

1 Full title: Results from Ireland's 2014 Report Card on Physical Activity in Children and Youth

2 Running head: Ireland's Report Card 2014

3
4 Deirdre M. Harrington¹, Sarahjane Belton², Tara Coppinger³, Muireann Cullen⁴, Alan Donnelly⁵,
5 Kieran Dowd⁵, Teresa Keating⁶, Richard Layte⁷, Marie Murphy⁸, Niamh Murphy⁹, Elaine
6 Murtagh¹⁰, Catherine Woods²

7
8
9 1. University of Leicester, Leicester, UK dh204@le.ac.uk

10 2. Dublin City University, Dublin, Ireland Sarahjane.Belton@dcu.ie and
11 catherine.woods@dcu.ie

12 3. Cork Institute of Technology, Cork, Ireland Tara.Coppinger@cit.ie

13 4. Nutrition and Health Foundation, Dublin, Ireland muireann.cullen@ibec.ie

14 5. University of Limerick, Limerick, Ireland Alan.Donnelly@ul.ie and Kieran.Dowd@ul.ie

15 6. Institute of Public Health in Ireland Teresa.Keating@publichealth.ie

16 7. The Economic and Social Research Institute, Dublin, Ireland richard.layte@esri.ie

17 8. University of Ulster Newtownabbey, Co. Antrim, N. Ireland
18 mh.murphy@ulster.ac.uk

19 9. Waterford Institute of Technology, Waterford, Ireland nmurphy@wit.ie

20 10. Mary Immaculate College, Limerick, Ireland elaine.murtagh@mic.ul.ie

21
22
23 **Corresponding Author Details:** Dr. Deirdre M. Harrington, Diabetes Research Centre (Origin),
24 Leicester General Hospital, Leicester LE5 4PW, UK

25 Email: dh204@le.ac.uk Office: +44 116 258 863

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Abstract

Background: Physical activity levels are a key performance indicator for policy documents in Ireland (Healthy Ireland, 2013; Framework for Preventing and Addressing Obesity, 2012). Ireland's first Report Card on Physical Activity in Children and Youth aims to set a robust baseline for future surveillance of indicators related to children's physical activity.

Methods: Data collected between 2003 and 2010 on over 35,000 7 to 18 year old children were used and graded using a standardised grading system under 10 indicators.

Results: Indicators were graded as follows: overall physical activity levels D-; sedentary behaviour (TV viewing) C-; organised sport participation C-; physical education D-; active play INC; active transportation D; school C-, community and the built environment B; family INC; and Government INC.

Conclusions: Physical activity recommendations exist in Ireland but this Report Card has shown that participation is still low. A number of promising policies, programmes and services are in place but these require thorough evaluation and adequate resourcing. Agreement and implementation of a common framework for the systematic surveillance of indicators related to physical activity of children and youth is necessary in order to monitor change over time and ensure the impact of promising work is captured.

Key words: physical education; sedentary; sport; transportation

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Introduction

A key performance indicator for the 2013 Healthy Ireland Framework in the Republic of Ireland is to increase by 20% the proportion of the population undertaking regular physical activity¹ while Northern Ireland's Framework for Preventing and Addressing Obesity has participation in physical activity, physical education (PE) and sport as a key performance component.² Due to this renewed interest in physical activity promotion and an impetus to use physical activity as a means of preventing disease and improving overall health, monitoring of indicators related to children's physical activity are necessary over time.

The Report Card on Physical Activity is a knowledge exchange and translation vehicle that has been used internationally³ and its use is increasing. It has the potential to create linkage and inter-sectoral engagement of the kind that is required on the island of Ireland. Ireland is made up of the Republic of Ireland (herein called Republic) and Northern Ireland. Overall, ~6.6 million people live on the island (4.8 million in the Republic and 1.8 million in Northern Ireland) and ~20% are under 15 years of age. The island enjoys a temperate maritime climate with rugged hills and low mountains, particularly by the coast. The island has endured a turbulent history, with the country being divided into the Republic of Ireland (26 counties) and Northern Ireland (6 counties). The Republic of Ireland is an independent country and Northern Ireland is part of the United Kingdom. Since 1998, however, Northern Ireland has been largely self-governed by the Northern Ireland Assembly.

Although there are differences between the two jurisdictions in terms of legislation and governance structures, the Good Friday Agreement in 1998 has been the impetus for many all-island bodies and initiatives including joint activities relating to physical activity, sport and health, exist between the two countries, including the Institute of Public Health Ireland (www.publichealth.ie), the Physical Education, Physical Activity and Youth Sport research network (www.ul.ie/pess/pepays) and the successful Irish rugby team. It has been estimated that in Ireland physical inactivity causes 8.8% of the burden of disease from coronary heart disease, 10.9% of type 2 diabetes, 15.2% of breast cancer, and 15.7% of colon cancer⁴ The Report Card will serve as a vital tool for practitioners and policy makers on both sides of the border and cross-border in order to identify key needs and gaps, allocate funds and develop

100 activity promotion initiatives. This surveillance of indicators related to physical activity is vital for
101 sustainable success and, ultimately, to improve the health profile of Ireland's children.

102

103 The aim of this paper is to present the grades for Ireland's first Report Card on Physical Activity in
104 Children and Youth and to briefly summarise the evidence surrounding each grade. The data herein
105 represent over 35,000 children aged 7 - 18 years, sampled between 2003 and 2010 and, where
106 possible, from representative datasets.

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Methods

110 This scientific advocacy was undertaken by a research work group (RWG) comprised of 12
111 researchers with experience in children's physical activity and health. The RWG chair (DMH)
112 informally convened the group based on knowledge of researchers in Ireland and through
113 recommendations. The RWG first met in May 2013 to decide on the indicators to include and to
114 identify key data sources for each indicator. The ten indicators included in Ireland's first Report
115 Card are: *overall physical activity levels; sedentary behaviour (TV viewing); organised sport*
116 *participation; physical education; active play; active transportation; school; community and the*
117 *built environment; family; and government.* All members of the RWG were responsible for
118 identifying key data sources through database and online searching and examining their personal
119 records. The RWG chair, in collaboration with a research assistant, extracted the relevant
120 information, collated it in a spreadsheet to make the data easy to navigate and be ready for grading.
121 All members of the RWG met for a four hour discussion meeting on the data in Feb 2014. Members
122 were emailed the spreadsheet of data one week before this meeting, to allow for perusal of the data
123 and to consider possible grades. During the meeting each indicator was discussed and assessed, and
124 each member proposed a grade privately. When ambiguity existed, prevalence data and evidence
125 from Ireland were compared to Report Cards from other countries. A proposed grade for each
126 indicator was decided upon using the standardised, international grading system³. To increase
127 validity, the key data were sent to four external researchers with experience of the Report Card
128 grading process. Finally, the data and grades were presented during a targeted consultation session
129 to practitioners and policy makers. The key items considered when grading were: (i) representative
130 nature, (ii) sample size, (iii) possibility of that study being repeated or at least the question being
131 asked again in the future and (iv) what other countries had used. The grades are based on the best

132 available data from the island of Ireland that were collected between 2003 and 2010, and represent
133 data from over 35,000 children (plus census data). Data sources included:

134 *Growing up in Ireland (GUI)*:⁵ A longitudinal study of two cohorts of children in the Republic
135 funded by the Department of Children and Youth Affairs and run by a consortium of researchers led
136 by the Economic and Social Research Institute (ESRI) and Trinity College Dublin. Data from wave
137 one of the 9 year old cohort of 8,568 children and their care-givers sampled in 2007/2008 are
138 reported.

139 *Health Behavior of School-Aged Children (HBSC)*:^{6,7} HBSC data have been collected in the
140 Republic over four waves between 1997 and 2010. We report data from the 2009/2010 wave
141 collected on a representative sample of 16,060 11 - 15 year olds, run by National University of
142 Ireland Galway and funded by the World Health Organization and the Department of Health.

143 *Young Persons' Behaviour and Attitudes Survey (2010)*:⁸ This study queried 3,463 11-16 year olds
144 from a representative sample of schools in Northern Ireland. A consortium of Northern Ireland
145 government departments commissioned the Central Survey Unit to design and run the survey.

146 *UK Millennium Cohort Study (MCS)*:⁹ Longitudinal study following the lives of children born in the
147 UK and funded by the Economic and Social Research Council (ESRC) and run by the Centre for
148 Longitudinal Studies in the UK. In the fourth wave (MCS4) in 2008/2009, 1,317 children aged 7-8
149 years old in Northern Ireland had data available, while 634 children provided objective physical
150 activity data from 2+ days of accelerometry.¹⁰

151 *Children's Sport Participation and Physical Activity (CSPPA)*:¹¹ This study aimed to provide a
152 national database on physical activity, physical education and sport participation and to examine
153 influences on participation. Overall, 5,397 children between 10 - 18 years old were sampled in
154 2010, with sampling stratified by urban/rural and SES, amongst other factors, to achieve a
155 representative sample. The project was run by a consortium of Irish universities funded by the Irish
156 Sports Council (ISC).

157 *Census of Population of Ireland*:¹² Every 5 years all people in the Republic of Ireland are required
158 to complete the census, which is administered by the Central Statistics Office (CSO). In 2011,
159 demographic and societal data on over 800,000 young people aged 5-18 were included.

160 *Keeping them in the Game*:¹³ This document contains data and evidence for policy compiled from
161 three large nationally representative surveys of sport and physical activity, from years 2007 and
162 2009, by the ESRI and commissioned by the ISC.

163 *Take PART (Physical Activity Research for Teenagers) Studies:*¹⁴⁻¹⁶ Three Take PART studies were
 164 undertaken between 2003 and 2007, with 3,292 15-17 year olds sampled in three areas in the
 165 Republic. The study was run by Dublin City University and funded by the Health Service Executive
 166 (HSE).

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168

Results

169 The Ireland's Report Card 2014 is the first assessment of indicators relating to physical activity in
 170 children in Ireland (Figure 1). These grades are included Table 1 below.

171

172

Discussion

173 *Overall physical activity levels*

174 Using the criterion of % of children in Ireland meeting the physical activity guidelines of 60
 175 minutes moderate to vigorous physical activity (MVPA) every day,^{17,18} this indicator was graded D-
 176 . Based on self-report data, 25% of 11 - 15 year olds,⁶ 12% of 11 - 16 years year olds,⁸ 25% of 9
 177 year olds⁵ and 19% of primary and 12% post-primary (high school/secondary school)¹¹ were
 178 meeting the guidelines. Only one national survey used objective measures and found that 43% of 7 -
 179 8 year olds met recommendations.¹⁰ The prevalence of meeting physical activity recommendations
 180 among children and youth living in the Republic of Ireland were lower than those residing in
 181 Northern Ireland, although Northern Ireland children had the lowest physical activity of the UK
 182 countries involved in MCS4. Moreover, the age group assessed most likely represents the most
 183 active age group and would not be representative of all children and youth. Notably, a sex
 184 difference existed in the data^{6,11} (due in part to advanced biological maturation in girls)¹⁹ and,
 185 similar to other countries^{20,21} this gap widens with age.⁵

186

187 *Sedentary behaviour (TV viewing)*

188 No recommendations on the maximum amount of sedentary time exist for Ireland, although
 189 replacing sedentary time with active time is included in physical activity guideline documents.^{17,18}

190 Using the target of % of children watching < 2hr of TV/day,²² this indicator was graded C-. From
 191 HBSC 2010, 46% of 11 - 15 year olds reported watching < 2hrs TV/day.⁷ Other available data
 192 reported 73% of 11 - 16 year olds spent < 10 hr/week watching TV,⁸ 21% of 9 year olds watched <
 193 1hr TV/video/day⁵ and 23% of 7 - 8 year olds spent < 1hr watching TV/Video/day.⁹ Given the

194 mean time spent in self-reported sedentary activities of > 2.6 hr/day¹¹, this grade is likely to be
 195 generous.

196

197 *Active transportation*

198 Using the target of the % of children reporting active transport to or from school each day, this
 199 indicator was graded D. The data showed that 24% of 11 - 16 year olds⁸ and 26% of 9 year olds⁵
 200 actively commuted to or from school. This indicator is one that does not follow the typical decline
 201 that is seen in overall physical activity and sport participation. For example, 32% of primary
 202 children and 43% of post-primary children actively commute to school,¹¹ while the census reported
 203 that 25% of primary and 24% of post-primary commuted on foot.¹² Notably, an urban-rural divide
 204 exists, whereby children in more rural areas reported less active commuting (39% versus 18%)^{15,16}
 205 possibly due to distance and less opportunity to actively commute.

206

207 *Physical Education*

208 Using the discrepancy between the recommended time allocated to PE in schools and the amount
 209 actually reported by students, this indicator was graded D-. In the Republic of Ireland, 1
 210 hour+/week on the Primary curriculum is suggested²³ while at post-primary level, 2 hours/week for
 211 post-primary is suggested.²⁴ Of 123 schools in the Republic that agreed to participate, 35% of
 212 primary (5th and 6th class) children reported receiving the recommended levels of while 10% of
 213 post-primary children reported receiving the recommended levels.¹¹ In Northern Ireland, PE is a
 214 compulsory subject for children aged 4 - 16²⁵ years and although there is a flexible timetable,
 215 guidance recommends 2hrs/week. Of the 419 primary schools in Northern Ireland that returned
 216 surveys, 17% reported 2+ hours of PE/week.²⁶ Recommended levels of PE are lower than global
 217 and European averages^{26,27} and, based on the data, the prevalence of meeting those
 218 recommendations is even lower.

219

220 *Organised sport participation*

221 Using the target of % of children participating in sport twice/week,²⁸ this indicator was graded C-.
 222 In Northern Ireland, 40% of parents report participation in 2+ days/week sport by their 7 - 8 year
 223 old,⁹ while in the Republic, 56% of 9 year old males and 33% of 9 year old females report playing
 224 sport almost every day,⁵ while 64% primary and 54% post-primary (sex differences found) report at

225 least 2 - 3 days/week of extra-school sport.¹¹ Sport participation typically decreases with age and
 226 socioeconomic differences are evident.¹³

227

228 *Active play*

229 Although active play is mentioned as a contributor to MVPA recommendations¹⁸ and guidelines
 230 exist for early years,¹⁷ there are no recommendations for active play alone. Due to lack of a target
 231 and data, this indicator was graded as Inconclusive. However, a number of promising signs are in
 232 place including an Active Play Plan²⁹ and an early years curriculum framework (birth to 6 years),
 233 with a section on learning and developing through play³⁰ in the Republic and a dedicated agency
 234 Play Board (www.playboard.org) in Northern Ireland

235

236 *Family*

237 Infrastructure, support and parental/peer physical activity behaviours and attitudes are all elements
 238 that could contribute to this indicator. As a target or data do not currently exist, this indicator was
 239 graded as Inconclusive. Some data from Northern Ireland has reported on family support and found
 240 that 22% of children do physical activities with family every day/almost every day, while 8% of
 241 parents play active games with their children every day/almost every day.⁹ In the Republic, 6% of
 242 parents play sports/cards/games with their child every day,⁵ while the typical sport club volunteer is
 243 a parent aged 35 - 54 years.³¹

244

245 *School*

246 Using the target of % participating in 2+ hr/week in extra-curricular sport (ECS) and school based
 247 recreation,³² this indicator was graded C-. In the Republic, 42% of primary and 57% of post-
 248 primary students reported participating in ECS 2+ times/week¹¹ while ECS drops when moving
 249 from primary to post-primary school.¹³ In Northern Ireland, 49% of adolescents reported 2 hrs of
 250 PE or games at school, while 46% are part of school club or team.⁸

251

252 *Community and the built environment (perceptions of quality and safety)*

253 Using the target of percentage of parents, young children and percentage of adolescent perceiving
 254 their local area as safe, this indicator was graded B. In Northern Ireland, 47% of parents say their 7 -
 255 8 year old child plays on the street/public,⁹ while 53% of adolescents state play/leisure facilities

256 locally are very good/fairly good.⁸ In the Republic, 68% of parents agree that it is safe to walk alone
 257 after dark in their area, 91% agree it is safe to play outside during the day and 58% agree there are
 258 safe parks/playgrounds in their area.⁵

259

260 *Government*

261 Although there is evidence of good practice in both the Republic and Northern Ireland, there are a
 262 number of gaps and weaknesses that need to be addressed. For this reason, this indicator was
 263 deemed Inconclusive. Strengths in the Republic include a dedicated Department of Children and
 264 Youth Affairs (www.dcya.gov.ie) and a National Cycle Framework³³ as part of Smarter Transport
 265 for a Sustainable Future.³⁴ Healthy Ireland (2013) is a new national health and wellbeing framework
 266 and physical activity has been identified as the exemplar.¹ However, currently no national physical
 267 activity plan exists in the Republic, and consequently no agreed physical activity goals or targets
 268 have been agreed to evidence any exemplary practice. The Northern Ireland Strategy for Sport and
 269 Physical Recreation 2009-2019 (Sport Matters)³² and the development of the Framework for
 270 Preventing and Addressing Overweight and Obesity in Northern Ireland 2012-2022² also exist.
 271 However, the absence of a national physical activity plan, a national physical activity and health
 272 surveillance system, and unavailability of physical activity workforce and investment data means
 273 that much of the key evidence on this indicator is in fact lacking.

274

275 **Limitations**

276 Although grades are based on the best available data, there are research gaps for objective data, on
 277 active play, early childhood and family physical activity. Guidelines for screen time are needed and
 278 monitoring children's total screen time is necessary, as using just TV is likely to underestimate total
 279 time spent sedentary.³⁵ Evidence of the physical activity levels of children with disabilities is also
 280 needed Evaluation of the effectiveness and cost-effectiveness of interventions to identify best
 281 practice and to resource adequately are required. .

282

283

283 **Conclusion**

284 Physical activity recommendations exist on the island of Ireland but this Report Card has shown
 285 that physical activity levels remain low. A number of promising policies, programmes and services
 286 are in place, but these require thorough evaluation and adequate resourcing. Agreement and

287 implementation of a common framework for the systematic surveillance of indicators related to
 288 physical activity of children and youth which would align with HEPA Europe,³⁶ and meet Ireland's
 289 commitments under the recent Council of the European Union recommendations on physical
 290 activity,³⁷ is necessary to monitor change over time and ensure the impact of promising work is
 291 captured. All children should have the opportunity of a 'quality' experience of school based
 292 physical activity and sport. Halting the proposed downgrading of physical education to a short
 293 course (rather than a subject) in the post-primary curriculum by the Department of Education and
 294 Skills (in the Republic) is vital for improving the grade. Embracing 4 hours/week of sport and
 295 physical activity during school (PE) and after-school, as is the case in Northern Ireland and the rest
 296 of UK, would be another useful step to improve the grade. Finally, the development, launch and
 297 implementation of a national physical activity plan is a necessity.

298

299 Volunteerism is an important non-governmental, community based support for sport. In the
 300 Republic, 97% of the junior sport workforce are volunteers, with a typical commitment 1
 301 day/week;³¹ while 92% of sports clubs in Northern Ireland could not operate without volunteers.³⁸
 302 In order for sustainable physical activity participation on the island, we need to carefully monitor
 303 experiences in other countries. Norway³⁹ recently concluded that they cannot not solely rely on
 304 volunteers to deliver physical activity and sporting opportunities. Establishing an appropriate
 305 volunteer:paid workforce ratio would be a useful undertaking.

306

307 This inaugural Report Card will support efforts to change policy and programming for children's
 308 physical activity, which in turn will improve the health of our future adults. This inaugural Report
 309 Card will also set the stage for future Physical Activity Report Cards in Ireland and be a baseline for
 310 surveillance of physical activity promotion efforts.

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312

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 314 Physical Activity Biomedical Research Unit which is a partnership between University Hospitals of
 315 Leicester NHS Trust, Loughborough University and the University of Leicester. The views
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 317 National Institute for Health Research or the Department of Health (UK).

318

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324 and do not necessarily represent the views of the affiliated institutions.

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414 **Tables**

415

416 Table 1. Grades According to Physical Activity Indicator in the 2014 Ireland Report Card on

417 Physical Activity for Children and Youth

| Indicator | Grades |
|---|--------|
| Overall Physical Activity Levels | D- |
| Organised Sport Participation | C- |
| Physical Education | D- |
| Active Play | INC |
| Active Transportation | D |
| Sedentary Behaviour (TV viewing) | C- |
| Family | INC |
| Community and Built Environment (perceptions) | B |
| School | C- |
| Government | INC |

418

419 *Note.* The grade for each indicator is based on the percentage of children and youth meeting a

420 defined benchmark: *A* is 81% to 100%; *B* is 61% to 80%; *C* is 41% to 60%, *D* is 21% to 40%; *F* is

421 0% to 20%; *INC* is incomplete data/inconclusive.

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433 **Figures**

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435 Figure 1: Front cover of the 2014 Ireland Physical Activity Report Card



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