Results from New Zealand's 2018 Report Card on Physical Activity for Children and Youth

Melody Smith, Erika Ikeda, Erica Hinckson, Scott Duncan, Ralph Maddison,
 Kim Meredith-Jones, Caroline Walker, and Sandra Mandic

Introduction

In New Zealand (NZ), 88% of health loss is now caused by non-communicable diseases, in part attributed to low levels of physical activity (PA) and high levels of inactivity, and the downstream impacts of these, including suboptimal blood glucose profiles, body size, and blood pressure.¹ While the NZ 2016 PA Report Card on Physical Activity for Children and Youth² revealed relatively high levels of PA, approximately one-third of NZ children and youth did not meet PA recommendations of ≥ 60 minutes of moderate-to-vigorous physical activity (MVPA) per day. The purpose of this paper is to summarize the methods for grade calculation and results of the 2018 update of the PA Report Card for NZ.

Methods

Ten core indicators common to the Global Matrix 3.0 are outlined in Table 1. National experts in children's PA were identified through their previous involvement in NZ PA Report Cards and recent research in relevant areas and a panel convened. Individual panel members took responsibility for sourcing data and generating grades for discussion with the panel. All panel members contributed to grading indicators through identification of pertinent data sources, and discussion and agreement on the final grades.

Data sources from 2015 to 2018 were identified through academic and grey literature, and online searches between October 2017 and May 2018. Where data were not publically available, authors or organizations were contacted directly to request access to anonymized datasets or summary statistics.

A 3-tier hierarchy for strength of evidence was employed to weight the contribution of data sources to the final grade. Nationally representative datasets (Tier 1) were prioritized. Regional representative datasets or national non-representative datasets were classified as Tier 2, and were used either in the absence of Tier 1 data sets, or to supplement the grades where appropriate. Regional, non-representative datasets were considered Tier 3 and only used either in the absence of Tier 1 or Tier 2 datasets, or where objective data were available in the dataset but not in Tier 1 or Tier 2 datasets.

Results and Discussion

Grades for indicators and rationale for their calculation are presented in Table 1, and the front cover for the report presented in Figure 1. Some indicators benefited from multiple, high quality data sources, while for others little or no data existed. Some datasets and some questions differed from those available when

Figure 1 — New Zealand's 2018 Report Card cover.

Smith is with the School of Nursing, The University of Auckland, Auckland, New Zealand. Ikeda, Duncan, and Hinckson are with the School of Sport & Recreation, Auckland University of Technology, Auckland, New Zealand. Maddison is with the Institute for Physical Activity and Nutrition, Deakin University, Melbourne, Australia and the National Institute for Health Innovation, The University of Auckland, Auckland, New Zealand. Meredith-Jones is with the Department of Medicine, The University of Otago, Dunedin, New Zealand. Walker is with the Centre for Longitudinal Research - He Ara ki Mua and Growing Up in New Zealand, The University of Auckland, Auckland, New Zealand. Mandic is with the School of Physical Education, Sport & Exercise Sciences, The University of Otago, Dunedin, New Zealand. Smith (melody.smith@auckland.ac.nz) is corresponding author.

Table 1 Grades and rationales for New Zealand's 2018 Report Card

Indicator	Grade	Rationale
Overall Physical Activity	D-	The Active NZ Survey showed 7% of 5-17 year-olds accumulate at least 60 minutes of moderate to vigorous physical activity (MVPA) per day through the activity they do for sport, physical education (PE), exercise or fun. ³ Regional datasets using accelerometry indicate 38% of children aged 8-13 years ⁴ and 39% of youth aged 13-18 years ⁵ accumulate at least 60 minutes of MVPA daily.
Organized Sport Participation	B	81% of 5-17 year olds participated in any organized sport (PE or classes at school, competitions/tournaments, and training or practicing with a coach/instructor) in the past 7 days in the Active NZ Survey. ³ A survey of youth aged 13-18 showed 54% of youth had a meaningful engagement in sport in their school setting over a period of 6 weeks or more. ⁶
Active Play	C+	82% of 5-17 year olds in the Active NZ Survey had been active while playing (on their own or with others) in the last 7 days; 30% had been active while playing for at least 7 hours in the last 7 days. ³ The Health and Lifestyles Survey (HLS) showed that 43% of children are allowed to go out on their own in the neighborhood. ⁷
Active Transportation	C-	45% of children and youth aged 5-14 years usually used active transport to school in the NZ Health Survey ⁸ ; the Active NZ Survey showed 43% of children and youth aged 5-17 year olds usually used active transport to and from school. ³ 30% of children aged 5-16 years used active transport to school in the HLS. ⁷ 30% of children aged 5-12 years and 31% of youth aged 13-17 years used active transport to school in the NZ Household Travel Survey. ⁹ 24% of 6 year olds in a longitudinal cohort study usually used active transport to get to and from school (GuiNZ, ¹⁰ unpublished custom analysis).
Sedentary Behaviors	D	9% of youth aged 10-14 years and 16% of children aged 5-9 years in the NZ Health Survey had no more than 2 hours of screen time out of school hours per day. ⁸ The Active NZ Survey showed 21% of 5-17 year olds had no more than 2 hours of screen time out of school hours per day. ³ The HLS showed 61% of 5-16 year-olds had 2 hours or less of television, gaming, or internet use per day. ⁷
Physical Fitness	INC	No current data available.
Family and Peers	C-	22% of adults participating in the Active NZ Survey and who had a person aged <18 years in their household met physical activity guidelines through the activity they did for sport, exercise or recreation. ³ 76% of adults in the Active NZ Survey and who had a young person in their household agreed with the statement "Being physically active together is an important part of our family life." ³ 27% of parents/caregivers in the HLS reported meeting the activity guidelines. ⁷
School	B-	Active school policies are provided by numerous organizations. ^{11,12} PE is compulsory for students in Years 1-10 (ages 5-15). In secondary schools, 25% of students (ages 13-18) enrolled in Health and PE. ¹³ The NZ Secondary School Sports Census showed 54% students were involved in sports.
Community and Environment	B	All six major NZ cities had: a) policies/strategies about cycling and walking embedded in their broader transport strategies, b) policies to increase cycling, walking and PA, c) strong engagement with the wider community, and d) programs/activities to promote and support cycling and walking among their residents. ¹⁴ On average, 13.6% of the total roads across the six NZ cities had cycling infrastructure (4.4% in Auckland ¹⁴) and 70.2% of streets had footpaths with considerable variability between the cities. In Auckland, 39% of residents lived within five minutes' walk of a suburb park and 60% of adults perceived their neighborhoods to be safe at night. ¹⁵ In the national State of Play Survey 26.8% of NZ parents believed independent roaming does not expose children to the risk of road accidents and 40.1% believed that children who independently roam their neighborhood are not likely to encounter ill-intentioned adults. ¹⁶
Government	B+	According to the Ministry of Health, Childhood Obesity Action Plan, the results for December 2017 have not been released yet however in the quarter prior the final results, 90.9% of obese children were referred to a health professional which was an increase of 5.2% from the previous quarter. ¹¹ This shows good progress towards the final goal and if the trend continues the same path it can be assumed that the target will be met. In 2016/2017, 2.1 million dollars was allocated to 10 district health boards in order to provide better nutrition and activity programs to families, in order to support the Raising Healthy Kids Target. Sport NZ have identified in their most recent strategic plan (2015-2020) that they aim to allocate more funds to increasing the participation of youths in sport in both low participation and declining participation areas with an expected increase of 3% overall in participation by 2020. Sport in Education program expansion, while there was clear intention to expand the program into more schools the only information that seems to be currently available is revolved around the 8 schools used in the 2012-2015 project with no clear information regarding an expansion of the project. Overall there has been some progress but not in all initiatives.

Note: Grades for each indicator were based on the percentage of children and youth aged 5 to 18 years meeting a defined benchmark: A+ is 94 to 100%, A is 87 to 93%, A- is 80 to 86%, B+ is 74 to 79%, B is 67 to 73%, B- is 60 to 66%, C+ is 54 to 59%, C is 47 to 53%, C- is 40 to 46%, D+ is 34 to 39%, D is 27-33%, D- is 20 to 26%, F is <20%, and INC is incomplete/insufficient data.

generating the 2016 card, limiting direct comparability over time. The panel identified a need for regular nationally representative surveys that capture standardized measures of important PA indicators to gain high quality evidence for the current state of PA, as well as to identify meaningful trends.

Conclusion

NZ children and youth have low levels of PA and high levels of screen time. Substantial support for PA exists at the governmental/policy level, as well as within school, community, and environment

settings. Future initiatives should consider opportunities to build on the existing support systems and develop effective interventions to encourage PA, active transportation, active play and family and peer support, and reduce screen time in children and youth.

Acknowledgements

The team would like to acknowledge the support of the following individuals in providing data and advice regarding datasets used in this report: Janette Brocklesby, Glen McCarty, Justin Richards and Scott McKenzie (Sport New Zealand), Kris Mayo, Megan Walker and Anna Kean (Nielsen), Jennifer McSaveney and Stephanie Dorne (Ministry of Transport), Harriette Carr and Martin Dutton (Ministry of Health). The Report Card was designed by Dr Lisa Williams (University of Auckland). Melody Smith is supported by a Health Research Council of New Zealand Sir Charles Hercus Research Fellowship (17/013).

References

1. Ministry of Health. *Health Loss in New Zealand 1990–2013: A report from the New Zealand Burden of Diseases, Injuries and Risk Factors Study*. Wellington, New Zealand: Author; 2016.
2. Maddison R, Marsh S, Hinckson E, et al. Results from New Zealand's 2016 report card on physical activity for children and youth. *J Phys Act Health*. 2016;13(11 suppl 2):S225–S230. doi:10.1123/jpah.2016-0323
3. Sport New Zealand. *Active NZ and Active NZ Young People*. Wellington, New Zealand: Author; 2018.
4. Oliver M, McPhee J, Carroll P, et al. Neighbourhoods for Active Kids: Study protocol for a cross-sectional examination of neighbourhood features and children's physical activity, active travel, independent mobility, and body size. *BMJ Open*. 2016;6(8):e013377. doi:10.1136/bmjopen-2016-013377
5. Mandic S, Williams J, Moore A, et al. Built Environment and Active Transport to School (BEATS) Study: protocol for a cross-sectional study. *BMJ Open*. 2016;6(5):e011196. doi:10.1136/bmjopen-2016-011196
6. New Zealand Secondary Schools Sports Council. *NZSSSC Representation Census 2017*. 2017. <http://www.nzsssc.org.nz/nzsssc-census-data/nzsssc-census-reports>.
7. Health Promotion Agency. *2016 Health and Lifestyles Survey: Methodology Report*. Wellington, New Zealand: Health Promotion Agency; 2017.
8. Ministry of Health. *Annual Update of Key Results 2016/17: New Zealand Health Survey*. Author; 2017. https://minhealthnz.shinyapps.io/nz-health-survey-2016-17-annual-data-explorer/_w_b950b579/-!/home.
9. Ministry of Transport. *Household Travel Survey*. 2018. <https://www.transport.govt.nz/resources/household-travel-survey/>. Accessed June 18, 2018.
10. Morton SMB, Atatoa Carr PE, Bandara DK, et al. *Growing Up in New Zealand: A Longitudinal Study of New Zealand Children and Their Families. Report 1: Before We Are Born*. Auckland, New Zealand: Growing Up in New Zealand, University of Auckland; 2010.
11. Ministry of Health. *Childhood Obesity Plan*. 2018. <https://www.health.govt.nz/our-work/diseases-and-conditions/obesity/childhood-obesity-plan>. Accessed May 1, 2018.
12. Sport New Zealand. *Sport in Education Project*. 2017. <https://sportnz.org.nz/managing-sport/search-for-a-resource/programmes-and-projects/sport-in-education-project->. Accessed May 1, 2018.
13. Ministry of Education. *Education Counts. Subject Enrolment*. 2017. <https://www.educationcounts.govt.nz/statistics/schooling/student-numbers/subject-enrolment>. Accessed May 1, 2018.
14. Shaw C, Russell M. *Benchmarking Cycling and Walking in Six New Zealand Cities. Pilot study 2015*. Wellington, New Zealand: New Zealand Centre for Sustainable Cities, University of Otago; 2016.
15. Eichler N, Mehta S. *Monitoring Report 2017*. Auckland, New Zealand: Healthy Auckland Together; 2017.
16. Duncan S, McPhee J. *State of Play Survey - Executive Report*. Auckland, New Zealand: Auckland University of Technology; 2015.