ARE OUR KIDS MOVING WITH THE TIMES?

The 2016 Ireland North and South Report Card on Physical Activity for Children and Youth

RESEARCH WORK GROUP

CHAIR	INSTITUTION	
Deirdre Harrington, PhD	University of Leicester, Leicester UK	

PRIMARY INVESTIGATORS

Sarahjane Belton, PhD	Dublin City University, Dublin, Ireland	
Marie Murphy, PhD	University of Ulster, Co. Antrim, N. Ireland	

MEMBERS

Angela Carlin, PhD	Dublin City University, Dublin, Ireland	
Tara Coppinger, PhD	Cork Institute of Technology, Cork, Ireland	
Alan Donnelly, PhD	University of Limerick, Limerick, Ireland	
Kieran Dowd, PhD	Athlone Institute of Technology, Athlone, Ireland	
Teresa Keating, MPH	Institute of Public Health in Ireland, Dublin, Ireland and Belfast, N. Ireland	
Niamh Murphy, PhD	Waterford Institute of Technology, Waterford, Ireland	
Elaine Murtagh, PhD	Mary Immaculate College, Limerick, Ireland	
Wesley O'Brien, PhD	University College Cork, Cork, Ireland	
Catherine Woods, PhD	University of Limerick, Limerick, Ireland	

INDICATOR	2016	2014
Overall Physical Activity	D	D-
Sedentary Behaviour (TV viewing)	C-	C-
Active Transportation	D	D
Physical Education	D-	D-
Organised Sport Participation	C- RoI C+ NI	C-
Active Play	INC	INC
Home (family)	INC	INC
School	D	C-
Community and Built Environment	B+	B
Government	INC	INC

BACKGROUND

Physical activity (PA) guidelines on the island of Ireland recommend that children accumulate at least 60 minutes of moderate-to vigorous-intensity PA (MVPA) daily for health benefits.[1, 2] There is a focus on increasing participation in PA in children and youth in the recent National Physical Activity Plan for the Republic of Ireland[3], with a specific target that they should *'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[4] includes one of its long-term outcomes as *'a greater proportion of children and young people…achieving recommended levels of physical activity'* in the prevention and management of obesity. Despite global recommendations and the widely reported benefits for participation in PA, we reported in 2014 that about 25% of children on the island of Ireland were meeting PA guidelines on the island of Ireland.[5]

There are notable barriers which hinder policy implementation worldwide. Barriers include insufficient workforce to implement PA policies, difficulty in securing and maintaining multi-sector partnerships for implementation and a worldwide shortage of context specific actions that are effective and feasible.[6] **Ireland's North and South Report Card on Physical Activity in Children and Youth** aims to be a mechanism to enhance the use of data-driven and evidence-based decision making among policy makers and stakeholders that have a role to play in the promotion of children's PA related health**.** In 2014, Ireland (in a cross-border initiative involving both the Republic of Ireland and Northern Ireland)[5, 7] joined 14 other countries in launching their first Report Card.[8] The Report Card is a knowledge exchange and knowledge translation document that has been used as a way of monitoring the progress of PA promotion efforts internationally for over 10 years.[9] The Report Card has become an advocacy tool pushing for changes in PA policy and programming. The use of the PA Report Card format in Canada culminated in 15 countries adhering to

the same method, grading system and indicators to produce a Global Matrix – a global set of PA advocacy documents.[8] Each nation included in the first Global Matrix had different political, cultural or societal challenges in overcoming the physical inactivity problem. All Global Matrix participants also identified a variety of opportunities and recommendations to suit their own context. Through participating in the Global Matrix of Report Card Grades we can compare youth PA to our global neighbours and learn from them.

While childhood should be a time of fun and play the issue of physical inactivity in children is no laughing matter. In Ireland, the average expected gain in life expectancy based on the elimination of physical inactivity is 0.87 years.[10] Based on 2013 data, recent estimates suggest that physical inactivity costs $53.8 billion annually. In the Republic of Ireland, low levels of PA levels account for approximately 0.74% of total health-care costs.[11] These costs are likely to rise significantly if today's inactive children reach late adulthood without changing their behavior. According to the 'Designed to Move' (2012) agenda, this generation of physically inactive children could die 5 years younger than their parents[12] which highlights a social, as well as health related, cost of inactivity. In an Irish context, the annual cost of overweight and obesity on the island of Ireland has been estimated as €1.64 billion (€1.13 billion Republic of Ireland; €510 million Northern Ireland).[13] PA is a medicine that, if taken every day, could protect our nation's children from many of the chronic conditions that burden our health system and contribute to early death. Unfortunately, a dose of PA is not as easy to administer as a simple tablet or spoon of tonic. A host of biological, behavioural, social, environmental and economic factors are at play when a person expends energy.[14] In an effort to acknowledge the multiple domains at play in supporting children's PA, the Report Card data are organised under behaviours and settings that can support an active child (Table 1). Organising data under these indicators also aids with PA measurement, planning and policy priorities – what indicators are we lacking data for, what indicator are we performing best and worst in?

In 2014, for the *overall PA* indicator, Ireland was assigned a D minus grade, alongside Australia, Canada and the United States, with 10 other countries assigned a higher grade. Compared with our British Isles neighbours, Ireland (D-) was graded higher than Scotland (F) for *overall PA*, but lower than England (D). Alongside England, Finland and Scotland, Ireland was graded B for the *community and built environment* indicator, with only Australia and Canada awarded a higher grade than us for this indicator. Ireland received a lower grade than the majority of countries within the global matrix for the *active transportation* indicator (D). Compared to other countries, Ireland achieved the third highest grade for the *sedentary behaviour* indicator (C-), coming after Ghana, Kenya and New Zealand. Discrepancies between curricular schedules and actual levels of PE delivered were observed in Irish and Kenyan Report Cards. Similar to the majority of countries included within the 2014 Global Matrix, Ireland was graded as INC for both the *active play* and *family and peers* indicators pointing to a global gap in data on these valuable indicators. Ireland was graded as 'inconclusive' for the *government strategies and investments* indicator, alongside just four other countries (England, Nigeria, New Zealand and United States).

The 2014 edition, along with Ireland's involvement in the Global Matrix, was well received by academics and stakeholders. There was also a strong media interest in the grades in particular the D minus for *overall PA* "Irish kids get a 'D minus' for physical activity (but that's not too bad, apparently)" (thejournal.ie, 20/05/2014) and the comparison of Ireland against other nations "Our children get D minus for physical activity in global test" (Irish Independent, 21/05/2014). Although not a focus of the Report Card, especially when the myriad of other non-weight related benefits that come from being active, grades were related to the obesity epidemic in Ireland "Warning on Kids' Obesity Timebomb" (Irish Daily Mirror, 21/05/2014).

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 PA (transport, education, for example). Given attempts by both governments to encourage cross-border co-operation between the

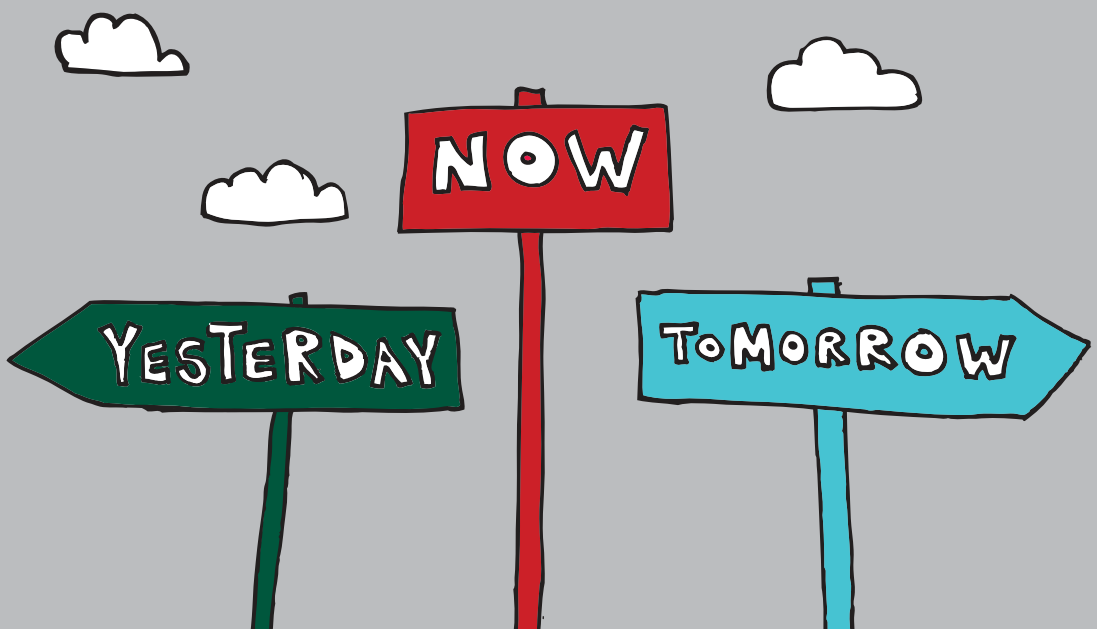
two jurisdictions our intention was to produce a unified report for the whole island of Ireland, North (Northern Ireland) and South (Republic of Ireland) combined. Where the evidence for a given indicator differed between the Republic and Northern Ireland we agreed to assign different grades but to present these within a single all-island Report Card. There was not a need for separate grades in the 2014 Report Card as the data aligned well.

In order to continue the momentum from 2014, the 2016 Report Card has been produced as part of the Active Healthy Kids Global Alliance. Now that we have established a set of baseline grades, we need to monitor changes and update grades to take into account new data that have since been made available.

» If you are interested in learning more about the Report Card process in Canada over the last 10 years, please read this background paper[9] and visit http://www.activehealthykids.org/member-area/how-to-develop-a-report-card/

» If you want to know more details of how the original Global Matrix was established and see how all 15 nations compared in 2014 please read the academic paper[8] or visit http://www.activehealthykids.org/2014-global-summit/

» Finally, if you are a researcher, service provider or a decision maker and wonder whether there is a Report Card in a particular county please visit http://www.activehealthykids.org/2016-global-matrix/ . This website will continually be updated as more countries launch their Report Cards.



KEY STAGES OF CREATING IRELAND NORTH AND SOUTH'S SECOND PHYSICAL ACTIVITY REPORT CARD

Following the release of, and publicity around, the 2014 edition the research work group (RWG) reflected on the strengths and limitations of the 2014 edition. Strengths included the standardised method for development of the grades, the potential for international comparison, the participation of a wide range of stakeholders from across the island and the successful development of ten Irish indicators on PA behaviours and settings reported, discussed and assigned a subsequent grade which put PA into the media. The National Physical Activity Plan also gained trajectory since the 2014 edition. Limitations included the variability in the quality and scope of the available data within and across indicators, the lack of objective PA data and data on minority groups, children with disabilities and younger children, the fact that three of the ten indicators had inconclusive grading scores awarded and that the funding to support the 2014 process was minimal (€4,500 total).

The chair of the 2014 RWG asked two members to take over as PI for the 2016 edition; one from the North and one from the South.

The RWG was directed to identify key data sources for each indicator listed in Table 1. Data sources were identified through databases, data known to the RWG and online searches. Relevant data were then extracted and collated by a postdoctoral research assistant (RA) into a master Excel spreadsheet.

All members of the RWG attended a meeting in March 2016 at which each indicator was discussed and data assessed for quality. Factors considered were sample size, methodology, ay inequalities in the data and how well the most recent data matched with the benchmark set for that indicator.

A proposed grade for each indicator was established using the standardised, international grading system (see Table 2).[9] Grades from A to F (including "+" or "–") could be assigned with an "inconclusive" (INC) 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 accompanying rationale was circulated to the RWG and each member provided further feedback on appropriateness of the draft grades.

Draft grades and accompanying rationale were then presented to stakeholders 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. 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.

DATA SOURCES USED

Information from academic articles, open use datasets, reports and policy documents between 2011 and 2015 were extracted and collated. It is of note that no large scale data collected using a standardised method in both the Republic and Northern Ireland were available. The following data sources were used in Ireland's Report Card but are supplemented, when mentioned, by other smaller or regional samples (Table 3) or grey literature:

REPUBLIC OF IRELAND DATASETS

Growing Up in Ireland (GUI) infant and child cohorts[15, 16] GUI is a longitudinal study of two representative cohorts of children in the Republic of Ireland funded by the Department of Children and Youth Affairs. It is 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 (n9,000 children and their care-givers; collected in 2013), and wave two of the child cohort, followed up at age 13 years (n7,400; data collected August 2011 to March 2012) are reported.

Health Behaviour of School-Aged Children (HBSC)[17, 18] 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 (n13,611) wave collected on a representative sample of 11 – 15 year olds.

Children's Sport Participation and Physical Activity longitudinal study (CSPPA-Plus)[19, 20] The CSPPA study collected data on 5,397 children and youth aged 10 – 18 years in 2009, with the aim of providing a national database on PA, physical education and sport participation in youth.[21] CSPPA-Plus involved following-up this cohort five years later and data herein are from 625 school-aged participants (22% response rate).

NORTHERN IRELAND DATASETS

Young Persons' Behaviour and Attitudes Survey (YPBAS)[22, 23]
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 data from 3,174 11 – 16 year olds who completed Version A of the study questionnaire in 2013.

UK Millennium Cohort Study wave 5 (MCS5)[24]
This is a longitudinal study following the lives of children born across 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 11 years old. The survey included interviews with parents and a self-completion questionnaire for the child participant with data for Northern Ireland specifically reported herein (n1,931).

Continuous Household Survey[25]
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 the child's method of travel to/from school. We report data from the 2014/2015 survey on 623 primary school and 525 post-primary school children from Northern Ireland.

TABLE 1. Indicators used in Ireland's Report Card on Physical Activity for Children and Youth

INDICATORS related to PHYSICAL ACTIVITY	SETTINGS related to PHYSICAL ACTIVITY
1. Overall physical activity levels	**7.** Home (family)
2. Organised sport participation	**8.** School – extra-curricular sport participation
3. Active play	**9.** Community and the built environment
4. Active transportation	**10.** Government
5. Sedentary behaviours – TV viewing	
6. Physical Education	

TABLE 2. International standardised grading scheme[9]

Grade	Benchmark	
A	81 – 100%	We are succeeding with a large majority of children and youth
B	61 – 80%	We are succeeding with well over half of children and youth
C	41 – 60%	We are succeeding with about half of children and youth
D	21 – 40%	We are succeeding with less than half, but some children and youth
F	0 – 20%	We are succeeding with very few children and youth
INC	Inconclusive, not enough data exist on this indicator	

SUMMARY OF WHAT WE FOUND IN 2016

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 of Ireland and Northern Ireland. The strengths and limitations of the available data, as well as implication for measurement in the future, for each indicator are discussed. Although the RWG are encouraged by the quantity of new data, we found that data between waves of studies were not always consistent making it difficult to compare with the benchmarks set for this international Report Card process and the 2014 edition.

TABLE 3. Characteristics of the main studies and samples used in the 2016 Report Card.

	Year of data collection	Age	Jurisdiction	Sample size	Reference #
Representative samples					
GUI Infant Cohort (wave 3)	2013	5	ROI	7,400 and their care-givers	16
Physical activity, gender, weight status, and wellbeing survey	Not known	9 – 11	NI	1,424	26
Millennium Cohort Study (wave 5)	2012	11	NI	13,287	24
HBSC (wave 5)	2013 – 2014	11 – 15	ROI	13,611	17, 18
Young Peoples Behaviours and Attitudes Survey	2013	11 – 16	NI	3,174	22, 23
GUI Child Cohort (wave 2)	2011 – 2012	13	ROI	9,000 and their care-givers	15
Regional/non-representative samples					
Continuous Household Survey	2014/2015	4 – 18	NI	1,148	25
Children's Independent Mobility	2011	7 – 15	NI & ROI	2,228	27
Cork Lifestyle Survey	2012/2013	8 – 11	RoI	830	28
Y-PATH	2011	11 – 14	RoI	715	29-31
Waterford Adolescents Study	2007	12 – 20	RoI	2,877	32
CSSPA-Plus	2014	15 – 21	RoI	873	19, 20, 21
School Omnibus Survey NI 2015	2015	N/A	NI	265 primary and 77 post-primary schools	33
Playboard Kids Life and Times play module	2014	10 – 11	NI	2,420	34

OVERALL PHYSICAL ACTIVITY LEVELS

BACKGROUND

A positive association exists between regular participation in PA and a range of physiological and psychological health outcomes in children and youth. This includes benefits to cardiometabolic health, muscular strength, bone health, cardiorespiratory fitness and psychosocial outcomes.[35] To elicit the most substantial health benefits PA should be of at least moderate intensity (i.e. children should begin to feel warmer, note an increase in heart rate and be breathing harder but still be able to carry on a conversation)[1] while a dose response relation for PA exists (i.e. some is better than none, more is better than some).[35]

TARGET/RECOMMENDATION/ BENCHMARK

The percentage (%) of children and young people meeting the PA guideline of accumulating at least 60 minutes of MVPA daily as has been advised in both the Republic and Northern Ireland.[1, 2] In Ireland's 2014 Report Card this indicator was graded as a D. Available data indicated that 12% – 31% of children were meeting the guidelines.

DATA

Datasets representing differing age groups from the Republic and Northern Ireland were considered. The majority of the data are still from self-report methods. However, different to 2014, there are two relatively large regional samples that used objective methods. The following data allow us to compare directly to the benchmark.

SELF-REPORT DATA

Republic of Ireland

» *HBSC 2014:* 23% of 10 – 17 year olds (n13,611).[18, 36]

» *CSSPA-Plus: 9% of* primary aged (n217) and 4% of post-primary aged children (n408).[19]

» Although data from a longitudinal study in the Republic found that 25% of 9 year olds met the benchmark[37] (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.[15]

Northern Ireland

» *Travel Survey NI:* 41% of 5 – 18 year olds (n1,148).[25]

» *Cross-sectional data NI:* 24% of 9 – 11 year olds (n1,424).[26]

» *YPBAS:* 14% of 11 – 16 year olds (n3,174).[23]

OBJECTIVE DATA FROM REGIONAL SAMPLES

» *Cork Lifestyle Survey:* 22% of 8 – 11 year olds (n830; unpublished).[28]

» *Y-PATH:* 32% of 11 – 14 year olds (n715).[31]

INEQUITIES/EQUALITIES

» Cross-sectional data show a difference in PA by age. For example, in HBSC 2014 38% of 11 year olds, 34% of 13 year olds and 17% of 15 year olds (n13,611) met the PA benchmark.[18] Furthermore, longitudinal data from *CSSPA-Plus* shows that 7% of 10 – 18 year olds in 2014 met the benchmark compared to 13% in 2009.[19]

» Similar to 2014, sex differences are evident within the data. Figure 2 shows that boys are more active than girls at age 11, 13 and 15 and that sex gap widens with age.[18] The sex gap is also maintained over time as both sexes decline as seen in CSPPA-Plus where 15% of males and 11% of primary aged females met the benchmark in 2009 and this dropped to 11% and 7%, respectively, in 2014.[19]

» Based on the available data no differences were observed for overall PA between youth residing in the North when compared with their Republic based counterparts.

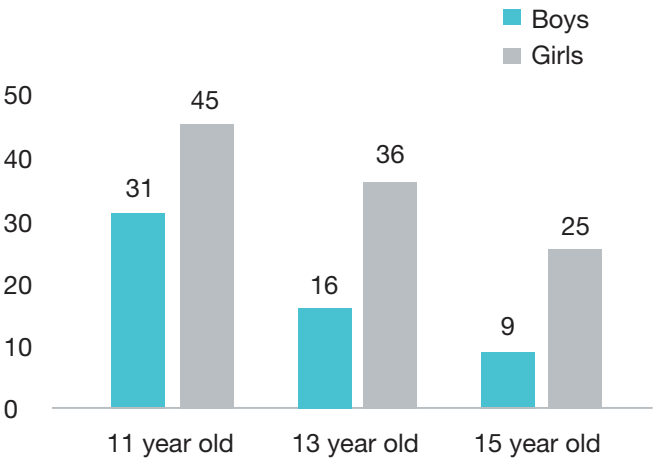


Figure 2. Data from HBSC 2014 illustrating sex differences and the age-related decrease in MVPA[18]

RELATED POLICY

Although encompassed in the Government indicator, the policy documents that relate to overall PA levels should be acknowledged here; but it must be noted that the existence of these policy documents do not contribute to the grading of this indicator. In the National Physical Activity Plan for the Republic of Ireland[3] there is an explicit target to increase the proportion of children undertaking at least 60 minutes of MVPA every day by 1% per annum and to decrease the proportion of children who do not take any weekly PA by 0.5% per annum. This will require leadership across multiple government departments.

COMMENT

Though not applicable to all indicators, it was possible to calculate a weighted mean for overall PA to estimate the PA grade. This was calculated separately for self-report (25% meeting the guideline) and objective (30% meeting the guideline) data; suggesting a D grade overall. Though this increase must be heralded as a positive movement in Ireland, a caveat is given as this increase may reflect the greater quantity of studies that have employed more valid and reliable measures that have been carried out and published in the intervening years. The sex differences in PA discussed in Ireland's 2014 Report Card are again evident in the data, as is the age related decline in PA. The differences in PA levels between the Republic of Ireland and Northern Ireland highlighted in the 2014 Report Card are not as evident in the data analysed for the 2016 Report Card. In order to be able to accurately assess PA levels in the early years, we strongly support the need to develop specific national guidelines on PA for early childhood (0 – 5 years), an action item under Irelands recent National Physical Activity Plan.[3] In addition, we acknowledge that this benchmark does not take into account other aspects of the PA guidelines, for example, the recommendation for youth to undertake muscle-strengthening, flexibility and bone-strengthening exercises 3 times a week. The exclusion of these additional aspects from the benchmark is attributable, in part, to the lack of data available from PA measurement studies globally.

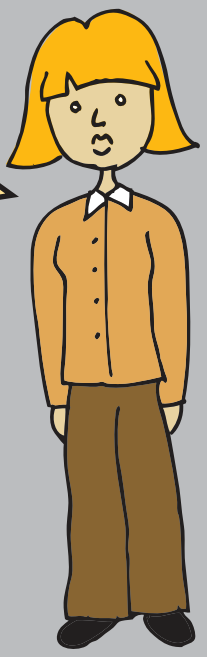
IMPLICATIONS FOR MEASUREMENT AND SURVEILLANCE

» The heterogeneity in how PA was assessed across studies made the direct comparison with the overall PA benchmark difficult. We can look at the Growing Up in Ireland longitudinal study as an example (see Table 4). When the children were 9 years old they answered a question that allows direct comparison with PA recommendations and our benchmark. Their parents were also asked a PA question but focused on their child's light or hard intensity activities in 20 minute bouts over the previous two weeks. When the children were 13 they were not asked the same question as they did when they were 9. Instead they answered the same question as their parents answered when they were younger. Parents were not asked any PA question when their children were 13.[15]

Overall Physical Activity Levels **D (an increase from D- in 2014)**

TABLE 4. Examples of differences in questions in longitudinal datasets

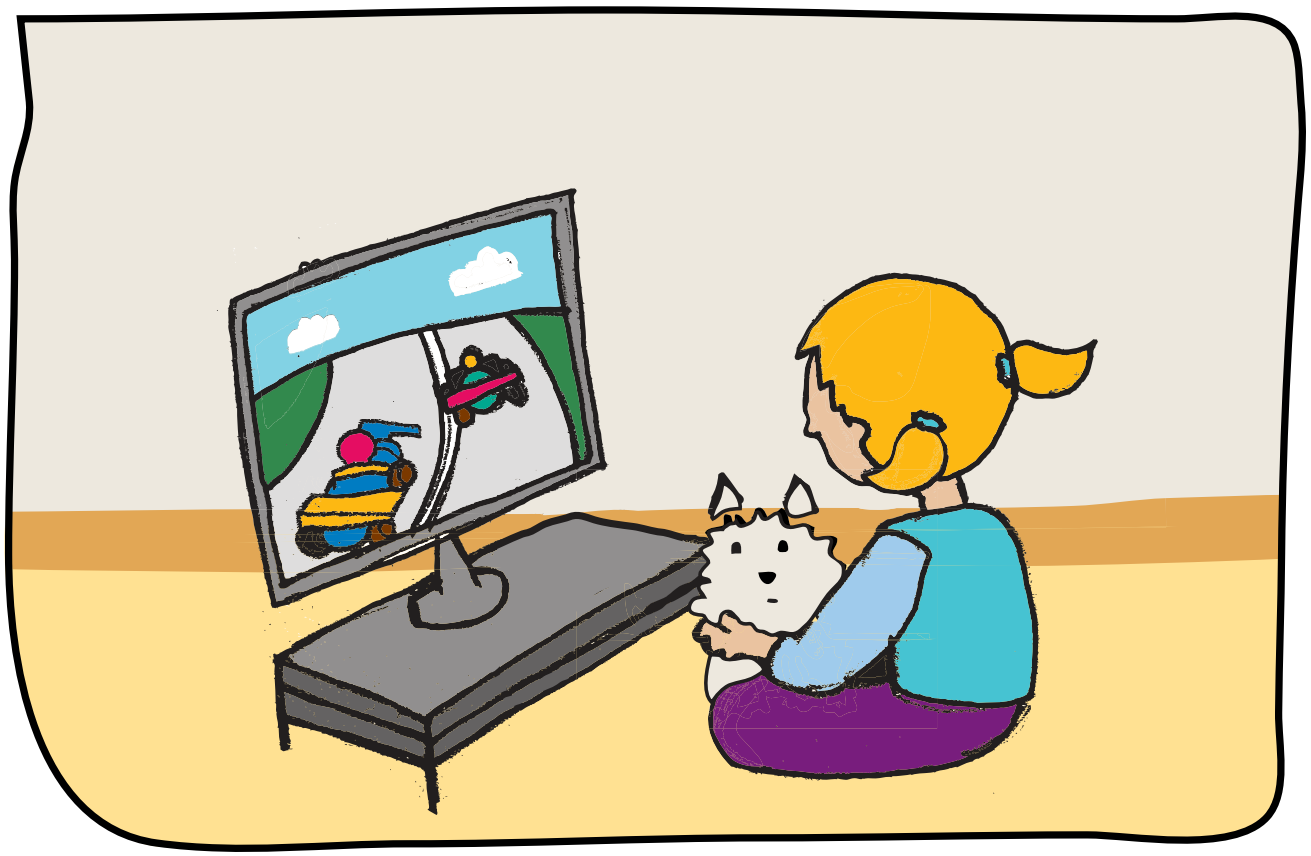
	SELF-REPORT BY CHILD	REPORTED BY PARENT
GUI WAVE 1 (9 YEAR OLDS)	"Over the past 7 days on how many days were you physically active for a total of at least 60 minutes per day?" with guidance on what physical "Physical activity is any activity that increases your heart rate and makes you get out of breath some of the time. Physical activity can be done in sports, school activities, playing with friends or walking to school. Some examples of physical activity are running, brisk walking, rollerblading, biking, dancing, skateboarding, swimming, soccer, basketball, football and surfing. For this next section add up all the time you spent in physical activity each day" Response options included "no days" to "7 days" 25% met the benchmark.	"How many times in the past 14 days has the study child done at least 20 minutes of exercise hard enough to make him/her breathe heavily and make his/her heart beat faster? (Hard exercise includes, for example, playing football, jogging or fast cycling). Include time spent in physical education class" The same sentence was used for light activity with examples of light given as walking or slow cycling.Responses included "None", "1 to 2 days", "3 to 5 days", "6 to 8 days" or "9 or more days"
GUI WAVE 2 (13 YEAR OLDS)	"How many times in the past 14 days have you done at least 20 minutes of exercise hard enough to make you breathe fast and make your heart beat faster? (Hard exercise includes, for example, playing football, jogging, fast cycling). Include time spent in physical education class" The same sentence was used for light activity with examples of light given as walking or slow cycling. Response options were: "None", "1 to 2 days", "3 to 5 days", "6 to 8 days" or "9 or more days" 39% of 13 year olds participated in hard or light exercise on 9 or more of the last 14 days, and a further 21% on 6 to 8 of those days.	N/A



» To the non-measurement specialist these questions may seem similar. However, the nuances of the examples used in terms of the duration of the activity, the intensity of the activities, the frequency and the terminology around exercise vs. PA vs. sport makes it very difficult to compare questions between waves even before considering the comparison to national PA guidelines or Report Card benchmarks.

» It is worthy to note that, similar to 2014, little data were available on children under the age of 8 years, a research gap that must be addressed in the coming years if we are to truly understand the spectrum of childhood PA in Ireland.

» Consistency in measurement techniques is needed, to allow more accurate comparison across studies. This includes self-report methods, where surveillance in Ireland and across the world would benefit from long term implementation of one valid tool across the age ranges and across jurisdictions. Likewise objectively measured data, using methods such as accelerometry, are needed.



SEDENTARY BEHAVIOUR (TV VIEWING)

BACKGROUND

Sedentary behaviour is defined as "any waking behaviour spent in a sitting or reclining position that requires an energy expenditure of < 1.5 metabolic equivalents."[38] Increased sedentary time is associated with a range of negative health outcomes in youth,[39, 40] with objectively measured sedentary behaviour shown to have a negative effect on insulin resistance, blood pressure and cardiovascular risk in child and adolescent populations.[41, 42] Furthermore, Irish data has highlighted that screen time has been positively associated with levels of overweight and obesity amongst 9 year old children independent of PA levels.[43]

TARGET/RECOMMENDATION/ BENCHMARK

The percentage of children watching < 2 hours of TV/day.[44] In Ireland's 2014 Report Card this indicator was graded at a C. This was due to 46% of children watching < 2hrs TV/day, with inequalities evident in relation to age, parent education and family circumstance.

DATA

Republic of Ireland

» *GUI Infant Cohort wave 3:* Using a question that captures total screen time on any screen on an average weekday, 58% of 5 year olds spend ≤ 2 hours engaged in screen time of any type on an average weekday from (n~9000).[16]

» HBSC 2014: 50% of 11-15 year olds reported watching < 2 hours TV/day,[18, 36] compared with 46% from 2009/2010 reported in Ireland's 2014 Report Card.

» *GUI Child Cohort wave 2: 53% of 13 year olds watched < 2 hours of TV/videos/DVDs each day (n~7400).*[15]

Northern Ireland

MCS5: 60% of 11 year olds spent < 2 hours watching programmes or films on any screen on the average school day.[24]

INEQUITIES/EQUALITIES

» 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 (i.e. 56% of 11 year olds, 47% of 13 year olds and 45% of 15 year olds watched ≤ 2 hours of TV/day).[18, 36]

» Sex differences are apparent for certain sedentary behaviours. For example, in Northern Ireland there were sex differences in those spending < 2 hours playing computer games but no sex differences in those watching programmes or films on any screen on a normal weekday.[24]

RELATED POLICY

» The reduction of sedentary time and the replacement of sedentary time with PA is recommended within the PA guidelines for the Republic of Ireland[1] while the minimisation of the amount of time spent being sedentary (sitting) for extended periods is recommended within guidelines for the North.[2]

» There remain no definitive screen time or sedentary guidelines for the island of Ireland. Guidelines for screen time exist in the US (i.e. < 2hours TV viewing per day)[44] and Canada (< 2 hours recreational screen time per day and limited sitting for extended periods).[45]

» The development of national guidelines on sedentary behaviour is an action point (#28) in the new PA plan[3] in the Republic and the RWG look forward to the development of evidence based sedentary time recommendations.

COMMENT

» The use of TV viewing time or total screen time as a surrogate for sedentary time is likely to cause increasing difficulties when examining such behaviours in children and youths due to the rise in viewing on smartphones, and the blurring of the relationship between screen time and sitting time. However, examining both sedentary time and domain specific sitting time will enable the continued comparison of findings both nationally and internationally. Objective data from a small, local sample (n195) suggests that adolescents spend 9.6 hours (65%) of their waking day in sitting/lying behaviours.[46]

IMPLICATIONS FOR MEASUREMENT AND SURVEILLANCE

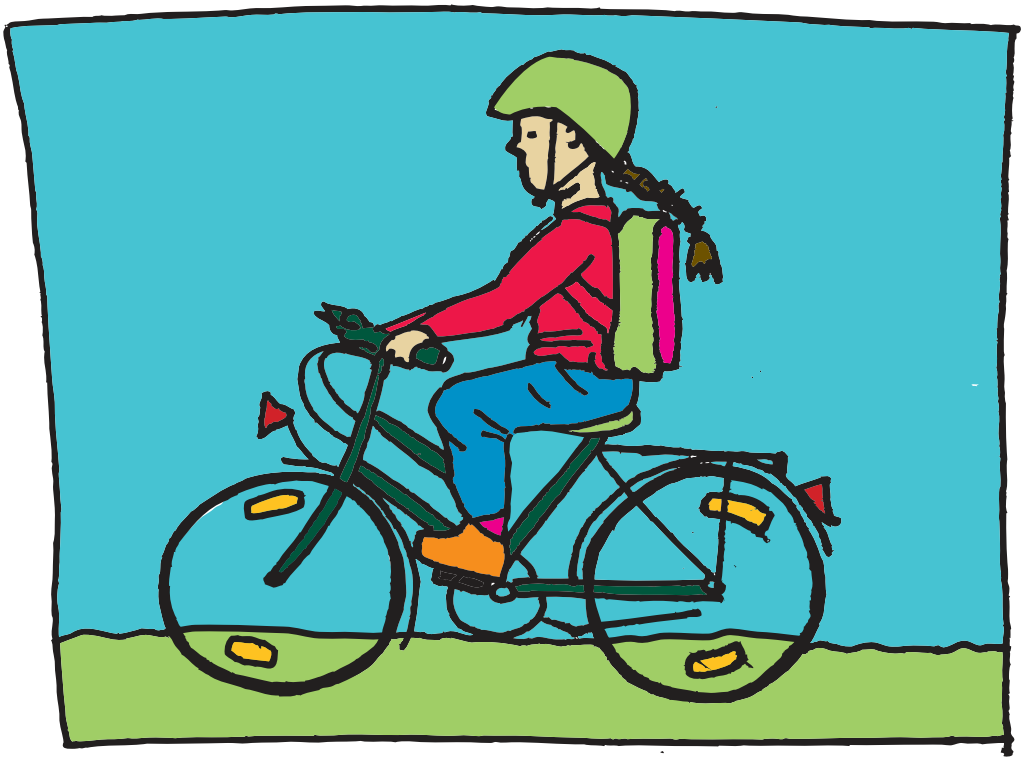
» A wide range of self-reported surrogate measures of sedentary time have been employed, making the harmonisation and comparison of data between studies extremely difficult. The use of standardised questions (for example recording self-reported TV time, overall screen time and both leisure and school based sitting time) could be used to enable such comparisons. Furthermore, such standardised questions could employ standard response categories to produce data that can be related to published guidelines and recommendations.

» The use of objective measures, such as activity monitors and inclinometers, as an estimate of habitual sedentary time in research is increasing. As a result, there is a need for the development of an appropriate standardised approach to present objectively determined sedentary information, focusing on total sedentary time and patterns of sedentary behaviours throughout the day.

SEDENTARY BEHAVIOUR (TV VIEWING)

C-

(NO CHANGE FROM 2014)



ACTIVE TRANSPORTATION

BACKGROUND

The prevalence of active travel nationally has decreased dramatically since the 1980's. The car is now the dominant mode of transport to school for children attending primary (aged 5 – 12 years) and secondary (aged 13 – 18 years) schools.[47] Children who actively commute to/from school tend to have higher levels of PA[48] and healthier body composition[49] compared to their peers who undertake passive modes of travel. Active travel has far reaching benefits for society as a whole, for example, reducing emissions and increasing social capital and, has potential to be wide-reaching when, as one Irish study reported, 70% of children lived within 1.5 miles of their school.[51]

TARGET/RECOMMENDATION/ BENCHMARK

The % of children reporting walking or cycling to or from school each day. In Ireland's 2014 Report Card this indicator was graded at a D as we were succeeding with approximately 24-42% of children. Inequalities were evident by location (urban versus rural).

DATA

Republic of Ireland

» *GUI Child Cohort wave 2*: 26% of 13 year olds (n9,000).[51]

» *Waterford Adolescents Study:* 24% of 12 – 20 year olds (n2,877).[32]

Northern Ireland;

» Continuous Household Survey *2014/15:* 30% primary (n623) and 20% post-primary (n525).[25]

» *YBPAS:* 24% of 11 – 16 year olds (n7,076).[23]

Both:

» *Cross-sectional data:* 38% (NI) & 42% (ROI) of 7 – 11 year olds (n476).[52]

» *Children's Independent Mobility Study:* 23% of 7 – 15 year olds (n2,228).[27]

INEQUITIES/EQUALITIES

» Inequalities in active transportation are still evident, with children from rural areas less likely to commute actively to school (15%) than their

urban counterparts (37%).[25] Children living within a walkable distance (< 1 mile) in urban areas are more likely to actively commute than children living in a rural, but walkable distance in the Republic.[53] However, expecting children who live a substantial distance from school to actively commute may exaggerate inequalities unless good quality public transport exists.[54]

» Geographical differences have been observed across European regions, with children from North West Europe (including children from Ireland) less likely to walk to school (71%) than children living in East Europe (47%).[52]

» Distance is important: The potential of interventions to impact on travel behaviour is likely to be dependent on the travelling distance to school, as well as the intervention components. Data from GUI has highlighted that active travel is less likely to be maintained when distance to school increases between age 9 and 13 years.[51] In a large scale study across 3 Republic of Ireland towns only 17% of post-primary students (n2,062) actively commuted to school and almost 65% of the overall sample lived more than 3 km from their school.[55]

» Of the 3% of students who cycled to secondary school, 92% of these were male.[47] These sex differences are supported by the findings from the HBSC survey.[56] While boys were more likely to engage in active travel to school, car travel was still the most common (62%) and preferred (47%) mode of travel for both boys and girls.[55]

RELATED POLICY

» Smarter Travel – A Sustainable Transport Future A New Transport Policy for Ireland 2009 – 2020.[57]

» National Cycle Policy Framework 2009.[58]

» Action points 31 – 36a around the reengineering of the built environment and promoting the use for active transportation in Ireland's National Physical Activity Plan.[3]

» An Action Plan for Active Travel Future for Northern Ireland 2012 – 2015.[59]

» Northern Ireland Changing Gear – A Bicycle Strategy for Northern Ireland 2015.[60]

COMMENT

This indicator is one that does not follow the typical decline that is seen in overall PA and sport participation as children get older. This makes active transport a unique, viable and valuable form of PA. Transport, education, planning and sport policies need to protect and encourage this form of activity. There is evidence that measures to reduce the convenience of travel to school by car including initiatives to change parental attitudes to driving their children to school are warranted. Proximity to school has been frequently reported as both a promoter and barrier to active travel in Irish children.[61] Active school travel interventions should target those living within the criterion distances for walking and cycling (1.5 and 3 km respectively).[62] In order to include children who fall outside of these criterion distances, interventions should also consider the use of 'Park and Stride' initiatives or designated drop off zones within walkable distances (< 1.5 km) so children can walk at least part of the journey to school.

IMPLICATIONS FOR MEASUREMENT AND SURVEILLANCE

» There is a good level of data available on active transportation levels in youth, with larger studies providing consistent values.

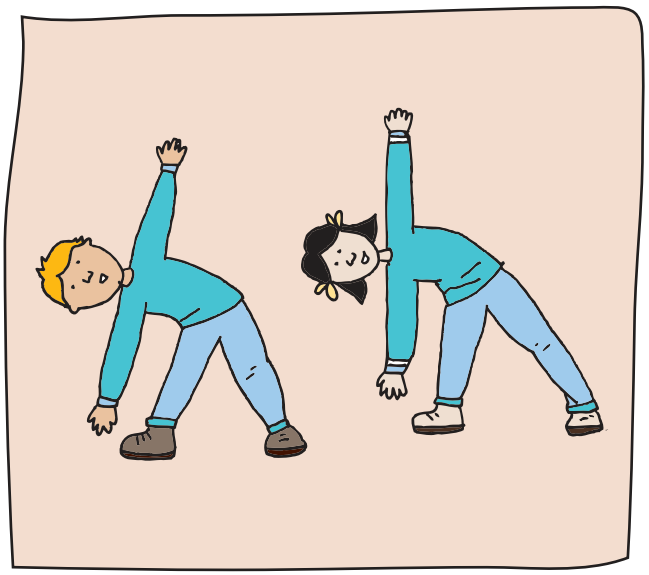
» The benchmark does not capture children who may engage in active transport occasionally or participate in initiatives such as WOW (walk once Wednesday) or COW (cycle once a week) only.

» We have to recognise that, as it stands, getting an A grade may be an unachievable target as, for many children, is it not geographically possible to actively commute to school. There may be future potential to develop a benchmark that recognises that not everyone has the same options to actively commute and to set the grade as % of children who live within one mile (~1.5 km) distance who actively travel to school (as an example from the first wave of GUI, that would be 41% of 9 year olds) and to monitor the % of schools drawing from catchment areas greater than a walkable distance to develop designated drop-off zones.

ACTIVE TRANSPORTATION

D

(NO CHANGE FROM 2014)



PHYSICAL EDUCATION

BACKGROUND

Quality Physical Education (PE) is the planned, progressive, inclusive learning experience that forms part of the curriculum in early years (but referred to as 'physical development and movement' in NI and under 'wellbeing' in the Republic, ages 4/5), primary and secondary education. PE acts as the foundation for a lifelong engagement in PA and sport.[63] PE has the potential to contribute towards daily MVPA[64] and can help children acquire the psychomotor, social and emotional skills they need to lead a physically active life.[63]

TARGET/RECOMMENDATION/ BENCHMARK

The % of children receiving the recommended time for PE each week in school, i.e., ≥ 1 hour/week in the primary curriculum[65] and 2 hours/week for post-primary[66] in the Republic of Ireland and 2 hours/ week for children aged 4 – 16 in Northern Ireland.[67] In Ireland's 2014 Report Card this indicator was graded at a D-. There was a discrepancy between the amount of PE allocated/recommended and the amount reported by students, with the data highlighting that we are succeeding with 10 to 35% of children.

DATA

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, both in the Republic and Northern Ireland.

Northern Ireland:

» *YPBAS:* 69% of 11 – 16 year olds involved in PE/ **games lessons** for ≥ 2 hours/week (n3,174).[23]

Other data sources are available however these are not directly comparable to the benchmark:

» *School Omnibus Survey NI 2015:* data from the school level showed that the % time spent engaging in PE > 120 mins (primary) ranged from 2% to 7%; post-primary ranged from 4% to 10% (n342 schools).[33]

» *Lifeskills Survey 2012 Republic of Ireland*: data self-reported at the school level showed that 88 to 97% of primary schools reported allocating/ timetabling ≥ 1 hour of PE/week within class time. In post-primary, just 10% of schools offer ≥ 2hrs of PE/week to their 1st year students and this declines to 6% of schools by students' final year at school. However, 43% of schools reported offering ≥ 2hrs of PE/week in the optional transition year.[68]

INEQUITIES/EQUALITIES

» The present guidelines for weekly PE participation differ between jurisdictions in this Report Card i.e. one hour per week in the Republic of Ireland at primary level compared to the two hour per week recommendation in Northern Ireland for primary level children. The current allocation of 60 minutes of PE/week in Republic primary schools is below European averages. The European Physical Education Association recommends, for example, that pupils engage in 1 hour of PE daily.[69]

» Age-related differences in PE participation were apparent, with 79% of those aged 12 and under reporting 2+ hours/week when compared to 57% of those aged 16 and over.[23]

» There is a noticeable decline in meeting the Irish PE guidelines, as children make the transition from primary to post-primary education. Data from HBSC reported that 42% of transition year students receive 81+ minutes of PE per week, when compared to 5% of those in their leaving certificate year.[70]

RELATED POLICY

Similar to 2014, PE is a compulsory subject in Northern Ireland for children and youth aged 4 to 16 years old, with a 2 hour per week guidance recommendation.[67] However, the PE guidelines for post-primary children in the Republic of Ireland are presently in the midst of reform.[71, 72]

COMMENT

While there has been a recent absence of published data for weekly minutes of PE prevalence in Irish schools, the arrival of the new Junior Cycle Framework in the Republic of Ireland,[71] with the proposed 'short course' in PE[73] suggest a time of considerable change for the subject at post-primary level. Most recent draft guidelines from the National Council for Curriculum and Assessment[72] indicate that children from first to third year in post-primary schools will now undertake learning in a new area entitled 'wellbeing', which will incorporate learning traditionally included in PE, social personal and health education and civic, social and political education. Therefore the surveillance of PE may change in line with updated standards.

National governing bodies for sport value their connections with Irish primary schools in order to recruit club players.[74] It is common practice for sporting organisations to provide coaching programmes in primary schools for some of the school year. It is plausible that, in some cases, these external coaches may replace, rather than support, the classroom teacher in the delivery of sport-specific aspects of the Irish primary school PE curriculum.[74] While these external providers may have varied coaching qualifications they are not qualified or prepared to adequately deliver an acceptable standard of PE. Every effort must be made to ensure that such coaching programmes, which can be hugely valuable, are supplementary to broader primary school PA programming, and are not used as a replacement for regular quality physical education provision.

IMPLICATIONS FOR MEASUREMENT AND SURVEILLANCE

» The % of children participating in weekly minutes of PE is needed at both primary and post-primary level for the Republic and Northern Ireland is needed. It is hoped that the lack of PE data available will be rectified, particularly for the Republic of Ireland, once the uncertainty associated with the new Junior Cycle reform is resolved.

» Furthermore, data on the quality of content delivered and/or the professional background and professional development of those delivering PE e.g. primary teachers that teach with a specialism in PE would be a useful addition.

» Similar to the overall PA indicator, the heterogeneity in how PE is assessed across studies makes it difficult to compare available data with the overall PE benchmark. For example, data from Northern Ireland may include time in school games lessons (PE classes where students take part in a range of sports activities) as well as PE. Conversely, data from the Republic of Ireland may ask children to report minutes spent in PE only.

» In addition to the challenges comparing data across studies, variations in the questions used within studies from one sampling period to the next can also limit data comparability across cohorts and with the indicator. We can look at the YPBAS survey as an example (see Table 5). The YPBAS 2010 survey included PE, games lessons and playing for a school team within the one question whereas the 2013 survey only included PE and games lessons, limiting how this data can be compared from 2010 to 2013.

» A lack of data presently exists in relation to the provision of PE in Special Education Schools across Ireland and should be a priority for future research in this area.

TABLE 5. Example of a difference in a PE question from a surveillance dataset

	Self-report by child
YPBAS 2010	Thinking about ORGANISED PE or GAMES or PLAYING FOR A SCHOOL TEAM… How long do you spend doing these organised activities each week?
YPBAS 2013	How many hours per week do you normally take part in PE/ games lessons at school?

PHYSICAL EDUCATION **D-**

(NO CHANGE FROM 2014)

ORGANISED SPORT PARTICIPATION

BACKGROUND

Organised sport participation involves competing in sport at all levels including at local, club, county, provincial and national levels.[75] Evidence has shown that sports participation outside of the school setting has the potential to enhance psychological and social health outcomes in youth.[76] Team sports have been specifically associated with improved health incomes, attributed to the increased social interaction such sports involve when compared with individual activities.[76] Organised sport falls under the domain of leisure-time PA and thus contributes to overall daily PA goals.[77]

TARGET/RECOMMENDATION/ BENCHMARK

The benchmark for 2016 is the % of children participating in sport twice/week as per LISPA guidance which states that *"if children and parents have a preferred sport or activity, participation once or twice a week is recommended."*[75] In Ireland's 2014 Report Card this indicator was graded at a C- as we were succeeding with 33 – 64% of children. Data showed sport participation decreased with age, with SES differences evident. In 2014 there were overlaps between organised sport, PE based sport and extra-curricular school sport. For this 2016 edition, organised sport is concerned solely with (participation in) sport played in clubs apart from those at the school, that have a significant element of planned and purposeful PA with competitive goals.

DATA

Republic of Ireland:

» *CSPPA-Plus*: 53% of males and 34% of females reported at least 2 – 3 days/week of extra-school sport (n422).[19]

Northern Ireland:

» *MCS5*: 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 ≥ 2 days per week.[24] This compares to 40% of children meeting the benchmark from the same study as reported in the 2014 Report Card.

» *YPBAS*: 65% of 11 – 16 year olds reported participation in ≥ 2 hours of sport/PA outside of school each week (n3,174).[23]

A number of datasets were not comparable to the benchmark but are included herein for reference and will be discussed below.

» *Waterford Adolescents Study*: 72% of 12 – 20 year olds participated in sport/recreation ≥ once/week (n2,877).[32]

» *GUI Child Cohort wave 2*: 70% of 13 year olds play sports ≥ 1 – 3 times a week (n~7400).[15]

INEQUITIES/EQUALITIES

» Inequities are evident with girls, those from lower social classes, and older children less likely to participate regularly in sports clubs.[18, 36, 37]

» In the Republic of Ireland, the percentage of children who report playing with a club differs by sex and age. Data from HBSC showed that 75% of 10 – 14 year old boys report playing with a club compared to 59% of girls.[36] CSPPA-Plus showed sex differences and an age decline in sports participation, with 69% of males and 59% of females in 2009 participating in sport at least 2 days/week compared with 53% of males and 34% of females in 2014.

» Differences by social class are also evident. In the Republic, for example, children from higher social classes more frequently report playing with a club than do those from lower social class groups. Amongst 10 – 11 year olds there was a 12% difference in participation between the highest and lowest social class categories for both boys and girls while for 12 – 14 year olds there was a difference of 16% for boys and 24% for girls.[36]

RELATED POLICY

» In the Republic the Get Active! Physical Education, Physical Activity and Sport for Children and Young People document[78] includes community based sport outcomes

» In the Republic the Get Ireland Active[3] plan is non-specific in both actions two (children and young people) and six (community) with regard to organised sport participation.

» Department of Culture Arts and Leisure. Sport Matters: Northern Ireland Strategy for Sport and Physical Recreation, 2009 – 2019.[79]

COMMENT

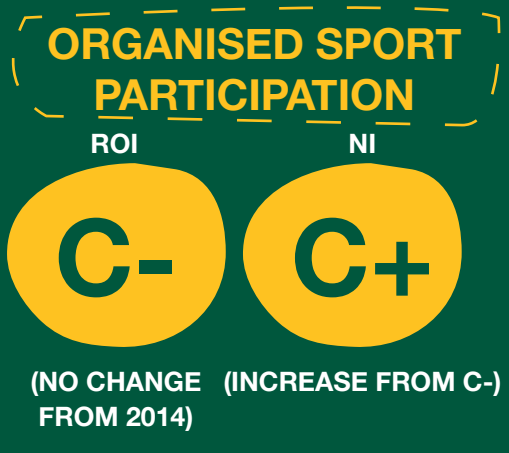
This indicator was graded differently for the Republic and Northern Ireland. Due to a lack of new data that matched the benchmark, a C- was awarded in the Republic of Ireland indicating no change from the 2014 Report Card. Northern Ireland was awarded a C+ indicating a slight increase from 2014.

IMPLICATIONS FOR MEASUREMENT AND SURVEILLANCE

» Recent datasets[15, 16, 18, 36] have not differentiated between school sports club participation (which would be included in the school indicator) and participation in extra-school clubs meaning data cannot be compared directly with the benchmark.

» Similar to the gaps identified in 2014, surveillance of the different contexts/settings is required. When considering a child's total PA from a health perspective it may not be of concern where the PA occurs and whether it is through community or school based sport. However, in terms of planning, prioritising and monitoring it is important to know where the sport is happening – context is important.

» The difficulties in distinguishing organised sport participation from other forms of PA, particularly within the school environment, may present further problems when measuring participation, as children may not be able to distinguish organised sport from other forms of activity when reporting levels of participation.



ACTIVE PLAY

BACKGROUND

Active play is one of the four primary domains in which children can accumulate their MVPA along with organised sport, PE and active transport.[80] It provides the opportunity for increased PA in children[81] and can have a positive influence on physical, cognitive, social and emotional health.[82] It also provides an opportunity for a child to develop their physical literacy. Active play is essentially PA with spontaneous and occasional bursts of high energy[83] and is comprised of physically active games or activities of symbolic play; including street ball games, backyard games and playground activities,[84] and is generally unsupervised and self-directed by children themselves.[85]

TARGET/RECOMMENDATION/ BENCHMARK

Although active play is mentioned as a contributor to MVPA recommendations[1] there continues to be no universally agreed benchmark to allow assessment of this indicator alone. The "% of children and youth engaging in unstructured/unorganised active play for several hours a day" has been proposed[84] while "all children aged over 3, who are capable of walking unaided, should be physically active every day for at least 3 hours spread throughout the day" has been included in a short leaflet for parents and carers of children aged 3 – 6 in the Republic of Ireland.[86] In Ireland's 2014 Report Card this indicator was graded as inconclusive due to sparse data available and the mismatch with the arbitrary definition.

DATA

Republic of Ireland:

» *GUI Infant Cohort wave 3:* An average of 42% of 5 year olds undertake some form of active play every day (movement, climbing, play with ball, chasing, scooting, skating) $_{(n\sim7,400)}$ which suggests a C- for the Republic.[16]

Northern Ireland:

» *MCS5*: 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.[24] Although this would suggest a B grade that value also includes 'outdoor sports' so is likely to be somewhat inflated.

» Although not matching the Report Card benchmark, 76% of 10 – 11 year olds agreed/strongly agreed that they have enough time to play when at home or in community and 63% agreed/strongly agreed that they have enough time to play in school, respectively $_{(n2,420)}$.[34]

INEQUITIES/EQUALITIES

» 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. The current evidence base is not sufficient to provide this information for the whole island.

RELATED POLICY

» Promising in Republic: The National Physical Activity Plan includes an action to review the National Play and National Recreation Policies and develop a new strategic direction for promoting physically active play.[3]

» Active Play Everyday leaflet for 3 – 6 year olds was updated in 2016.[86]

» Promising in the North: A Fitter Future for All Outcomes Framework 2015-2019[87] addresses active play as it aims to increase opportunities for participation in play and PA for children and young people particularly in areas of deprivation. This document also sets a short term outcome of the delivery of training delivered to those working in early years settings to interpret the PA guidelines relevant to young children in Northern Ireland.

COMMENT

» Based on the limited data sources available for the whole island of Ireland, it is not possible provide a grade and this represents no change from the 2014 Report Card. There is the potential for a C-grade to be awarded in the Republic.

» The inclusion of active play within a number of policy documents is encouraging as mentioned above as is the interest in querying children's perceptions of their play opportunities.

» In the North, Playboard Northern Ireland were involved with 'The Play Return: A review of the wider impact of play initiatives'[88] and also commissioned a module on children's right to play within the Kids Life and Times survey to collect data on children's views of play.[34]

» While it is encouraging that many children feel they can play in their school and community settings, and many report doing so, there is a need to ensure that every child's right to play is respected in all aspects of their lives.[34] Internationally, the report of the Commission on Ending Childhood Obesity[89] recommends the provision of, and support for, PA in the early years. A position statement on active outdoor play[90] provides a series of recommendations to increase active outdoor play opportunities to promote healthy child development.

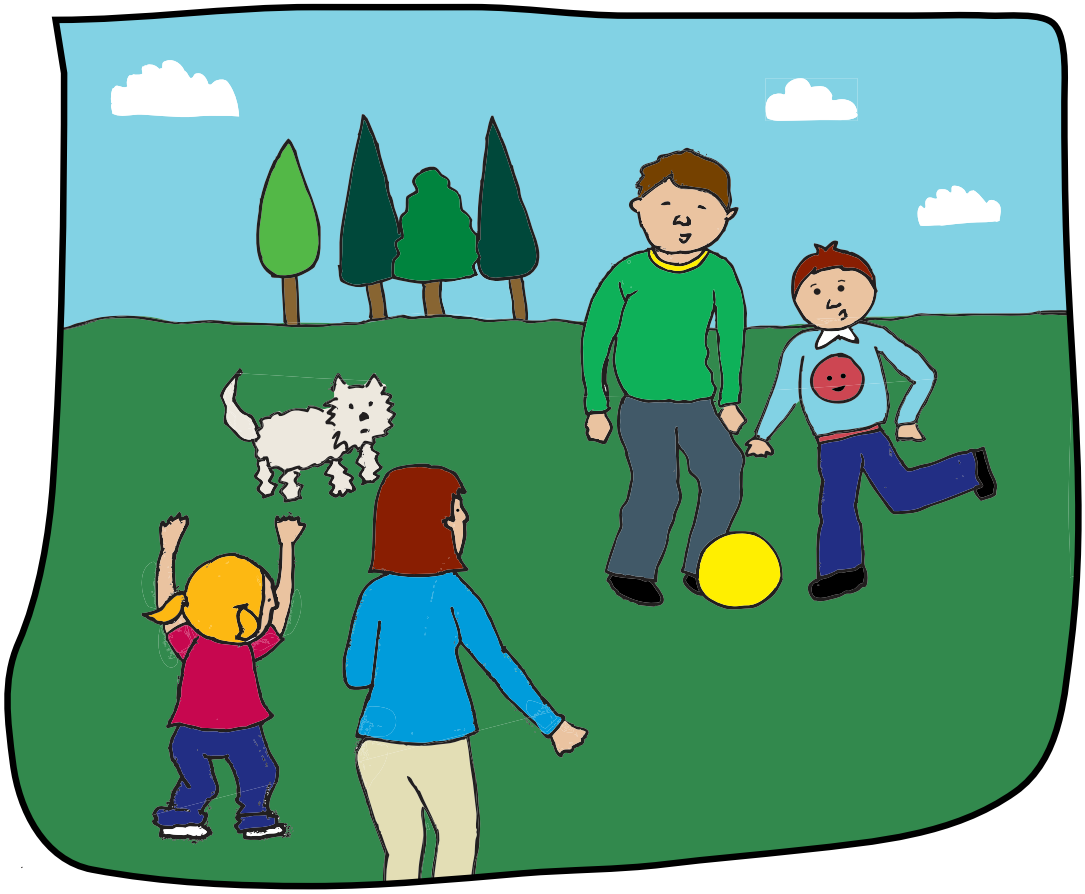
IMPLICATIONS FOR MEASUREMENT AND SURVEILLANCE

» Measurement of active play is difficult due to, as one commentator put it, "the contextual, elusive and fluid nature of play."[91] Some will define active play as playing outdoors[92] but this does not consider early years facilities or households that do not have access to have outdoor areas and active play may still occur indoors. Recognising the beneficial effects of outdoor play and activity,[81, 93] it would be useful to consider the key elements of active play when trying to measure it. It could be the unstructured play, the play which can occur anywhere, is child led and creates opportunities for the holistic development of the child.[94]

» A clear and agreed definition of active play, as recommended in the 2014 report card, is still needed.

» General PA questions will incorporate active play but there is value in partitioning out active play from general PA, exercise or sport research using direct observation and accelerometers into what children are doing in their free time.

ACTIVE PLAY **(NO CHANGE FROM 2014)** **INC**



HOME (FAMILY)

BACKGROUND

Children's PA is influenced at different levels by a range of individual and social factors, as well as community, environmental and policy-level factors.[95] The home is one setting in which these factors can directly impact children's PA, with previous research reporting parents' direct involvement (i.e., instrumental support like providing transport) and encouragement (i.e., motivational support) are linked to children's overall and leisure-time PA.[96]

TARGET/RECOMMENDATION/ BENCHMARK

There is no clear benchmark available for this indicator. However, recent systematic reviews have highlighted factors of the home social environment that could act as the basis for the benchmark i.e. provision of family social support for PA.[97, 98] In Ireland's 2014 Report Card this indicator was graded as INC due to the limited data available and lack of clear target/benchmark.

DATA

Republic of Ireland

» GUI Infant Cohort wave 3: 22% of parents do sport or PA with their 5 year old child every day $_{(n9,000)}$.[16]

Northern Ireland

» MCS5: 3% of parents reported playing sports or physically active games outdoors or indoors every day/almost every day $_{(n1,931)}$.[24]

INEQUITIES/EQUALITIES

The lack of data to date limits identification of inequalities at this stage.

RELATED POLICY

There is limited focus on the family/home setting within PA policies in Ireland North and South. The focus is mainly on the school or community setting. However, many of the action points relating to adults and communities may have a knock on effect of family based support of PA.

» The Republic of Ireland's National Recreation Policy for Young People has 'family- and community-oriented' listed as one of the six guiding principles but there is no explicit mention of family/home in promoting PA.[99]

» The Republic of Ireland's National Policy Framework for Children and Young People 2014 – 2020 mentions the essential role of parents and carers in ensuring a child has sufficient exercise and is able to make good choices about healthy living but PA is not listed as a key indicator under the Active and Healthy Outcome.[100]

COMMENT

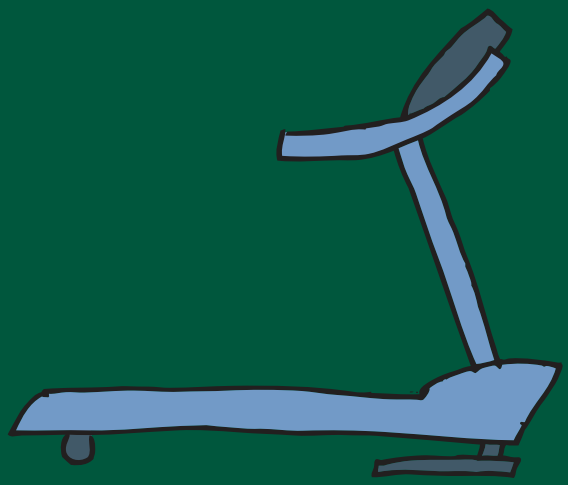
» The grade remains **inconclusive** due to a lack of an established benchmark

» There is some new evidence to support a D- in the Republic while this limited available data from the North suggests this indicator would be graded an F.

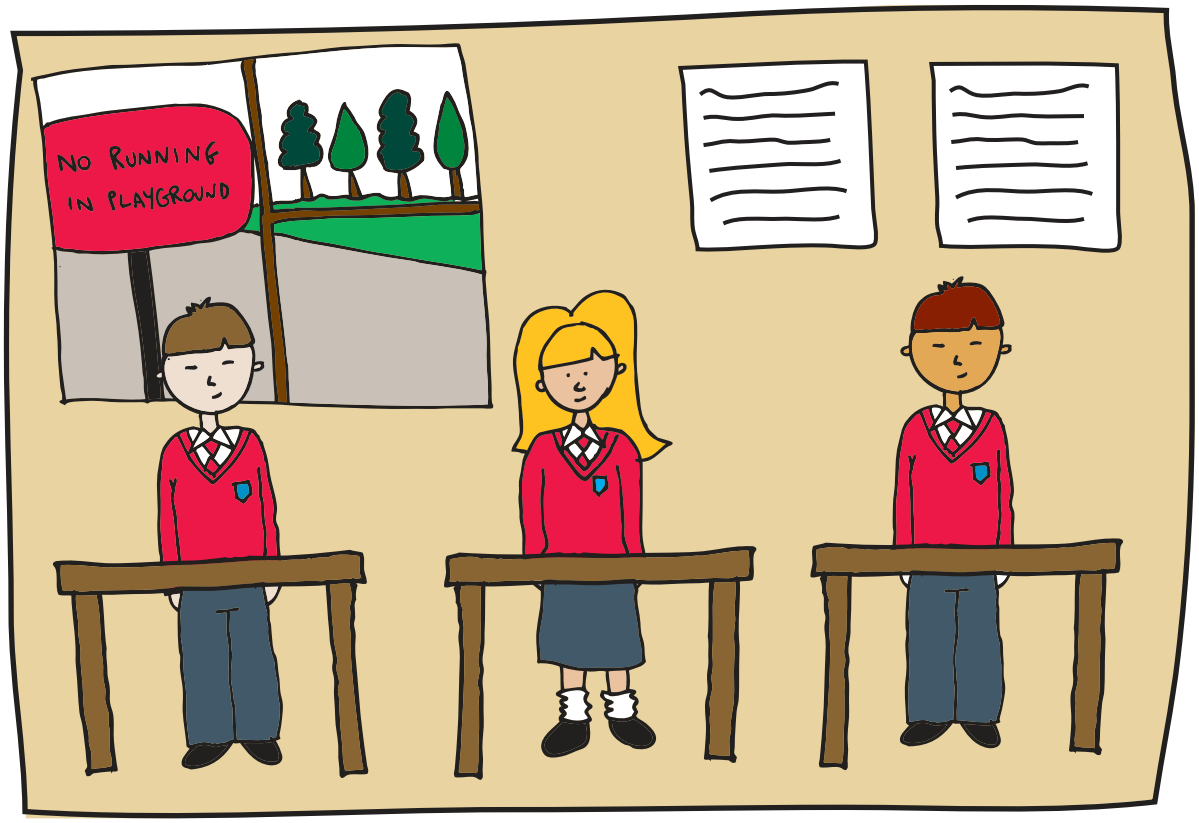
» A number of associations may stem from reverse causality in that a child's activity level could shape their home environment rather than vice versa. For example, parents of inactive children would have no need to drive them to sports facilities so social support would be lower, and active children may choose play equipment over other sedentary alternatives offered by parents.

IMPLICATIONS FOR MEASUREMENT AND SURVEILLANCE

As mentioned above, systematic reviews have highlighted the types of family based support that can support children in becoming and staying active. These include instrumental support, such as providing transport, and motivational support, such as providing encouragement. Data used herein are from one data source only in each jurisdiction and only queries co-participation in activity with their child rather than these other types of support which may have a stronger relationship.



FAMILY HOME (NO CHANGE FROM 2014) **INC**



SCHOOL

BACKGROUND

Schools are cited as an ideal environment for the promotion of PA in youth[101] and can contribute to PA levels in children through structured PE, recess based PA and extra-curricular sports and activities. Participation in PA has been associated with improved academic performance in young people[102] so PA benefits the school as well as the individual child.

TARGET/RECOMMENDATION/ BENCHMARK

The % of children participating in ≥ 2 hours/week of extra-curricular sport and school based recreation.[79] In Ireland's 2014 Report Card this indicator was graded a C- as we were succeeding with 42 – 57%.

DATA

Republic of Ireland:

» *CSPPA-Plus:* 71% of 10 – 18 year olds reported participating in extra-curricular sport at least twice/ week in 2009 vs. 30% of 15 – 21 years old (follow-up rate of 22%) in 2014.[20]

Northern Ireland:

» *YPBAS:* 27% of 11 – 16 year olds normally stayed behind after school to take part in sport or PA for 2 or more hours each week (n3,174).[23]

INEQUITIES/EQUALITIES

» Age-related differences are evident for time spent in after-school sport/activity. 32% of those aged 12 and under reporting at least 2 hours/week compared with 23% of those aged 16 and above.[23]

» Age-related differences were also observed for membership of a school sports team/club, with 51% of under 12s being a member of at least one club compared with 38% of those over 16. Boys (49%) were more likely than girls (41%) to be a member of school sports team/club, while those with a disability were less likely to be a member (38%) compared to those without a disability (46%).[23]

RELATED POLICY

» Department of Education and Skills. Get Active! Physical Education, Physical Activity and Sport for Children and Young People: A Guiding Framework.[78]

COMMENT

Other indicators may be useful when considering the contribution of schools to overall PA in youth. In the 2013/14 and 2014/15 school years a total of 358 schools were awarded the Active School Flag which is a whole-of-school initiative that strives to create a physical educated and physical active school community (www.activeschoolflag.ie). Schools must provide extra-curricular opportunities in order to achieve the Flag. The number of new flags awarded in recent years are:

2012/2013: 140 2013/15: 146
2014/15: 212

Opportunities for school-based recreation may be hampered by rules within individual schools, for example, schools not permitting children to run in the school yard.[70] The requirement on teachers to engage in compulsory planning and CPD after school ("Croke Park hours" in the Republic) has impacted negatively on their availability and willingness to lead extra-curricular sport activities in primary schools.[74] These after-school periods are important to target for PA interventions as Irish research demonstrates that during this period there is a great difference between the least and most active adolescents.[31]

IMPLICATIONS FOR MEASUREMENT AND SURVEILLANCE

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[23] 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.

Longitudinal data from CSPPA-Plus suggests a drop off in extra-curricular sport however some of this decline may be attributed to the increased age of participants, with some no longer enrolled in full-time education within the school setting. In order to fully understand age related decline, we need to compare like with like i.e. 16 year olds in 2009 and 2014. Data from the Republic 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% overall in 2014 when the children were older (> 15 yrs).[20, 103]

Stakeholder input suggests that much good work is being done 'on the ground' and a drop, or even stagnant, grade would seem harsh. The perceived mismatch between practice and available data points to the need for a robust surveillance system that gathers data on a variety of PA indicators. The purpose of epidemiological type surveillance is to not only highlight priorities for public health but to also capture changes in children's PA indicators based on what is already being implemented. Therefore, we would reiterate to stakeholders to use this document to advocate for improvements in surveillance.

SCHOOL **(DROP FROM C- IN 2014)** **D**

COMMUNITY AND THE BUILT ENVIRONMENT

BACKGROUND

The characteristics of the community and built environment can have an impact on children's PA, for example, access to parks and open spaces can help provide opportunities for youth to be active[104, 105] while undertaking PA may be difficult or indeed prohibited in other areas.[106]

TARGET/RECOMMENDATION/ BENCHMARK

The % of parents of children and adolescents themselves perceiving their local area and PA facilities as safe or good quality. In Ireland's 2014 Report Card this indicator was graded a B as we were succeeding with 47 – 91% of children (average 65%).

DATA

Republic of Ireland:

» *GUI Child Cohort wave 2:* 94% of parents strongly agreed/agreed local area was safe for their 13 year old child (~n9000).[15]

Northern Ireland:

» *YPBAS:* 94% of 11 – 16 year olds reported feeling safe in area in which they live[22], while 64% think play/leisure facilities in their area are good (n3,174).[22]

» Playboard Kids Life and Times play module: 86% of 10- 11 year olds agreed/strongly agreed that they have a good choice of things to play with in their local area while 67% agreed/strongly agreed that the equipment (like swings and climbing frames) in their play park is in good condition (n2,420).[34]

Both:

» *Children's Mobility Study:* 94% of 7 – 15 year olds believe their neighbourhood to be safe or very safe (n2,228).[27]

INEQUITIES/EQUALITIES

» The lack of data to date limits identification of inequalities at this stage.

COMMENT

Further research using objective measures would allow comparisons to be drawn between perceived safety and quality of the built environment versus objective assessment of quantity and quality features within the built environment, for example, green space. It is also worth noting that discrepancies may exist between how individuals perceive their environment versus their actual use of facilities/resources. In order for the role of the built environment in PA to be fully utilised, it needs to be accompanied with the appropriate infrastructure, policies and programmes.

IMPLICATIONS FOR MEASUREMENT AND SURVEILLANCE

» The data used to appraise this indicator are based on perceptions rather than use or objective measurements. As was found in the 2014 global matrix of 15 countries[8] good perceptions of the community and built environment may not necessarily translate into use of such facilities and higher levels of PA.

COMMUNITY AND BUILT ENVIRONMENT

B+

(AN INCREASE FROM A B IN 2014)

GOVERNMENT

Republic of Ireland

Since 2014 there has been some progress from the government and public sector most notably with the publication of the first ever National Physical Activity Plan. This plan is innovative in that it sets out sixty actions and identifies lead and partner agencies responsible, timescale for delivery and it fosters partnership and inter-sectoral collaboration to Get Ireland Active.[3] Fourteen actions specifically target PA in children and young people, with several others addressing issues like monitoring and surveillance, public education and research.[3] The ambitious plan includes, as examples, the commitment to:

» Monitoring and surveillance.

» Establishing sedentary behaviour guidelines.

» Developing PA guidelines for under 5s.

» The Department of Education playing a role in the promotion of PA in youth (beyond PE).

» Having PA included in young people's services planning groups.

Readers are encouraged to access the full plan at http://health.gov.ie/healthy-ireland/physical-activity/ PA is also mentioned in some of the steps in the new Healthy Weight for Ireland Obesity Policy and Action Plan 2016 – 2025[107] in the Republic:

» Develop and implement a 'whole of school' approach to healthy lifestyle programmes that includes physical activity, develop materials for planning and building to reduce the obesogenic environment and develop a national PA surveillance system.

» The key role of PA in the prevention of overweight and obesity is central to step 8 and includes some accompanying action points including:

  * Implementation of the National Physical Activity Plan for Ireland.

  * Development of nutrition and physical activity guidelines for weight loss in overweight and obese individuals.

* Development of guidelines to reduce sedentary levels in the population.
* Development of a specific PA plan to address the needs of severely overweight and obese individuals.

Northern Ireland

There is a notable absence of a bespoke national PA policy or plan. However, objectives to increase children's participation in physical activity and sport are embedded within the strategic plans for a number of other organisations and policy objectives (education, sport, obesity). These are, however, unchanged since 2014 edition:

» A Fitter Future for All Obesity Action Plan 2012 – 2022.[4, 87]

» Sport Matters: the Northern Ireland Strategy for Sport & Physical Recreation 2009 – 2019.[79]

These documents include targets for children's PA, for example, to provide every child in Northern Ireland over the age of 8 years with the opportunity to participate in at least two hours per week of extra-curricular sport and physical recreation. While such targets are welcome, the challenge is now to work towards these targets and monitor progress. The Children and Young Peoples Strategy is currently being developed by the NI Commissioner for Children and Young People and may be a useful avenue for looking at PA policy through a children's lens.

In both jurisdictions given the cross-departmental responsibility for children, it is difficult to identify that level of investment in physical activity. Moreover the lack of national PA and health surveillance systems limit the degree to which progress towards the targets set in the abovementioned strategies can be reliably tracked. Reassuringly, policy and strategy in both jurisdictions take account of and seek to address barriers to PA participation for females as well as for children with disabilities.

COMMENT

» For the government indicator the RWG looked for evidence of implementation of the clearly stated policy objectives. 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 of the relevant targets for children's PA details nationwide means that much of the key evidence on this indicator is currently lacking.

» This indicator was graded as INC in 2014 Report Card. This INC grade remains in 2016. The inconclusive grade recognises the gaps in national level surveillance of children's PA and the uncertainty in terms of investment in this area that exists at this point. We have policy which is an acknowledged strength but we now seek evidence of implementation.

» Evidence of implementation of the 2016/2017 actions from the National Physical Activity Plan in the Republic will be welcomed ahead of the next Report Card.

» Although difficult to obtain or non-existent in many jurisdictions, quantification of the investment into PA and the implementation of PA policy would be the ideal benchmark that all jurisdictions would aim to capture. The former is near impossible due to the inclusion of PA in many departmental budgets and the inextricable link with obesity investments. Evidence of the latter does not exist because there is no implementation of the new policy just yet. This gap is not unique to Ireland.[6]

» It is important to acknowledge that the current rubric for grading the indicators in the Global Matrix 2.0, which focuses on the percentage of children engaging in PA within a given setting does not fit with policy-related objectives. We anticipate that Global Matrix 3.0 will address this mismatch and allow a clearer assessment of government level policy strategy and investment in children's PA in 2018.

Government	**INC** It is difficult to set a benchmark for this indicator and this is an acknowledged limitation of the Report Card process in all countries. The current version of the Report Card is not fit for purpose for policy evaluation. **(NO CHANGE FROM 2014)**

OVERALL GAPS AND RECOMMENDATIONS

» Agreement and implementation of a common framework for the systematic surveillance of indictors related to PA.

» The implementation of objectives in the National Physical Activity Plan in the Republic.

» Evidence on PA levels of children with disabilities and minority and marginalised groups.

» Evaluation of the effectiveness and cost-effectiveness of interventions to identify best practice and to resource adequately.

» There is the danger that the good work that is going on 'on the ground' is not being captured in the data and therefore the grades remaining mediocre or stagnant. The Report Card is an advocacy document and the RWG hopes that stakeholders, practitioners and anyone working in children's physical activity and health will not feel discouraged by stagnant or even a small reduction in grades. It will take many iterations of the Report Card before grades may change, it will not happen overnight. Consider that:

  * In the Canadian Report Card series overall PA has been consistently graded D- since 2012. Active transport was first graded in 2006 as D, still remains at grade D in 2016 (only change was slight increase to D+ in 2012). Organised sport has been graded C since 2007 but, showing that change is slow, increased gradually (C+ in 2014, B in 2015 and B+ in 2016.
  * The data used herein is from 2010 – 2014 so any recent changes in PA indicators may not be picked up until a future edition of the Report Card.

» Gaps in the data speak to the need for the collection of good quality data from large samples. We suggest that future studies collect data that align with Report Card benchmarks included herein as they follow national and international PA recommendations and are being used as global indicators of PA. It is essential that studies use consistent methodologies for data collection, for example the PACE+ two-item questionnaire110 could be considered for inclusion in PA measurement studies to allow for comparison across time and between populations. Data are more likely to be included in the Report Card if it can be easily matched to the set benchmarks, have larger sample sizes and, in particular, include objective assessment of PA.

CONCLUSIONS

The grade for overall PA has increased from the 2014 edition of Ireland's Report Card. This is indeed a positive but may really 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. More than half of children on the island of Ireland are still not meeting the recommended levels of PA 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, by all stakeholders and practitioners to ensure PA remains a key priority.

REFERENCES

1. Department of Health and Children. Get Ireland Active! The National Guidelines on Physical Activity for Ireland. Dublin: Health Service Executive; 2009. [Online]. Available from: http://health.gov.ie/wp-content/uploads/2014/03/active_guidelines.pdf

2. UK Chief Medical Officers. Start Active, Stay Active: A Report on Physical Activity for Health from the Four Home Countries' Chief Medical Officers. Department of Health; 2011. [Online]. Available from: www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_128209

3. Department of Health, Department of Transport Tourism and Sport. Get Ireland Active! National Physical Activity Plan for Ireland. Dublin 2016. [Online]. Available from: http://www.getirelandactive.ie/Professionals/National-PA-Plan.pdf

4. Department of Health Social Services and Public Safety. A Fitter Future For All: Framework for Preventing and Addressing Overweight and Obesity in Northern Ireland 2012-2022. 2012. [Online]. Available from: http://www.northerntrust.hscni.net/pdf/FitfuturesforallObesityFrameworkNI2012.pdf

5. Harrington DM, Belton S, Coppinger T, et al. Ireland's 2014 Report Card on Physical Activity in Children and Youth. 2014. [Online]. Available from: www.dcu.ie/sites/default/files/shhp/docs/ReportCardIreland2014_LongForm_Final.pdf

6. Sallis JF, Bull F, Guthold R, et al. Progress in physical activity over the Olympic quadrennium. The Lancet. 2016; 388(10051).

7. Harrington DM, Belton S, Coppinger T, et al. Results from Ireland's 2014 report card on physical activity in children and youth. Journal of Physical Activity and Health. 2014;11(Suppl 1).

8. Tremblay MS, Gray CE, Akinroye K, et al. Physical activity of children: A global matrix of grades comparing 15 countries. Journal of Physical Activity and Health. 2014;11(Suppl 1).

9. Colley RC, Brownrigg M, Tremblay MS. A model of knowledge translation in health. The Active Healthy Kids Canada report card on physical activity for children and youth. Health Promotion Practice. 2012;13(3).

10. Lee IM, Shiroma EJ, Lobelo F, et al. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. The Lancet. 2012;380(9838).

11. Ding D, Lawson KD, Kolbe-Alexander TL, et al. The economic burden of physical inactivity: a global analysis of major non-communicable diseases. The Lancet. 2016;388(10051)

12. Designed to Move. Designed To Move - A Physical Activity Action Agenda. 2012. [Website] http://www.designedtomove.org/

13. Safefood. The Cost of Overweight and Obesity on the Island of Ireland. 2012. [Online]. Available from: http://www.safefood.eu/SafeFood/media/SafeFoodLibrary/Documents/Publications/Research%20Reports/Final-Exec-Summary-The-Economic-Cost-of-Obesity.pdf

14. Government Office for Science. Foresight. Tackling Obesities: Future Choices – Project Report. 2007. [Online]. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/287937/07-1184x-tackling-obesities-future-choices-report.pdf

15. Economic and Social Research Institute, Trinity College Dublin, Office of the Minister for Children and Youth Affairs. Growing Up in Ireland Child Cohort Wave 2. 2013.

16. Economic and Social Research Institute, Trinity College Dublin, Office of the Minister for Children and Youth Affairs. Growing Up in Ireland Infant Cohort Wave 3. 2013.

17. Gavin A, Keane E, Callaghan M, et al. The Irish Health Behaviour in School-aged Children (HBSC) Study 2014. Galway, Ireland: Health Promotion Research Centre at the National University of Ireland, Galway (NUIG); 2015. [Online]. Available from: http://health.gov.ie/wp-content/uploads/2015/12/HBSC2014web2.pdf

18. Inchley J, Currie D. Growing Up Unequal: Gender and Socioeconomic Differences in Young People's Health and Well-being. Health Behaviour in School-aged Children (HBSC) study: International Report from the 2013/2014 Survey. World Health Organization; 2016.[Online]. Available from: http://www.euro.who.int/en/publications/abstracts/growing-up-unequal-gender-and-socioeconomic-differences-in-young-peoples-health-and-well-being.-health-behaviour-in-school-aged-children-hbsc-study-international-report-from-the-20132014-survey

19. Hardie Murphy M, Rowe D, CB. W. Sports participation in youth as a predictor of physical activity: A 5-year longitudinal study. Journal of Physical Activity and Health. 2016;13(7).

20. Hardie Murphy M, Rowe DA, Woods CB. Impact of physical activity domains on subsequent physical activity in youth: a 5-year longitudinal study. Journal of Sports Sciences. 2016; Online first

21. Woods CB, Tannehill D, Quinlan A, et al. The Children's Sport Participation and Physical Activity Study (CSPPA). Dublin, Ireland: School of Health and Human Performance, Dublin City University and the Irish Sports Council; 2010.[Online]. Available from: https://www.ucd.ie/t4cms/CCLSP_Study_Report1.pdf

22. Northern Ireland Statistics Research Agency. Young Persons' Behaviour and Attitudes Survey Topline Headline Bulletin. NISRA Belfast; 2013.[Online]. Available from: http://www.csu.nisra.gov.uk/survey.asp96.htm

23. Department of Culture Arts and Leisure. Experience of Sport and Physical Activity by Young People in Northern Ireland: Findings from the Young Persons' Behaviours and Attitudes Survey 2013. 2014.[Online]. Available from: https://www.communities-ni.gov.uk/publications/experience-sport-and-physical-activity-by-young-people-northern-ireland-2013

24. University of London, UCL Institute of Education, Centre for Longitudinal Studies. Millennium Cohort Study: Fifth Survey. 6th ed: Colchester, Essex: UK Data Archive; 2012.

25. Department for Regional Development, Northern Ireland Statistics and Research Agency. Method of Travel to/from School by Pupils in NI, 2014/2015. Department for Regional Development and 2015. [Online]. Available from: https://www.infrastructure-ni.gov.uk/sites/default/files/publications/drd/method-of-travel-to-from-school-by-pupils-in-ni-2014-2015.pdf

26. Breslin G, Gossrau-Breen D, McCay N, et al. Physical activity, gender, weight status, and wellbeing in 9-to 11-year-old children: a cross-sectional survey. Journal of Physical Activity and Health. 2012;9(3).

27. O'Keeffe B, O'Beirne A. Children's Independent Mobility on the Island of Ireland. Limerick, Ireland: University of Limerick,; 2015. Available from: http://www.mic.ul.ie/childmobility/Documents/Child%20Mobility%20Report.pdf

28. Keane E, Kearney PM, Perry IJ, et al. Diet, physical activity, lifestyle behaviors, and prevalence of childhood obesity in Irish children: The Cork Children's Lifestyle Study protocol. JMIR Research Protocols. 2014;3(3).

29. O'Brien W, Issartel J, Belton S. Evidence for the efficacy of the youth-physical activity towards health (Y-PATH) intervention. Advances in Physical Education. 2013;3(4).

30. Belton S, O'Brien W, Meegan S, et al. Youth-Physical Activity Towards Health: evidence and background to the development of the Y-PATH physical activity intervention for adolescents. BMC Public Health. 2014;14(1).

31. Belton S, O'Brien W, Issartel J, et al. Where does the time go? Patterns of physical activity in adolescent youth. J Sci Med Sport. 2016; In Press

32. Delaney P. Sport and Recreation Participation and Lifestyle Behaviours in Waterford City Adolescents. Dublin, Ireland: Waterford Institute of Technology And The Irish Sports Council; 2013.[Online]. Available from: https://www.irishsportscouncil.ie/Research/Adolescent_Lifestyle_2013_/Adolescent.pdf

33. Department of Education Statistics and Research Team NI. School Omnibus Survey 2014. Department of Education Northern Ireland; 2015.[Online]. Available from: https://www.education-ni.gov.uk/publications/school-omnibus-survey-findings-2014

34. McQuade L, Kehoe S, Emerson L. Are children getting the opportunities to realise their right to play? Belfast: ARK Northern Ireland; 2015.[Online]. Available from: http://www.ark.ac.uk/publications/updates/update98.pdf

35. Janssen I, LeBlanc AG. Systematic review of the health benefits of physical activity and fitness in school-aged children and youth. International Journal of Behavioral Nutrition and Physical Activity. 2010;7(40).

36. Gavin A, Keane E, Callaghan M, et al. The Irish Health Behaviour in School-aged Children (HBSC) Study 2014. Galway, Ireland: Health Promotion Research Centre at the National University of Ireland, Galway (NUIG); 2015.

37. Economic Social and Research Institute, Trinity College Dublin, Office of the Minister for Children and Youth Affairs. Growing up in Ireland Report 1. Dublin 2009.[Online]. Available from: http://www.growingup.ie/fileadmin/user_upload/documents/1st_Report/Barcode_Growing_Up_in_Ireland_-_The_Lives_of_9-Year-Olds_Main_Report.pdf

38. Sedentary Behaviour Research Network. Letter to the editor: standardized use of the terms "sedentary" and "sedentary behaviours". Applied Physiology, Nutrition, and Metabolism. 2012;37(3).

39. Chinapaw M, Proper K, Brug J, et al. Relationship between young peoples' sedentary behaviour and biomedical health indicators: a systematic review of prospective studies. Obesity Reviews. 2011;12(7).

40. Tremblay M, LeBlanc A, Kho M, et al. Systematic review of sedentary behaviour and health indicators in school-aged children and youth. International Journal of Behavioral Nutrition and Physical Activity. 2011;8(1).

41. Martínez-Gómez D, Eisenmann JC, Gómez-Martínez S, et al. Sedentary behavior, adiposity, and cardiovascular risk factors in adolescents. The AFINOS Study. Revista Española de Cardiología (English Edition). 2010;63(3).

42. Sardinha LB, Andersen LB, Anderssen SA, et al. Objectively measured time spent sedentary is associated with insulin resistance independent of overall and central body fat in 9-to 10-year-old Portuguese children. Diabetes Care. 2008;31(3).

43. Lane A. Screen Time Increases Risk of Overweight and Obesity. Journal of Physical Activity and Health. 2014;11

44. The American Academy of Pediatrics Council on Communications Media. Policy statement - children, adolescents, obesity, and the media. Pediatrics. 2011;128(1).

45. Tremblay MS, Carson V, Chaput J-P, et al. Canadian 24-Hour movement guidelines for children and youth: An integration of physical activity, sedentary behaviour, and sleep. Applied Physiology, Nutrition, and Metabolism. 2016;41(6).

46. Dowd KP, Harrington DM, Hannigan A, et al. Light-intensity physical activity is associated with adiposity in adolescent females. Medicine and Science in Sports and Exercise. 2014;46(12).

47. Central Statistics Office. Census 2011 Results. Available from: http://www.cso.ie/en/census/census2011reports/census2011profile10doortodoorcommutinginireland/

48. Faulkner GE, Buliung RN, Flora PK, et al. Active school transport, physical activity levels and body weight of children and youth: a systematic review. Preventive Medicine. 2009;48(1).

49. Lubans DR, Boreham CA, Kelly P, et al. The relationship between active travel to school and health-related fitness in children and adolescents: a systematic review. International Journal of Behavioral Nutrition and Physical Activity. 2011;8(1).

50. Williams J, Greene S, Doyle E, et al. Growing Up in Ireland National Longitudinal Study of Children. The Lives of 9 year olds. Child Cohort Report 1. Dublin: Economic and Social Research Institute; 2009.[Online]. Available from: http://www.growingup.ie/fileadmin/user_upload/documents/1st_Report/Barcode_Growing_Up_in_Ireland_-_The_Lives_of_9-Year-Olds_Exec_Summary.pdf

51. Murtagh EM, Dempster M, Murphy MH. Determinants of uptake and maintenance of active commuting to school. Health & place. 2016;40(31).

52. McMinn D, Rowe DA, Murtagh S, et al. Psychosocial factors related to children's active school travel: A comparison of two European regions. International Journal of Exercise Science. 2014;7(1).

53. Murtagh E, Dempster M, Murphy H. Active commuting to school: influencing factors for children living within one mile of school. PEPAYS-Ireland Annual Research Forum 5th – 6th June 2014; Waterford 2014.

54. Nelson NM, Foley E, O'gorman DJ, et al. Active commuting to school: how far is too far? International Journal of Behavioral Nutrition and Physical Activity. 2008;5(1).

55. Lambe B. The effectiveness of active travel initiatives in Irish provincial towns: an evaluation of a quasi-experimental natural experiment. Ph.D. Thesis. Waterford: Waterford Institute of Technology; 2015. Available from: http://repository.wit.ie/3098/1/Barry%20Lambe%20PhD%20final%20draft.pdf

56. Clarke N, HBSC Ireland Team. Active Travel Among Schoolchildren in Ireland. Galway 2013.[Online]. Available from: http://www.nuigalway.ie/hbsc/documents/2010_fs_22_active_travel.pdf

57. Department of Transport. Smarter Travel - A Sustainable Transport Future 2009-2020. 2009. [Online]. Available from: http://www.transport.ie/upload/general/Smarter_Travel_5_feb_2009.pdf

58. Department of Transport. Ireland's First National Cycle Policy Framework 2009-2020. 2009.[Online]. Available from: http://www.smartertravel.ie/sites/default/files/uploads/0902%2002%20EnglishNS1274%20Dept.%20of%20Transport_National_Cycle_Policy_v4%5B1%5D.pdf

59. Department for Regional Development. An Action Plan for Active Travel in Northern Ireland 2012 - 2015. Belfast 2012.[Online]. Available from: http://www.nienvironmentlink.org/cmsfiles/policy-hub/files/documentation/Trans/54344-An-Action-Plan-for-Active-Travel.pdf

60. Department for Regional Development. Changing Gear Norther Ireland: A Bicycle Strategy for Northern Ireland. Belfast 2015.[Online]. Available from: https://www.infrastructure-ni.gov.uk/sites/default/files/publications/drd/a-bicycle-strategy-for-northern-ireland.pdf

61. Daniels N, Kelly C, Molcho M, et al. Investigating active travel to primary school in Ireland. Health Education. 2014;114(6).

62. Falb MD, Kanny D, Powell KE, et al. Estimating the proportion of children who can walk to school. American Journal of Preventive Medicine. 2007;33(4).

63. United Nations Educational Scientific and Cultural Organization. Quality Physical Education: Guidelines for Policy Makers. Paris, France: UNESCO; 2015. [Online]. Available from: http://unesdoc.unesco.org/images/0023/002311/231101E.pdf

64. Meyer U, Roth R, Zahner L, et al. Contribution of physical education to overall physical activity. Scandinavian Journal of Medicine and Science in Sports. 2013;23(5).

65. Department of Education and Science. Primary School Curriculum, Physical Education. Dublin 1999.[Online]. Available from: http://www.curriculumonline.ie/Primary/Curriculum

66. Department of Education and Science. Junior Cycle Physical Education. Dublin 1999.[Online]. Available from: https://curriculumonline.ie/getmedia/ca078585-b4e2-4146-9d22-9fada4bd2478/JCSEC21_Physical_Edcuation_syllabus.pdf

67. Department of Education Northern Ireland. Education Curriculum Minimum Content. Bangor: Department of Education; 2007.[Online]. Available from: http://www.legislation.gov.uk/nisr/2007/46/pdfs/nisr_20070046_en.pdf

68. Department of Education and Skills. Results of the Department of Education and Skills 'Lifeskills' Survey, 2012. 2014.[Online]. Available from: https://www.education.ie/en/Publications/Education-Reports/Results-of-the-Department-of-Education-and-Skills-Lifeskills-Survey-2012.pdf

69. Expert Group on Health-Enhancing Physical Activity, European Commission. EU Work Plan for Sport 2014-2017. 2015.[Online]. Available from: http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=19860&no=1

70. Callaghan M, Kelly C, Molcho M, et al. School Characteristics, Policy and Context in Ireland: HBSC Ireland Post-Primary Schools. Galway, Ireland: Health Promotion Research Centre, National University of Ireland, Galway; 2013. [Online]. Available from: http://www.nuigalway.ie/media/healthpromotionresearchcentre/hbscdocs/shortreports/2015---Callaghan---School-characteristics.pdf

71. Department of Education and Skills. Framework for Junior Cycle 2015. Dublin 2015.[Online]. Available from: www.education.ie

72. National Council for Curriculum and Assessment. Draft Guidelines on Wellbeing in Junior Cycle. 2016. [Online]. Available from: http://www.juniorcycle.ie/NCCA_JuniorCycle/media/NCCA/BannerImages/2014/Wellbeing-Guidelines-for-consultation-FINAL.pdf

73. National Council for Curriculum and Assessment, Department of Education and Skills. Short Course Physical Education: Specification for Junior Cycle. 2016.[Online]. Available from: http://curriculumonline.ie/getmedia/00c56185-3fd3-495a-b7e5-fc985b4ba97f/NCCA-JC-Short-Course-PE.pdf

74. Bowles R. From Policy to Practice: A Sociological Study of Gaelic Games in Irish Primary Schools. Ph.D. Thesis. Limerick: University of Limerick; 2014. Available from: https://ulir.ul.ie/handle/10344/4252

75. LISPA Working Group. Lifelong Involvement in Sport and Physical Activity: The LISPA Model. Available from: http://www.sportireland.ie/Coaching-Ireland/Life-Long-Involvement-In-Sport-Physical-Activity/LISPA.pdf

76. Eime RM, Young JA, Harvey JT, et al. A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. International Journal of Behavioral Nutrition and Physical Activity. 2013;10(1).

77. Eime RM, Harvey JT, Sawyer NA, et al. Understanding the contexts of adolescent female participation in sport and physical activity. Research Quarterly for Exercise and Sport. 2013;84(2).

78. Department of Education and Skills. Physical Education, Physical Activity and Sport for Children and Young People: A Guiding Framework. 2012. [Online]. Available from: https://www.education.ie/en/Publications/Education-Reports/Get-Active-Physical-Education-Physical-Activity-and-Sport-for-Children-and-Young-People-A-Guiding-Framework.pdf

79. Department of Culture Arts and Leisure. Sport Matters: Northern Ireland Strategy for Sport and Physical Recreation, 2009-19. Belfast: Sport Northern Ireland; 2009.[Online]. Available from: http://www.sportni.net/about-us/sports-strategy/

80. Veitch J, Salmon J, Ball K. Individual, social and physical environmental correlates of children's active free-play: a cross-sectional study. International Journal of Behavioral Nutrition and Physical Activity. 2010;7(11).

81. Burdette HL, Whitaker RC. Resurrecting free play in young children: looking beyond fitness and fatness to attention, affiliation, and affect. Archives of Pediatrics and Adolescent Medicine. 2005;159(1).

82. Brockman R, Jago R, Fox K. Children's active play: self-reported motivators, barriers and facilitators. BMC Public Health. 2011;11(461).

83. Kids at Play Australia. "Active Play Everyday".[Online]. Available from: http://health.act.gov.au/sites/default/files/KidsAtPlay/Factsheet%20-%20Indoor%20and%20outdoor%20active%20play.pdf

84. ParticipACTION. The 2015 ParticipACTION Report Card on Physical Activity for Children and Youth. 2015.[Online]. Available from: https://www.participaction.com/sites/default/files/downloads/Participaction-2015ReportCard-FullReport_5.pdf

85. Janssen I. Active play: An important physical activity strategy in the fight against childhood obesity. Canadian Journal of Public Health. 2014;105(1).

86. Health Service Executive. "Active Play Every Day for 3-6 year olds". 2016.[Online]. Available from: http://www.getirelandactive.ie/Resources/Nat%20guidelines/Early%20Years/3-6%20yr%20active%20play%20.pdf

87. Department of Health Social Services and Public Safety. A Fitter Future For All: Reviewed Outcome Framework 2015 – 2019. 2015.[Online]. Available from: https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/fitter-future-for-all-outcomes-framework-2015-2019.pdf

88. Gill T. The Play Return: A Review of the Wider Impact of Play Initiatives. Children's Play Policy Forum; 2014. [Online]. Available from: http://www.playscotland.org/wp-content/uploads/The-Play-Return-A-review-of-the-wider-impact-of-play-initiatives1.pdf

89. Nishtar S, Gluckman P, Armstrong T. Ending childhood obesity: a time for action. The Lancet. 2016;387(10021).

90. Tremblay MS, Gray C, Babcock S, et al. Position statement on active outdoor play. International Journal of Environmental Research and Public Health. 2015;12(6).

91. Frearson M, Johnson S, Clarke C. Play Pathfinders and Play Builders Programme Evaluation. 2013. [Online]. Available from: http://www.sqw.co.uk/files/7413/9059/0629/Play_Pathfinders_and_Play_Builders_Programme_Evaluation_RR_231.pdf

92. Veitch J, Salmon J, Ball K. Children's active free play in local neighborhoods: a behavioral mapping study. Health Education Research. 2008;23(5).

93. Cleland V, Crawford D, Baur LA, et al. A prospective examination of children's time spent outdoors, objectively measured physical activity and overweight. International Journal of Obesity. 2008;32(11).

94. National Council for Curriculum and Assessment. Aistear: The Early Childhood Curriculum Framework. Available from: http://www.ncca.ie/en/Curriculum_and_Assessment/Early_Childhood_and_Primary_Education/Early_Childhood_Education/How_Aistear_was_developed/Research_Papers/Play_paper.pdf

95. McLeroy K, Bibeau D, Steckler A, et al. An ecological perspective on health promotion programs. Health Education Behavior. 1988;15(4).

96. Edwardson C, Gorely T. Parental influences on different types and intensities of physical activity in youth: A systematic review. Psychology of Sport and Exercise. 2010;11(6).

97. Maitland C, Stratton G, Foster S, et al. A place for play? The influence of the home physical environment on children's physical activity and sedentary behaviour. International Journal of Behavioral Nutrition and Physical Activity. 2013;10(1).

98. Bauman AE, Reis RS, Sallis JF, et al. Correlates of physical activity: why are some people physically active and others not? The Lancet. 2012;380(9838).

99. Department of Children and Youth Affairs. The National Recreation Policy for Young People. 2007.[Online]. Available from: http://www.dcya.gov.ie/viewdoc.asp?fn=%2Fdocuments%2Fyouthaffairs%2Fnatrecpol.htm

100. Department of Children and Youth Affairs. Better Outcomes Brighter Futures: The National Policy Framework for Children and Young People 2014 - 2020. 2014.[Online]. Available from: http://dcya.gov.ie/documents/cypp_framework/BetterOutcomesBetterFutureReport.pdf

101. Dobbins M, Husson H, DeCorby K, et al. School-based physical activity programs for promoting physical activity and fitness in children and adolescents aged 6 to 18. Cochrane Database of Systematic Reviews. 2013;2

102. Singh A, Uijtdewilligen L, Twisk JW, et al. Physical activity and performance at school: a systematic review of the literature including a methodological quality assessment. Archives of Pediatrics and Adolescent Medicine. 2012;166(1).

103. Hardie Murphy M, Rowe DA, Woods CB. Sports participation in youth as a predictor of physical activity: A 5-year longitudinal study. Journal of Physical Activity and Health. 2016;13(7).

104. Tester JM. The built environment: designing communities to promote physical activity in children. Pediatrics. 2009;123(6).

105. Nelson NM, Woods CB. Obesogenic environments: Are neighbourhood environments that limit physical activity obesogenic? Health & place. 2009;15(4).

106. Sallis JF, Glanz K. The role of built environments in physical activity, eating, and obesity in childhood. Childhood Obesity. 2006;16(1).

107. Department of Health. A Healthy Weight for Ireland. Obesity Policy and Action Plan 2016–2025. Dublin 2016.[Online]. Available from: http://health.gov.ie/wp-content/uploads/2016/09/A-Healthy-Weight-for-Ireland-Obesity-Policy-and-Action-Plan-2016-2025.pdf

108. Murphy MH, Rowe DA, Belton S, et al. Validity of a two-item physical activity questionnaire for assessing attainment of physical activity guidelines in youth. BMC Public Health. 2015;15(1).

FUNDING SOURCE

This work was supported by grants from the Public Health Agency (Northern Ireland), Sport Northern Ireland, the Irish Heart Foundation, and the Institute of Public Health in Ireland. The views expressed herein are those of the authors and do not necessarily represent the views of the funders or the listed affiliated institutions.

CONSULTATIONS

Republic of Ireland: Department of Health, Early Childhood Ireland, Federation of Irish Sport, Fingal County Council, Get Ireland Active, Healthy Ireland, Institute of Education, Dublin City University, Irish Heart Foundation, Irish Primary PE Association, Irish Sports Council, Sport Ireland. **Northern Ireland:** Department of Education, Playboard Northern Ireland **Both:** UNESCO Chair in Adapted Physical Activity, Tralee

ACKNOWLEDGEMENTS

The authors thank the following individuals for their contributions to the 2016 Ireland North and South Report Card: Dr. Mark Tremblay, Joel Barnes, Dr Peter Katzmarzyk and the wider Active Healthy Kids Global Alliance team members. We also thank Dr Martin Dempster (Queen's University Belfast) for assistance with data analysis. We thank the stakeholders who provided their valuable opinion and insight during the consultation phase.

SUGGESTED CITATION

Research Work Group for Ireland's Report Card on Physical Activity in Children and Youth. (2016) The 2016 Ireland North and South Report Card on Physical Activity for Children and Youth [Online]. Available from: http://www.thehealthwell.info/ireland-north-south-physical-activity-report-card-2016

Design by Treetop Studio
www.treetopstudio.ie