

# Results From New Zealand's 2014 Report Card on Physical Activity for Children and Youth

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**Background:** This brief report provides grades for the 2014 New Zealand Report Card on Physical Activity for Children and Youth. The Report Card presents a review of current evidence across 9 key indicators, including physical activity (PA), organized sport and free play, sedentary behavior, and community and government initiatives across New Zealand. **Methods:** Nationally representative survey data were collated by researchers at the University of Auckland, New Zealand, between June and December 2013. The grade for each indicator is based on the percentage of children and youth meeting a defined benchmark: *A* is 81%–100%; *B* is 61%–80%; *C* is 41%–60%, *D* is 21%–40%; *F* is 0%–20%; *INC* is incomplete data. **Results:** Overall PA received a score of *B*, as did Organized Sport Participation and Active Play. PA participation in School Environment scored slightly less with a score of *B-*. Sedentary Behaviors, Family and Peers, and Community and Built Environment scored a grade of *C*. Active transportation received a score of *C-*. An inconclusive grade was given for the Government indicator due to a lack of established international criteria for assessment. **Conclusions:** PA participation in New Zealand is satisfactory, but could improve. However, sedentary behavior is high. Of particular concern is the age-related decline in PA participation, particularly among adolescent females, and the increase in sedentary behavior.

**Keywords:** child health, health communication, knowledge translation

Noncommunicable diseases (NCDs) such as cardiovascular disease and diabetes are leading causes of death globally, killing more people each year than all other causes combined.<sup>1</sup> NCDs are also leading causes of death and disability in New Zealand.<sup>2–4</sup> Physical inactivity and sedentary behavior have both been independently implicated as risk factors for NCDs. Children and young people in New Zealand currently live in an environment that has increasing options for sedentary leisure activities and increasing barriers to physical activity (PA) participation.<sup>5,6</sup> There is a need to gather and assess the research on PA to translate research for advocacy, policy and program development purposes. The New Zealand Report Card on Physical Activity for Children and Youth has been prepared and modeled after similar report cards internationally, in particular, the Canadian Report Card released by Active Healthy Kids Canada.<sup>7</sup> The Report Card used available evidence on PA, sport and recreation, and government strategies promoting PA to assign grades to 9 indicators. The 2014 New Zealand Report Card on Physical Activity for Children and Youth summarizes the grades assigned to each indicator and represents a review of current evidence examining PA (including organized sport and free play), sedentary behavior, and community and government initiatives in these areas across New Zealand.

## Methods

The 2014 New Zealand Report card was led by the National Institute for Health Innovation, University of Auckland, in consultation

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with Auckland University of Technology and advice sought on available survey data. Consistent with report cards provided by other countries, 9 key indicators related to PA in children and youth were included. The indicators used were: PA, sedentary behavior, organized sport, active play, active transportation, family and peer influence, school environment, community and the built environment, and government. The grade for each indicator was based on the percentage of children and youth meeting a defined benchmark (as defined by Colley and colleagues:<sup>7</sup> *A* is 81%–100%; *B* is 61%–80%; *C* is 41%–60%, *D* is 21%–40%; *F* is 0%–20%; *INC* is incomplete data. A comprehensive explanation for report card development has been previously published.<sup>7</sup>

Once information was collated, an advisory group met to evaluate the evidence, determine the gaps in the literature, and propose grades for each indicator. Letter grades were assigned based on the percentage of children who were achieving the defined benchmarks. Considerations in assigning grades included quality of available data (eg, self-report versus objective assessment), representativeness of the information (eg, study sample size, geographic region included), trends over time, and presence of disparities across subgroups (eg, differences between age groups, socioeconomic status (SES), ethnicities, and sex). When assigning grades, nationally representative data took precedence; further, objectively measured data were considered in preference to self-reported information. Disparities included, but were not limited to, sex, age, ethnicity, and SES. Where differences existed, separate grades were provided. Each indicator was discussed by the research team until a consensus was reached for an appropriate letter grade. Table 1 provides a description of each indicator and guidelines that were used to assign the grade.

Data to inform the grades for each indicator were limited to the past 8 years and were drawn primarily from the following major sources:

**Table 1 Grades According to Physical Activity Indicator in the 2014 New Zealand Report Card on Physical Activity for Children and Youth**

Indicator	Grades
Overall Physical Activity Levels	B
Sedentary Behaviors	C
Organized Sport Participation	B
Active Play	B
Active Transportation	C-
Family and Peers	C
School Environment	B-
Community and Built Environment	C
Government	INC

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

### A National Survey of Children and Young People's Physical Activity and Dietary Behaviors in New Zealand: 2008–2009<sup>8</sup>

A national survey commissioned by Sport and Recreation New Zealand (now Sport New Zealand) and the Ministries of Health, Education, and Youth Development, was primarily conducted to assess PA, sedentary behaviors, and dietary habits of New Zealand children and youth 5–24 years. Data were collected through an in-home, face-to-face, self-report personal interview, a follow-up self-report phone interview, and accelerometry. Self-report activity data (via Multimedia Activity Recall for Children and Adolescents; MARCA) were collected from all 2493 participants, while objectively-measured daily activity data (via accelerometry) were collected from 1812 of the participants.

### Sport and Recreation in the Lives of Young New Zealanders: NZ Young People's Survey Series<sup>9,10</sup>

Conducted by Sport New Zealand in 2011, the Young People's Survey provided information on sport and recreation participation among children and youth aged 5–18 years ( $n = 17,000$ ). Participants were from randomly selected primary (5–12 years), intermediate (11–12 years), and secondary (13–18 years) schools across New Zealand. Information was collected through a self-completed survey for Year 3 to Year 13 students, while parents completed survey forms on behalf of their Year 1 to Year 2 children. Responses were weighted to provide a representative sample taking into consideration the 2-step selection process and nonresponse. Most findings were presented for 3 age groups: 5–10, 11–14, and 15–18 year olds. Survey forms and methods for each age group are available at the Sport New Zealand website ([www.sportnz.org.nz/yps](http://www.sportnz.org.nz/yps)). The survey measured participation levels as well as when, where, and why young people took part in sport and recreation. Time spent participating in sport and recreation while at school, while training with a coach or participating in a competition, and while “mucking around” with friends, family, or alone was also collected. From these time data, 3 indicators were calculated: (1) time spent in *organized sport* (= time in active physical education + time spent at training or practice with a coach or taking part in competition); (2) time spent on sport and recreation while “*mucking around*” with friends, family, or alone; and (3) overall time spent on *sport and recreation*

(= indicator 1 + indicator 2). Proportions of children spending > 3 hours per week in sport and recreation, < 3 hours per week in sport and recreation, and no time in sport and recreation were presented for each category. Unpublished findings from the survey were also used to assist with the family and peer influence, school, and community indicators.<sup>10</sup>

### KiwiSport Regional Partnership Fund: Activity Report 2009–2013<sup>11</sup>

Launched in 2009, KiwiSport is a joint Government funding initiative between the Ministry of Education and Sport New Zealand and consists of a “direct fund” administered directly through the Ministry of Education, and a “regional partnership fund,” administered for community use by Regional Sport Trusts (who have funds allocated to them via Sport New Zealand). Aims of KiwiSport are to increase the number of school-aged children participating in organized sport, increase the availability and accessibility of sport opportunities for all school-aged children, and support children to develop skills that allow them to participate actively in sport later in life. Participation levels in Kiwisport initiatives were drawn from the 2009–2013 Regional Partnership Fund Activity Report.

### Ministry of Transport's NZ Household Travel Survey<sup>12</sup>

The New Zealand Ministry of Transport surveys have been used to collect household travel patterns since 1989. Data were collected on the modes of transport used for everyday journeys including to work and school. Of the New Zealand households surveyed, the following types of transport to school were used: walking, car passenger/driver, bicycle, public transport, and other. Between 2008–2012, data were collected on 3108 children and youth aged 5–17 years in 5 main regions of New Zealand. A representative sample of 4600 households was included.

### New Zealand Secondary School Sport Census<sup>13</sup>

The New Zealand Secondary School Sports Council (NZSSSC) is an organization established by schools to promote, organize, and protect secondary school sports. Using a census approach, NZSSSC collects information about the number of students representing their

school in sport. The term “representing” refers to having a meaningful engagement in sport in their school setting. “Engagement” covered a range of different ways young people could participate, including the following: representing their school in a specific sport, taking part in an in-school sport opportunity that was at least 6 weeks in duration, playing for a club arranged by the school (because the school had no teams), and participating in sport provided through a Kiwisport initiative. Participation in “one off” in-school events (eg, school athletics, swimming sports, interform/house events) was excluded. The involvement of staff and students in support roles (eg, coach, manager) was also measured. Both number of participations (ie, double counting of participants due to engagement in multiple sports) and individual participant numbers (ie, each participant counted only once) were calculated. Data were analyzed by sex, region and sport code. Trends of participation by individual sport have been examined from 2000–2012.

### **New Zealand Health Survey: Annual Update of Key Findings 2012/13<sup>14</sup>**

Conducted by the Ministry of Health, a continuous survey of face-to-face interviews with results reported annually of over 13,000 adults including parents/caregivers of more than 4000 children aged 5–14 years. The purpose was to identify key issues and monitor trends on the health and well-being of New Zealanders. National results are presented according to age, sex, ethnic group, and level of deprivation.

### **Youth'12 Prevalence Tables: The Health and Wellbeing of New Zealand Secondary School Students in 2012<sup>15</sup>**

This Survey Series examined a wide range of health and well-being topics among high-school students in New Zealand. In particular, the percentage of high school students experiencing risk/protective factors and engagement in health behaviors, and how these proportions have changed over the years. The survey was conducted 3 times (2001, 2007, and 2012). Results from the 2012 survey, carried out by the Adolescent Health Research Group at the University of Auckland were included. The surveys were conducted in schools, delivered on hand-held Internet tablets to over 8500 secondary school students.

## **Results**

The 2014 New Zealand Report Card (Figure 1) is the first PA assessment of its type in New Zealand and will provide a baseline assessment for future Report Cards. Grades for each Report Card indicator are summarized in Table 1.

### **Physical Activity**

The grade of “B” for the PA level indicator was determined using data from the National Survey of Children and Physical Activity,<sup>8</sup> which showed that two-thirds of children met the New Zealand PA guidelines for achieving at least 60 minutes of daily moderate-to-vigorous PA (MVPA) on most days of the week.<sup>16</sup> Almost 100% of children 5–9 years met the PA guidelines, but there was a significant age-related decline with 78% of 10–14 year olds and 32% of 15–19 year olds meeting the guidelines.<sup>8</sup> For adolescents 15–19 years, girls spent 36 minutes per day and boys spent 55 minutes per day in MVPA. There was no disparity between Māori (Indig-



**Figure 1** — Front cover of the 2014 New Zealand Physical Activity Report Card.

enous) and New Zealand European or other ethnicity in terms of PA participation.

### **Sedentary Behavior**

For sedentary behavior a grade of “C” was allocated. The grade was determined using data from the National Survey of Children and Physical Activity<sup>8</sup> and the New Zealand Health Survey.<sup>14</sup> The New Zealand PA guidelines include a recommendation that children and young people should spend less than 2 hours per day watching screens (television, computer, video game, etc.) outside of school hours.<sup>16</sup> Among children 5–9 years, 49% exceeded the recommended screen time guideline and watched TV for  $\geq 2$  hours/day, while the greatest prevalence (59%) was observed among 10- to 14-year-olds.<sup>14</sup> Children and young people spent on average 124 minutes watching TV per day, 22 minutes per day sitting at a computer (outside of school work) and 19 minutes per day playing nonactive video games.<sup>8</sup> There was greater prevalence of screen-based sedentary behavior among Māori, Pacific and those from more deprived areas,<sup>14</sup> which negatively influenced the grade for this indicator.

## Organized Sport

Based predominantly on 2 surveys,<sup>8,9</sup> a grade of “B” was allocated for the organized sport indicator. Approximately 60% of New Zealand children and youth participated in organized sport.<sup>9</sup> However, prevalence was lower across most age groups for girls compared with boys, except for 5- to 9-year-olds.<sup>8</sup> The duration of sports participation declined with age from 42 minutes per day (10–14 years) to 29 minutes per day (15–19 years).<sup>8</sup>

## Active Play

Active play received a grade of “B,” based predominantly on data from 2 surveys.<sup>8,9</sup> Most children and youth (78% of boys and 82% of girls) reported some form of active play “once this year,”<sup>9</sup> and spent, on average, 78 minutes per day in free play.<sup>8</sup> There were no clear differences by sex, but there was an age-related decline in active play.<sup>8,9</sup> The time spent in active play decreased from 140 minutes per day (5–9 years) to 87 minutes per day (10–14 years), followed by 29 minutes per day (15–19 years).<sup>8</sup>

## Active Transportation

A grade of “C-” was allocated to active transportation. The final grade was determined from 3 surveys.<sup>8,12,15</sup> Key findings to inform the grade were that 33% of secondary school students used active transport to or from school 6 out of 7 times in the previous week.<sup>15</sup> The prevalence was higher for children aged 5–14 years.<sup>8</sup> Those who lived in more deprived areas were more likely to actively commute compared with those from least deprived regions.<sup>8</sup>

## Peer and Parental Support

Peer and parental support for child and youth PA participation received a grade of “C,” which was derived from 2 surveys.<sup>10,15</sup> For children 10–15 years, 47% of boys and 50% of girls had a parent or caregiver that encouraged them to take part in PA almost daily or more often during a normal week.<sup>10</sup> The same survey found 19% of boys and 18% of girls aged 10–15 years reported having a parent or caregiver take part in PA with them almost daily or more often during a normal week, while 39% of parents and caregivers of boys aged 5–8 years (36% for girls) reported taking part in PA with their child almost daily or more often.<sup>10</sup> Most parents and caregivers of boys (70%) and girls (62%) aged 5–8 years indicated they encouraged their child to do sport or active things almost daily or more often.<sup>10</sup> In terms of peer support to be physically active, 70% of children and youth who reported receiving high peer support and encouragement were active, compared with 49% of children who reported receiving low peer support and encouragement.<sup>17</sup> In addition, 51% of boys and 40% of girls aged 10–15 years reported doing sport or active things with their friends almost daily.<sup>10</sup>

## School Environment

The school environment has been recognized as an important setting for PA participation. The schools indicator received a grade of “B-”, which reflected a composite of subgrades for physical education (PE) and school sport, B and C, respectively. Grading was derived from 4 surveys. Over 60% of secondary school students participated in PE at schools in the previous 7 days.<sup>15</sup> There also was evidence of Government funding initiatives (primarily KiwiSport) within schools.<sup>11</sup> Data indicated that 53% of high school students participated in school sports, with higher rates among boys (56%)

than girls (49%).<sup>13</sup> Also, 86% of 10- to 14-year-olds reported taking part in 1 or more sport and recreation activities organized by their school.<sup>9</sup> Almost a third of teachers and support staff (29%) were involved in sport, and 16% of teachers coached a school sport team.<sup>13</sup>

## Community and Built Environment

The community and built environment received a grade of “C,” which was based on data from the New Zealand Young People’s Survey and Youth 2000 survey series 2012. Approximately one-half of all children and youth 10 to 15 years reported having access to neighborhood locations in which they could be active.<sup>10</sup> The majority of children had a bicycle (55% of boys, 54% of girls) or other sport equipment (69%) available at home and used them.<sup>10</sup> For children and youth 5–13 years, 80% of boys and 79% of girls had a bicycle and used it.<sup>10</sup> Most parents/caregivers of the younger children (79% of boys, 76% of girls) reported there were enough facilities in their local neighborhood for their child to be active,<sup>10</sup> whereas some secondary school students reported lack of sports facilities in their area (15%) and costs (12%) as barriers to participating in organized sport.<sup>15</sup>

## Government Initiatives

An incomplete grade (“INC”) was given for government initiatives. This indicator was the most difficult to grade due to lack of agreed international criteria for assessment. We focused on obtaining evidence of national level policies, strategies, and allocation of funding, as well as selected regional initiatives. There were a number of government led, sector-based policies, strategies, and funding programs that related to, and impact on child and youth PA levels which included but were not limited to activities in health and injury prevention (eg, Physical Activity Guidelines, Health Promoting Schools); sport and recreation (eg, Kiwisport Partnership Fund, Good Practice Principles for the Provision of Sport and Recreation for Young People, ActivePost); education (eg, Health and PE curriculum, Kiwisport school funding, Guidelines for Sustainable Physical Activity in School Communities, Sport in Education); and transport (eg, model communities [Model communities are urban environments where walking or cycling is offered] and BikeWise). There were also initiatives that focused on volunteers and coaches who were key to making sport and recreation happen across New Zealand. At a regional and local level there were subsidized children’s activities (eg, lower cost swimming pool entry, events and community programs) and many physical activity initiatives (eg, SportStart). In sum, there was evidence of government, regional and local initiatives to promote PA, sport and recreation, but the INC grade reflected the lack of agreed international criteria for assessment.

## Discussion

This is the first PA report card for New Zealand. It provides a synthesis of available evidence on PA among children and youth. This process is important to translate research for advocacy, policy and program development purposes. The main findings can be summarized as follows. Participation of New Zealand children and young people in PA was generally satisfactory, but sedentary behavior was high. Both can be improved. There was a clear age-related decline in PA participation and increase in sedentary behavior with very low levels of PA among adolescent females. Grades for active transportation and the built environment were lower than for other indicators.

## Limitations

Although grades for the 9 indicators in the Report Card were based on the best available evidence, there are limitations to this work. First and foremost, this is the first year New Zealand has generated a Report Card, and as such, there were no baseline grades for comparison. The Report Card included data collected up to 8 years ago, which may or may not reflect current PA levels. Data for this report were based on existing publications or findings, but did not involve additional analyses of these datasets. It is possible that we may not have accessed all available data sources. The final Report Card will be distributed for wider consultation, which may reveal additional data to be included in the future, which may also include additional indicators to better reflect the New Zealand situation.

## Future Work

It is likely that further reviews will be undertaken every 3–5 years. It is hoped that the Report Card will evolve to highlight community success stories and be tailored to better reflect the diverse New Zealand population (ethnicity, geography, age). The establishment of clear international criteria for grading the government indicator would enable assessment of the role of local, regional and national government action to address physical activity and sedentary behavior. In terms of research gaps, future surveys in New Zealand should ideally include more objective assessment of PA and sedentary behaviors (currently being considered as part of a future New Zealand Health Survey module). Such measures should be repeated periodically to permit comparisons over time. Additional research is required to identify successful sustainable programs or approaches that increase PA levels among adolescent girls.

## Conclusion

Overall, PA participation is satisfactory but sedentary behavior is high among children and young people in New Zealand. The age-related decline in PA participation and increase in sedentary behavior are major concerns, as are the very low levels of PA among adolescent females. Increased awareness of the health effects of sedentary behavior together with enhanced opportunities to be active through active transport and through the physical environment in schools and the wider community may help improve activity levels in children and youth growing up in New Zealand.

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