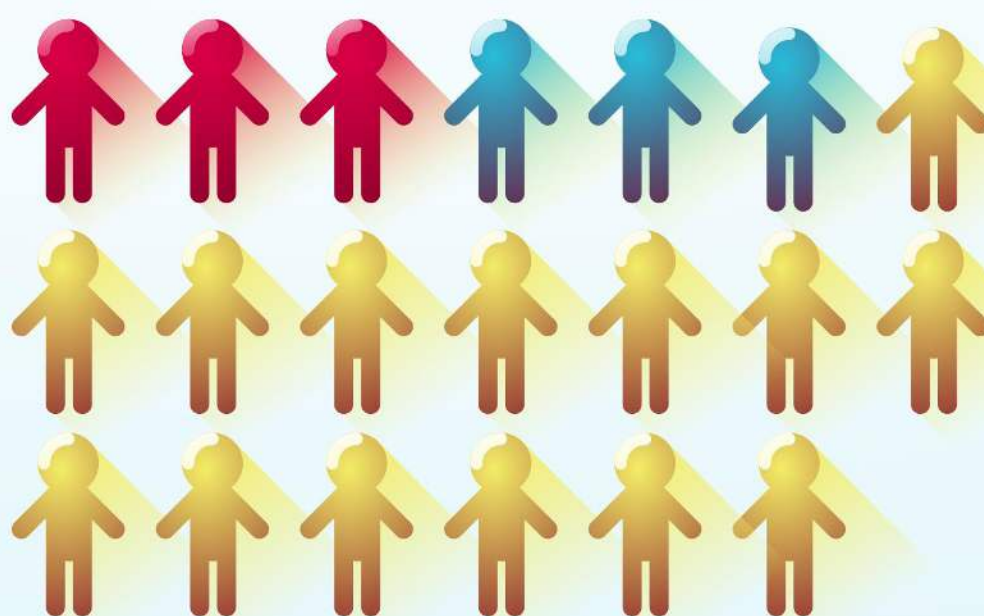


# Childhood Obesity: **THE SIZE** of the problem.



**Official  
Figures:**  
**3 in 20**  
children  
have  
obesity.

**Reality:**  
**At least**  
**6 in 20**  
children  
have  
obesity.

See report card for  
the full explanation.

## **Active Healthy Kids Scotland Report Card 2018**

Download from [www.activehealthykidsscotland.co.uk](http://www.activehealthykidsscotland.co.uk)



## **THE 2018 ACTIVE HEALTHY KIDS SCOTLAND REPORT CARD**

Active  
Healthy  
Kids  
Scotland



### **Active Healthy Kids Scotland**

Active Healthy Kids Scotland was established in 2013, inspired by the Active Healthy Kids Canada Report Card ([www.participaction.com/en-ca/resources/report-card](http://www.participaction.com/en-ca/resources/report-card)) and the international network of over 40 countries with a Report Card known as the Active Healthy Kids Global Alliance ([www.activehealthykids.org](http://www.activehealthykids.org)).

The first Scottish card was published in 2013 and the second card was published in 2016 (see [www.activehealthykidsscotland.co.uk](http://www.activehealthykidsscotland.co.uk)). The 2018 Active Healthy Kids Scotland Report Card provides an updated 'state of the nation' assessment of the physical activity and health of children and adolescents in Scotland.

### **2018 Report Card**

All report cards were developed using standardised methodology.<sup>1-3</sup> The 2018 Scottish Report Card assigned grades to 11 physical activity and health indicators. Data sources were used for grading if there were recent (i.e. from 2014 onwards), nationally representative, and if the method used to measure the indicator did not greatly overestimate or underestimate the prevalence of the behaviour. Grades were determined by the percentage of children and youth meeting a benchmark (e.g. an evidence-based recommendation) using the standardised grading framework (below). The 'Summary of Data Sources' document on our website provides more detail on each indicator.

#### **Standardised Grading Framework**

A = We are succeeding with a large majority of children (87%-93%)

A- = 80% to 86%

B+ = 74% to 79%

B = We are succeeding with well over half of children (67%-73%)

B- = 60% to 66%

C+ = 54% to 59%

C = We are succeeding with about half of children (47%-53%)

C- = 40% to 46%

D+ = 34% to 39%

D = We are succeeding with less than half of children (27%-33%)

D- = 20% to 26%

F = We are succeeding with very few of children (<20%)

INC = Incomplete Grade, where Scottish data were not available or were inadequate to assign a grade

### **Using the Report Card**

The report card provides critical and up- to- date information on the physical activity and health of Scottish children and adolescents, and can be used in a number of ways:

1. Government can use it for development of policy, and to inform investment decisions.
2. Researchers/academics can share with students, and use it to inform grant applications.
3. Teachers, coaches, health professionals, charitable organisations can use it to inform their work with children, adolescents, and their families.
4. Funding bodies can use it to help shape funding strategy and decisions.

## **2018 REPORT CARD GRADES AND RATIONALE**

### **1: Sedentary Behaviours *Grade = D-***

**Benchmark:** % of children and youth who meet the Canadian Sedentary Behaviour Recommendation: no more than two hours of recreational screen time per day for 5-18 year olds and no more than one hour of sedentary screen time per day for 2-4 year olds. Note: current guidelines do not provide a time limit recommendation for non-screen sedentary behaviours.

**Rationale:** 68% of 2-15 year olds spent  $\geq 2$  hours/day ( $\geq 1$  hour/day for under 5s) sitting watching a screen on a typical weekday (71% for boys, 65% for girls), rising to 83% at the weekend (84% for boys, 82% for girls)<sup>based on re-analysed data from the Scottish Health Survey 2016</sup>. Thus, Grade D for weekdays and F grade for weekends, D- overall. The proportion of 2-15 year olds exceeding the screen time recommendation on a typical weekday was higher among those living in more deprived areas (78% in the most deprived quintile and 58% in the least deprived quintile) but not at weekends (83% in the most deprived quintile and 84% in the least deprived quintile). *The 2016 Grade was based on adolescent data from Health Behaviour in School-aged Children 2014 (Graded F in 2016), whereas the 2018 Grade is based on re-analysed data for a wider age range (2-15 year olds) from the Scottish Health Survey 2016.*

### **2: Overall Physical Activity *Grade = F***

**Benchmark:** % of children and youth who meet the Global Physical Activity Recommendation: at least 60 minutes of moderate- to vigorous-intensity physical activity (MVPA) every day for 5-18 year olds and at least 180 minutes of physical activity at any intensity every day for children under 5 years old.

**Rationale:** This grade has been carried forward from the 2016 Scottish report card because no data source since the previous card measured this indicator according to the benchmark. This data source (Health Behaviour in School-aged Children 2014) reported that only 18% of 11 to 15 year olds met the Global physical activity recommendation. One recent data source found that 11% of 10 to 11 year olds achieved the recommendation, measured using accelerometers (McCrorie et al 2018), which supports the F grade. Note: Data from the Scottish Health Survey cannot be used for grading as it does not measure the intensity of PA and assumes that all reported activities are at least moderate intensity, which substantially overestimates MVPA. *Grade is the same as the 2016 report card.*

### **3: Organised Sport & Physical Activity *Grade = B***

**Benchmark:** % of children and youth who participate in organised sport and/or physical activity programmes.

**Rationale:** 68% of children and adolescents (aged 2-15 years) had participated in organised sport and physical activity in the past week (70% for boys and 67% for girls), though participation was lower among those from more deprived areas (57% in the most deprived quintile and 80% in the least deprived quintile)<sup>Scottish Health Survey 2016</sup>. *This indicator received an INC grade in the 2016 report card because the benchmark in the previous card was specifically organised sport, whereas the Scottish Health Survey measures participation in organised sport and exercise/PA, which did not fit the 2016 benchmark.*

### **4: Active Play *Grade = D***

**Benchmark:** % of children and youth who a) engage in unstructured active play/physical activity at any intensity for more than 2 hours a day, b) report being outdoors for more than 2 hours a day.

**Rationale:** 26% of 2-15 year olds participated in active play/unstructured physical activity for  $\geq 2$  hrs/day on a typical week day (28% for boys, 24% for girls), rising to 40% at the weekend (42% for boys, 38% for girls)<sup>based on re-analysed data from the Scottish Health Survey 2016</sup>. Thus, D- Grade for weekdays, C- Grade for weekends, D Grade overall. *This indicator received an INC grade in the 2016 report card because the Scottish Health Survey's active play data are not reported according to the benchmark, so the data was re-analysed for the 2018 card but not for the 2016 report card.*

## 5: Active Transportation *Grade = C*

**Benchmark:** % of children and youth who use active transportation to get to and from places (e.g., school, park, mall, friend's house).

**Rationale:** Data from two nationally representative surveys suggested that 42% of nursery children, 53% to 59% of primary school children and 43% to 44% of those at secondary school usually commute actively to nursery/school (walking, cycling, scooter/skate)<sup>Hands Up for Scotland Survey 2017, Transport & Travel in Scotland 2017</sup>. Thus, C- Grade for nursery, C+ for primary, C- Grade for secondary, C Grade overall. No data sources measured active commuting to and from other places. *Grade is the same as the 2016 report card.*

## 6: Physical Fitness *Grade = INC*

**Benchmark:** Data on physical fitness indicators (e.g. cardiorespiratory fitness, grip strength, balance) should be interpreted using sex- and age-specific European normative values from 'Tomkinson et al *Br J Sports Med* 2017'

**Rationale:** There are no nationally representative data on indicators of physical fitness in children and adolescents in Scotland. *This indicator was not included in the 2016 report card.*

## 7: Diet *Grade = D*

**Benchmark:** % of children and adolescents meeting the revised 2016 Scottish Dietary Goals (SDGs), for instance, consuming at least 5 portions of fruit and vegetables a day, average intake of free sugars not exceeding 5% of total energy intake, average intake of saturated fat not exceeding 11% of total energy intake.

**Rationale:** Only 13% of 2-15 year olds met the '5 a day' recommendation for fruit and vegetables and consumption was lower among those living in more deprived areas (11% in the most deprived quintile and 18% in the least deprived quintile)<sup>Scottish Health Survey 2016</sup>. According to the 2014 National Diet and Nutrition Survey (also used in the 2016 report card), the average intake of sugar (15%) among children and adolescents in Scotland substantially exceeded the 5% of total energy intake recommendation. Furthermore, the average intake of saturated fat (13%) exceeded the 11% of total energy intake recommendation. Recent National Diet and Nutrition Surveys published in 2016 and 2018 have not reported data separately for Scotland, thus could not be used for grading. See 'Summary of Data Sources' document on our website for more data on the diet indicator. *Grade is broadly similar to the 2016 report card.*

## 8: Obesity *Grade = INC*

**Benchmark:** Obesity is difficult to grade using the % prevalence method used to grade the other indicators, but a baseline prevalence of child and adolescent obesity can be taken from the UK in 1990 using UK 1990 reference data for BMI, which by default sets obesity prevalence as 5% (if using BMI at or above the 95<sup>th</sup> percentile). Obesity defined as BMI for-age- has risen substantially since 1990, and the BMI-for-age is highly conservative as a way of defining obesity - it is specific for obesity (i.e. almost all children and adolescents with a high BMI-for-age are excessively fat) but not very sensitive (i.e. a relatively high proportion of children with apparently healthy BMI-for-age are also excessively fat). Scottish Health Survey data on obesity prevalence are also highly conservative because they do not use age-appropriate definitions based on BMI for age in toddlers and pre-schoolers and in older adolescents (from age 16 years) - see 'Summary of Data Sources' document on our website for further detail.

**Rationale:** Official figures suggest that 14% of 2 to 15 year olds were obese<sup>Scottish Health Survey 2016</sup> and 11% of children in primary 1 were obese<sup>Child Health Surveillance Programme School 2017</sup>. Furthermore, the prevalence of obesity is higher among children and adolescents living in more deprived areas<sup>Scottish Health Survey 2016, Child Health Surveillance Programme School 2017</sup>. *This indicator received an F grade in the 2016 report card, we did not grade this indicator for the 2018 card due to the issues described above.*



## 9: Family and Peers *Grade = D*

**Benchmark:** % of parents who a) meet the Global Physical Activity Recommendations (i.e. adults accumulate  $\geq 150$  minutes of moderate-intensity aerobic PA/week or  $\geq 75$  minutes of vigorous-intensity aerobic PA/week or an equivalent combination of MVPA, b) are healthy weight, c) meet the revised 2016 Scottish Dietary Goals, for instance, consuming at least 5 portions of fruit and vegetables a day.

**Rationale:** Based on re-analysed data from the 2015 Scottish Health Survey, 77% of children had fathers who met the adult physical activity guideline and 71% of children had mothers who met the guideline; 26% of children had at least one parent who met the '5 a day' recommendation for fruit and vegetables (lower in more deprived areas); 74% of children had at least one parent who was overweight or obese (higher in more deprived areas). Thus, B+ Grade for parental physical activity, D- Grade for diet and D- Grade for parental overweight/obesity, D Grade overall. The overall D Grade is slightly more weighted towards data on parental overweight/obesity, which is objectively measured whereas diet and physical activity are self-reported and are, therefore, likely to be overestimated. *Grade is broadly similar to the 2016 report card (though the 2016 card used data on adult norms rather than parental data).*

## 10: Community and Environment *Grade = B-*

**Benchmark:** % of children or parents who report a) having facilities, programmes, parks and playgrounds available to them in their community, b) living in a safe neighbourhood where they can be physically active, c) having well-maintained facilities, parks and playgrounds in their community that are safe to use.

**Rationale:** The Scottish Household Survey 2016 reported that 92% of households with children aged 6-12 years had access to at least one play area within their neighbourhood. 66% of households with children aged 6-12 years felt that it was safe for children to go to a playground in their neighbourhood with 2 or 3 friends and 59% of households felt that it was safe for children to walk/cycle on their own to a playground in their neighbourhood, though perceptions of safety were lower for households in more deprived areas. B- Grade overall, although access is high (A grade), safety is lower and varies by play area and whether child is alone (C+ grade) or with friends (B- grade). *Grade is broadly similar to the 2016 report card.*

## 11. Government *Grade = C*

**Benchmark:** a) Evidence of leadership and commitment in providing physical activity opportunities for all children and youth; b) allocated funds and resources for the implementation of physical activity promotion strategies and initiatives for all children and youth; c) Demonstrated progress through the key stages of public policy making (i.e., policy agenda, policy formation, policy implementation, policy evaluation and decisions about the future).

**Rationale:** There was clear evidence of leadership and commitment to providing physical activity opportunities for children and youth, as Scotland has many relevant policies, strategies and targets in place. However, there was only limited allocation of funds and resources for implementation of policy. Only limited progress through the key stages of public policymaking (policy agenda; policy formation; policy implementation; policy evaluation; decisions about the future) had been demonstrated, with policy efforts generally not extending to policy implementation and evaluation. *Grade is broadly similar to the 2016 report card.*

### Top Three Priorities to Improve the Grades

1. Implement and evaluate existing policies (we have very good national policies but policy implementation and evaluation is more limited).
2. Improve our surveillance of physical activity and related behaviours and outcomes (see 'Summary of Data Sources' document on our website for recommendations)
3. Focus on behaviours (e.g. sedentary behaviour) and groups (e.g. young children, boys) not currently the focus of national policies.

## **Further Information about the 2018 Report Card**

The report card was produced by the University of Strathclyde (Prof John J Reilly; Dr Adrienne Hughes; Dr Farid Bardid; Avril Johnstone) and University of Aberdeen (Prof Geraldine McNeill). The draft grades were reviewed by key stakeholders from a wide range of sectors.

The '*Summary of Data Sources*' (available from our website) provides detailed information on a) the data sources used to grade each indicator and summarises the findings, b) the data sources that were considered but were *not* used for grading and why they were not used, and c) highlights gaps in Scottish data for each indicator.

The 2018 Scottish report card has been compared to report cards from 48 countries in an International Active Healthy Kids Report Card, known as the Global Matrix 3.0 (see [www.activehealthykids.org](http://www.activehealthykids.org)), academic publications are available from our website. The grades for the 2018 Active Healthy Kids Scotland Report Card (summarised above) differ slightly from the Scottish grades included in the Global Matrix 3.0 because the 2018 Scotland Report Card includes a) data for children under 5 years old (whereas the age range for the Global Matrix 3.0 was 5-17 years) and b) additional indicators (diet and obesity).

An academic publication on the Scottish grades included in the Global Matrix 3.0 was published in the Journal of Physical Activity & Health in November 2018 (available from our website).

### **Publications describing the standardised methodology used to develop all report cards:**

1. Reilly JJ, Johnstone A, McNeill G, Hughes AR. Results From Scotland's 2016 Report Card on Physical Activity for Children and Youth. J Phys Act & Health 2016; 13 (suppl 2), s251-s255.
2. Tremblay MS, Barnes JD, González AS, Katzmarzyk PT, Onywera VO, Reilly JJ et al. Global Matrix 2.0: Report Card Grades on the Physical Activity of Children and Youth Comparing 38 Countries. . J Phys Act & Health 2016; 13 (Suppl 2), s343 - s366
3. Colley RC, Brownrigg M, Tremblay MS. The Active Healthy Kids Canada Report Card on Physical Activity for Children and Youth. Health Promot Pract. 2012;13:320–330. PubMed doi:10.1177/1524839911432929

