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Results from the 2016 Ireland North and South Report Card on Physical Activity for Children and Youth

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## Abstract

**Background:** Physical activity (PA) is a key performance indicator for policy documents in both the Republic and Northern Ireland. Building on baseline grades set in 2014, Ireland's second Report Card allows for continued surveillance of indicators related to PA in children and youth. **Methods:** Data and information were extracted and collated for 10 indicators and graded using an international standardised grading system. **Results:** Overall seven grades stayed the same, two increased and one decreased. Grades were assigned as follows: overall PA, D (an increase); sedentary behaviour (TV), C-; physical education, D-; active play, inconclusive; active transportation, D; school, D (a decrease); home (family), inconclusive; community and built environment, B+ (an increase); and government, inconclusive. Unlike 2014's Report Card, different grades for the Republic (C-) and Northern Ireland (C+) were assigned for organised sport participation. **Conclusions:** Although the grade for overall PA levels increased to a D this may reflect the increased quality and quantity of data available. The double burden of low PA and high sedentary levels are concerning and underscore the need for advocacy towards, and surveillance of, progress in achieving targets set by the new National Physical Activity Plan in the Republic and obesity and sport plans in the North.

## Introduction

Physical activity (PA) guidelines in Ireland recommend that children should accumulate at least 60 minutes of moderate-to-vigorous PA (MVPA) daily for health benefits.<sup>1,2</sup> Despite this global recommendation, and the widely reported benefits for participation in PA, in 2014 we reported that only 25% of children on the island of Ireland were meeting PA recommendations.<sup>3</sup> In the Republic of Ireland's recently released National Physical Activity Plan,<sup>4</sup> there is a focus on children and young people, with a specific target that '*children and young people learn the necessary skills for confident engagement with physical activity and will have opportunities to adopt an active way of life*'. In Northern Ireland, the Fitter Futures for All Framework<sup>5</sup> includes the long-term outcomes of '*a greater proportion of children and young people are achieving recommended levels of physical activity*' in the prevention and management of obesity.

In 2014, Ireland (in a cross-border effort involving both the Republic of Ireland and Northern Ireland)<sup>3,6</sup> joined 14 other countries in launching their Report Card<sup>7</sup> which acted as a baseline for surveillance of

PA promotion efforts and to become an advocacy tool to push for changes in PA policy and programming. The 2014 edition was well received by media and by stakeholders and, in order to continue the momentum, the 2016 Ireland North and South Report Card has been produced by Active Healthy Kids Ireland as part of the Active Healthy Kids Global Alliance. Although the Republic of Ireland and Northern Ireland are two independent nations on the same island (the former is an independent autonomous country whereas the latter is part of the sovereign state of the United Kingdom of Great Britain and Northern Ireland) under the 1998 Good Friday Agreement a power-sharing executive was set up in Northern Ireland with devolved powers over areas of legislation and policy relating to areas which impact on children's physical activity (transport, education, for example). Given attempts by both governments to encourage cross-border co-operation between the two jurisdictions our intention was to produce a unified report for the whole island of Ireland, North and South combined. Where the evidence for a given indicator differed between the Republic and Northern Ireland we agreed to assign different grades but to present these within a single all-island Report Card. The aim of the present paper is to summarise the results of the 2016 Ireland North and South Report Card.

## **Methods**

The development and production of Ireland's 2016 Report Card was undertaken by the research work group (RWG) comprised of 12 PA and health researchers from Universities and public bodies. The RWG was chaired by Harrington and the work was led by two principal investigators (PIs); one based in Northern Ireland (M. Murphy) and one based in the Republic of Ireland (Belton). A part-time research assistant (Carlin) identified, extracted and collated any new data and information from academic articles, datasets and policy documents between 2011 and 2015 following international guidance<sup>8</sup> and methods used in 2014. Sources were identified through database and internet searches, contact with the RWG, and contact with other research groups and stakeholders across Ireland. Data were presented, discussed and graded by wider RWG at a meeting in March 2016. Factors considered when grading were sample size, methodology, whether there was disparities or inequities in the data (for example, boys more active than girls) and how well the most recent data matched with the benchmark set for that indicator. The benchmark was set as the target that children themselves should achieve to promote health or that the settings should have in place to support PA. Grades from A to F (including "+" or "-") could be assigned with an "inconclusive" being available if not enough data exist on that indicator. As a range of grades were proposed for each indicator (i.e. raise, lower, or no

change from 2014), the data were further scrutinised by the PIs and RWG chair. A draft set of grades and rationale was circulated to the RWG and each member provided further feedback. Draft grades and accompanying rationale were then presented to stakeholders from 14 agencies in April 2016. Stakeholders inputted on the relevance of the grades to their agency's work and provided policy and 'real world' context and a voice for end users 'on the ground' on how to frame the messaging within the Report Card to ensure maximum relevance and impact. Stakeholders included those representing health and wellbeing, health promotion, primary and secondary physical education, early childhood, play, transport, education, sport and disability. Following this meeting the RA, the PIs and the chair set about preparing the Report Card, consulting further with the stakeholders and other RWG members as required.

The 10 indicators included in Ireland's 2016 Report Card are consistent with the 2014 edition: *overall physical activity; sedentary behaviour (TV viewing); organised sport participation; physical education (PE); active play; active transportation; school; community and the built environment; home (family); and government*. The following datasets formed the basis of the 2016 grades but are supplemented, when mentioned, by other local studies or grey literature:

### **Republic of Ireland datasets**

Growing Up in Ireland (GUI) infant and child cohorts <sup>9,10</sup>

GUI is a longitudinal study of 2 representative cohorts of children in the Republic of Ireland funded by the Department of Children and Youth Affairs and undertaken by a consortium of researchers led by the Economic and Social Research Institute and Trinity College Dublin. Data from wave three of the infant cohort, followed up at age 5 years (n~9,000 children and their care-givers; collected in 2013), and wave two of the child cohort, followed up at age 13 years (n~7,400; data collected August 2011 to March 2012) are reported.

Health Behaviour of School-Aged Children (HBSC)<sup>11,12</sup>

HBSC is a cross-national school-based survey of children and data have been collected in the Republic of Ireland over 5 waves (1997 – 2014) by the National University of Ireland Galway and funded by the World Health Organization and the Department of Health. We report data from the 2013–2014 (n=13,611) waves collected on a representative sample of 11 – 15 year olds.

Children's Sport Participation and Physical Activity (CSPPA-Plus)<sup>13,14</sup>

The CSPPA study collected data on 5,397 children and youth aged 10–18 years in 2009 in the Republic of Ireland, with the aim of providing a national database on PA, PE and sport participation in youth.<sup>15</sup> The CSPPA Plus study involved following up this cohort of youth five years after initial contact and reported data on 873 participants (response rate = 22.3%, aged 15–21 years).

### **Northern Ireland datasets**

Young Persons' Behaviour and Attitudes Survey (YPBAS)<sup>16,17</sup>

YPBAS is commissioned by Northern Ireland government departments, and designed and administered by the Central Survey Unit to query topics relevant to the lives of young people. The fourth round of the survey was administered to 7,076 pupils aged 11–16 years, with schools randomly assigned to complete one out of two versions of the questionnaire. We report on data from Version A of the questionnaire, collected from 3,174 11–16 year olds in 2013.

UK Millennium Cohort Study wave 5 (MCS5)<sup>18</sup>

This is a longitudinal study following the lives of children born in the UK. It is funded by the Economic and Social Research Council and run by the Centre for Longitudinal Studies, UK. Wave 5 data was collected in 2012 when children were aged 11 years (n=13,287). The survey included interviews with parents and a self-completion questionnaire for the child participant with data for Northern Ireland specifically reported herein (n=1,931).

Northern Ireland Travel Survey<sup>19</sup>

The Northern Ireland Continuous Household Survey is administered by Central Survey Unit and the Northern Ireland Statistics and Research Agency. Since 2013, the survey has included parent report of method of travel to/from school. We report data on the 2014/2015 survey on 623 primary school and 525 post-primary school children from Northern Ireland.

### **Results**

The 2016 Ireland North and South Report Card is the second biennial assessment of indicators related to PA of children and youth living on the island of Ireland. The grades are included in Table 1 while the main document cover can be seen in Figure 1.

### **Discussion**

Overall, one indicator decreased (*school*), two indicators (*overall PA levels* and *community and the built environment*), increased and *sport* was graded separately for The Republic and Northern Ireland. There strengths and limitations to the data available for each indicator are discussed in the long form of the 2016 Report Card.<sup>20</sup> Although the RWG are encouraged by the quantity of new data, and the quality of the methods, we found that data between waves of studies were not always consistent. This made it difficult at times to compare with the 2014 edition and the benchmarks set for this international Report Card process.

**Overall physical activity:** Using the criterion of % of children meeting the PA guideline of at least 60 minutes of MVPA every day,<sup>1,2</sup> this indicator was graded **D**. This is an increase from the D- awarded in the 2014 Report Card. Five large datasets representing differing age groups from the Republic and Northern Ireland were considered. Based on self-report methods 14-41% of children meet the PA benchmark. From the Republic of Ireland 23% of 10–17 year olds<sup>11,12</sup> met the benchmark while in Northern Ireland 41% of 5-18 year olds,<sup>19</sup> 24% of 9–11 year olds<sup>21</sup> and 14% of 11–16 year olds.<sup>17</sup> met the benchmark. Although data from a longitudinal study in the Republic found that 25% of 9 year olds met the benchmark<sup>22</sup> (as reported in the 2014 Report Card), this question was not asked again when the children were followed-up at 13 years of age in wave 2.<sup>9</sup> Both sex and age differences were evident as for boys and girls, respectively, 31% and 45% at age 11, 16 and 36 at age 13 and 9 and 25% at age 15 met the benchmark.<sup>12</sup> Using objective measures of PA from regional samples showed that 22% of 8–11 year olds (unpublished)<sup>23</sup> and 32% of 11–14 year olds<sup>24</sup> met the benchmark.

Though not applicable to all indicators, a weighted mean for overall PA, from self-reported and objective methods, found that 49% and 32%, respectively, met the benchmark indicating a D grade overall. Though this increase can be heralded as a positive movement, this increase may reflect the greater quantity and improved quality of measurement studies that have been carried out and published between 2010 and 2015

**Organised sport participation:** Using the target of % of children participating in sport twice per week,<sup>25</sup> this indicator was graded differently for the Republic and Northern Ireland. Due to a lack of new data that matched the benchmark, a **C-** was awarded in the Republic of Ireland indicating no change from the 2014 Report Card. Northern Ireland was awarded a **C+** indicating a slight increase from 2014. In Northern Ireland, 65% of young people aged 11-16 reported participation in 2+ hours of sport/PA outside of school each week.<sup>17</sup> Some 54% of parents of 11 year olds in Northern Ireland

reported that their child goes to a club or class to do sport/other PA  $\geq 2$  days per week.<sup>18</sup> This compares to 40% of children meeting the benchmark from the same study in the 2014 Report Card. In the Republic, recent datasets<sup>9-12</sup> have not differentiated between school sports club participation (which would be included in the school indicator) and participation in extra-school clubs. Inequities are evident with girls, those from lower social classes, and older children less likely to participate regularly in sports clubs.<sup>11,12,17</sup>

**Active play:** Although active play is a contributor to MVPA recommendations<sup>1</sup> there continues to be no universally agreed benchmark to allow for this indicator to be assessed independently from other PA although “% of children and youth engaging in unstructured/unorganised active play for several hours a day” has been proposed.<sup>26</sup> Although two large datasets include data on active play, the mismatch between the arbitrary benchmark and the questions asked means this grade remains as **INC** in 2016. Analysis of data from the Republic<sup>10</sup> shows that an average of 42% of 5 year olds undertake some form of active play every day, which would suggest a C- for the Republic while 72% of children in Northern Ireland reported playing sports or active games inside or outside but not at school on most days of the week,<sup>18</sup> which would suggest a B grade; although that also value includes ‘outdoor sports’ so is likely to be somewhat inflated.

**Active transportation:** Using the % of children reporting active transport to or from school each day, this indicator was graded D, which represents no change from the 2014 Report Card. Data from larger studies (>2,000 participants)<sup>16,27-29</sup> suggest we are succeeding with 20–29%. Parent reported data from Northern Ireland showed 51% of children usually (rather than each day) walked or cycled to school.<sup>11</sup> Inequalities in active transportation are still evident, with children from rural areas less likely to active commute than their urban counterparts.<sup>19</sup> Sex gaps evident for other indicators may not be as obvious for active transport – for example, 23% of males and 25% of females use of active transport in a local sample of 2,877 12-20 year olds in the Republic.<sup>28</sup>

**Sedentary behaviour (TV viewing):** Based on the benchmark of % of children watching <2 hours of TV/day,<sup>30</sup> this indicator was graded as C-, representing no change from 2014. Data from the Republic indicated ~53% of 13 year olds watched <2 hours TV/videos/DVDs each day.<sup>9</sup> Using a question that captures total screen time, 58% of 5 year olds spend  $\leq 2$  hours engaged in screen time of any type on an average weekday.<sup>10</sup> From HBSC 2014, 50% of 11-15 year olds reported watching <2 hours TV/day,<sup>11,12</sup> compared with 46% from 2009/2010 reported in Ireland’s 2014 Report Card. Data also indicates that TV viewing increases with age as percentage of youths meeting the benchmark decreased by 11%

between ages 11 and 15 years.<sup>11,12</sup> Data from Northern Ireland shows that 60% of 11 year old children spent < 2 hours watching programmes or films on any screen on the average school day.<sup>18</sup>

**Physical education (PE):** Based on the benchmark of the discrepancy between the recommended time ( $\geq 1$  hour/week for primary<sup>31</sup> and 2 hours/week for post-primary<sup>32</sup> in the Republic and 2 hours/week in Northern Ireland)<sup>33</sup> allocated to PE in schools, and the amount actually reported by students or schools, this indicator was graded as a **D-** representing no change. Since the 2014 Report Card, there has been a lack of published data reporting the prevalence of children receiving the recommended time for weekly PE and data from Northern Ireland will include time in school games lessons (PE classes where students take part in a range of sports activities) as well as PE. 69% of 11–16 year olds reported being involved in PE/games lessons for  $\geq 2$  hours/week.<sup>17</sup> Age-related differences were apparent, with 79% of those aged 12 and under reporting  $\geq 2$  hours/week, compared to 57% of those aged  $\geq 16$ .<sup>17</sup> Data has shown that the time allocated to PE varies between year groups within and across the school settings in the Republic<sup>34</sup> and Northern Ireland.<sup>35</sup>

**Home (family):** No accepted standard benchmark for this indicator currently exists either internationally or in Ireland North or South. The grade remains **inconclusive** due to a lack of an established benchmark. Reviews of the supports for children’s PA highlight some elements of the home social environment that could act as a benchmark such as family social support.<sup>36,37</sup> Available data from the Republic of Ireland show that 22% of parents reported undertaking sport or PA with their 5 year old children everyday<sup>10</sup> while in Northern Ireland this value was 3% for parents who play sports or physically active games outdoors or indoors every day/almost every day.<sup>18</sup>

**School:** Using the benchmark of the % of children participating in 2+hr/week of extra-curricular sport and school based recreation,<sup>38</sup> this indicator was graded **D**, which indicates a drop from 2014 (C-). In Northern Ireland, 27% of 11–16 year olds normally stayed behind after school to take part in sport or PA for 2+ hours/week<sup>17</sup> compared to 49% reported in the 2014 Report Card. However, the way the more recent question was asked is better suited to the benchmark, as it focuses instead on staying behind at school for sport and PA whereas data used in the 2014 card encompassed PE, games and playing for a school team. The observed difference in results between the two waves is likely due to the change in question asked as opposed to a change in frequency of participation. Data from the Republic previously included in the 2014 Card found that 42% of primary and 57% of post-primary



students reported participating in extra-curricular sport at least twice/week. This compared to 30% reporting the same participation in 2014 when the children were older (>15 yrs).<sup>13,14</sup>

**Community and the built environment:** Using the benchmark of the % of parents or adolescents perceiving their local area and PA facilities as safe or good quality, this indicator was graded **B+**, representing an increase from the 2014 grade (B). In the Republic, 94% of parents strongly agreed/agreed their local area was safe for their 13 year old child.<sup>9</sup> In Northern Ireland, 94% of 11–16 year olds reported feeling safe in the area they live, while 64% felt the play/leisure facilities in their area were good.<sup>16</sup> A further 89% of 11 year olds reported that the area they live in was very safe/safe to walk, play or hang out in during the day.<sup>18</sup> A study including children from Ireland North and South reported that 94% of 7 - 15 year olds believed their neighbourhood to be safe/very safe.<sup>39</sup>

**Government:** Although difficult to obtain or non-existent in many jurisdictions,<sup>40</sup> quantification of the investment into physical activity and the implementation of physical activity policy would be the ideal benchmark that all jurisdictions would aim to capture. Both the Republic of Ireland and Northern Ireland include the promotion of children's PA in policy and strategy documents that span several sectors including sport, education, health and transport. Since the 2014 Report Card there has been some progress from the government and public sector most notably the publication of the National Physical Activity Plan in the Republic of Ireland.<sup>4</sup> This plan sets out 60 actions; 14 of which are specifically designed to increase PA in children and young people. Each action identifies a lead and partner agencies and timescales for the delivery.<sup>4</sup> In Northern Ireland there is a notable absence of a bespoke national PA policy or plan, however objectives to increase children's participation in PA and sport are embedded within the strategic plans and policy objectives of a number of other organisations and policy objectives including the Fit Futures Obesity Action Plan 2012-2022<sup>5,41</sup> and Sport Matters: the Northern Ireland Strategy for Sport & Physical Recreation 2009 – 2019.<sup>38</sup> The unavailability of data on investment and the extent of the workforce devoted to implementing policy related to children's PA, and the lack of clear mechanisms for tracking children's PA targets means that much of the key evidence required on the Government indicator is lacking. However, the RWG acknowledge the progress made in policy in the Republic, and the cross-sector working in both jurisdictions.

**Strengths and Limitations:** The RWG included representatives from across the island of Ireland and ensures cross-border working in the area of PA advocacy. More agencies participated in the stakeholder consultation process in 2016 than in the 2014 edition, which helps ensure that the views of the end users of this advocacy document are heard. Although grades are based on the best available data up to

2015, there were significant research gaps. Firstly, data collected in large scale studies did not always match the benchmark set in the international Report Card process (for example PE and overall PA indicators). Rather than the Report Card benchmarks changing to fit the available data, we suggest that future studies ask questions that align with Report Card benchmarks included herein as they follow national and international PA recommendations and are being used as global indicators of physical activity. Secondly, there are gaps in data available for certain indicators (e.g. active play), or groups such as early childhood in general and underrepresented children (e.g. disabilities, minority children and those in care).

### **Conclusion**

The grade for overall PA has increased from the 2014 edition of Ireland's Report Card, which may also reflect an improvement in the quantity and quality of data available. Yet this grade is still only a D meaning there is much room for improvement as more than half of children on the island of Ireland are still not meeting the recommended levels to obtain the myriad of physical, mental and social benefits that being active brings. The RWG are encouraged by the release of the Republic of Ireland's National Physical Activity Plan as this is the Republic's first clear 'stand-alone' single issue PA policy statement which has the potential to make a substantial contribution to a change in population levels of PA. Equally, the embedding of PA objectives in a number of Northern Ireland strategic plans and related agendas to achieve synergist policy impacts is welcomed. However, the RWG believe that to see change in the health and wellbeing of Ireland's current children and future generations urgent, measurable action is necessary. This will require continued advocacy to policy makers, practitioners and parents to ensure PA remains a key priority.

### **Institution Where Work Originated**

- University of Leicester, Leicester, UK and the NIHR Leicester-Loughborough Diet, Lifestyle, and Physical Activity Biomedical Research Unit, The views expressed are those of the author(s) and not necessarily those of the National Health Service, the National Institute for Health Research or the Department of Health (UK).
- Dublin City University, Dublin 9, Ireland.
- Ulster University, Jordanstown, Northern Ireland.

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Table 1. Grades According to Physical Activity Indicator in the 2016 Ireland North and South Report Card on Physical Activity for Children and Youth

<b>Indicator</b>	<b>Grades</b>
Overall Physical Activity Levels	D
Organised Sport Participation	C- RoI /C+ NI
Physical Education	D-
Active Play	INC
Active Transportation	D
Sedentary Behaviours	C-
Home (family)	INC
School	D
Community and the Built Environment	B+
Government strategies and investments	INC

*Note.* The grade for each indicator is based on the percentage of children and youth meeting a defined benchmark: *A* is 81% to 100%; *B* is 61% to 80%; *C* is 41% to 60%, *D* is 21% to 40%; *F* is 0% to 20%; *INC* is Inconclusive/incomplete data.

RoI: Republic of Ireland; NI: Northern Ireland

Figure 1: Front Cover of the 2016 Ireland North and South Physical Activity Report Card

