data from both Northern Ireland and the Republic of Ireland. Furthermore, some disability data from the GUI was not used as it has not been published or could not be accessed. More robust data can be obtained from longitudinal studies with other impairment groups.

Future Directions

This Para Report Cards is the first positive step towards a goal of disaggregating statistics by disabilities and reporting them in a way that is comparable to data without disaggregation. In recognition to this, there are still many areas to improve knowledge in physical activity promotion of children and adolescents with disabilities. These include, but not limited to, encourage all indicators can be measured through inclusive national surveys, prioritise data collection on active play and physical fitness, consider the suitability of indicators for children and adolescents with disabilities such as, accessibility indexes, continued and increased state funding to support physical activity programmes and initiatives targeted to reduce the PA disparities, and advocacy at multisectoral levels to promote more PA among children and adolescents with disabilities.

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Figure 1. Box and Whisker plot of the Irish data points for each Para Report Card indicator

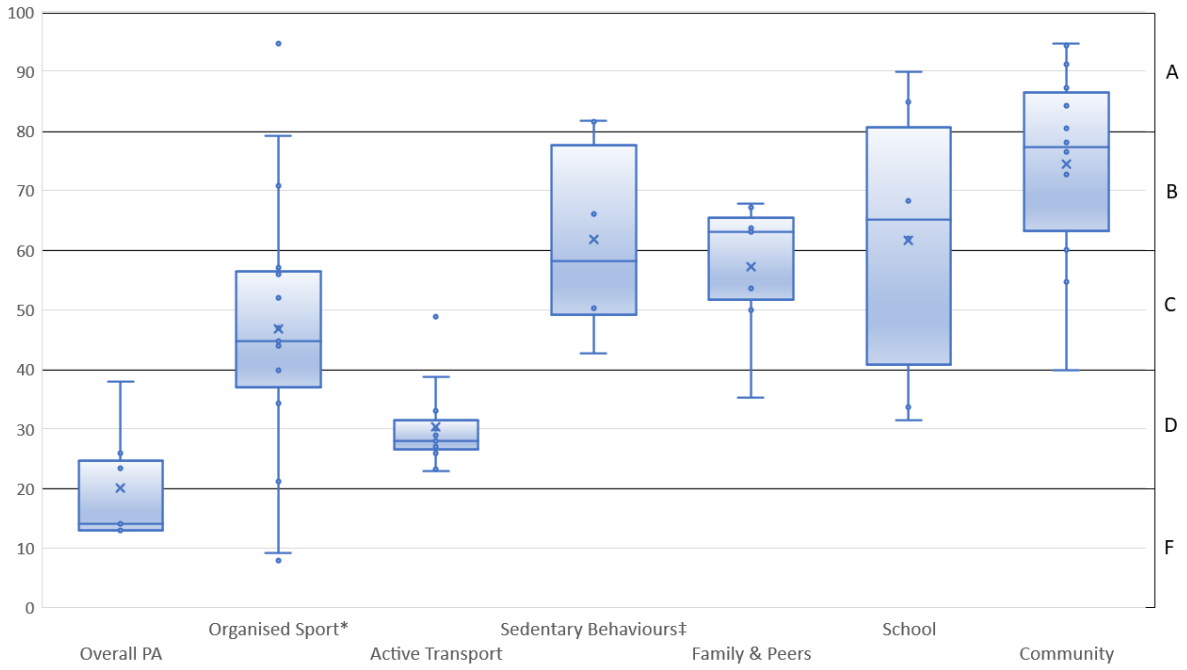

Figure notes: left axis = data percentages; right axis = alignment with grades; dot = data point; horizontal line = median; x = unweighted mean; Organised sport* was downgraded as CSPPA had a larger sample, with lower averages; Sedentary Behaviours‡ benchmark was solely on screen time.

Table 1. Physical activity indicators, data for benchmarks, grades, and sources of information for Northern Ireland, Republic of Ireland, and All Island

		Data Sources		
Indicator	Grade	Northern Ireland	Republic of Ireland	All Island
Overall Physical Activity	F		GUI3, GUI5, HBSC	CSPPA
Organised Sport	D	YPBAS	GUI3, GUI5, ISM	CSPPA

Active Play	INC			
Active Transport	D-		HBSC, GUI5	CSPPA
Sedentary Behaviours	D-		GUI5	CSPPA
Physical Fitness	INC			
Family and Peers	C		GUI5	CSPPA
School	C-		GUI3, GUI5	CSPPA
Community	B-		GUI3, GUI5	CSPPA
Government	B			HEPA

CSPPA - Children's Sport Participation and Physical Activity 2018 (10-18y), GUI3 - Growing Up in Ireland Child Cohort 3 (17/18y), GUI5 - Growing Up in Ireland Infant Cohort 5 (9y), HBSC - Health Behaviour in School-aged Children 2018 (10-18y), ISM - Irish Sports Monitor 201x (16-18y), YPBAS - Young People Behaviour and Attitude Survey 2019-20 (11-16y), HEPA - Health Enhancing Physical Activity - Policy Evaluation Tool v2.