Results From Canada's 2014 Report Card on Physical Activity for Children and Youth

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Background: The Active Healthy Kids Canada (AHKC) Report Card consolidates and translates research and assesses how Canada is being responsible in providing physical activity opportunities for children (3- to 11-years-old) and youth (12- to 17-years-old). The primary aim of this article is to summarize the results of the 2014 AHKC 10th Anniversary Report Card. **Methods:** Ten physical activity indicators were graded using the AHKC Report Card development process, which includes a synthesis of the best available research, surveillance, policy and practice findings, and expert consensus. **Results:** Grades assigned were for: 'Behaviors that Contribute to Overall Physical Activity Levels' (Overall Physical Activity Levels, D-; Organized Sport Participation, C+; Active Play, INCOMPLETE; Active Transportation, D; Sedentary Behaviors, F), 'Settings and Sources of Influence' (Family and Peers, C; School, C+; and Community and the Built Environment, B+), and 'Strategies and Investments' (Government Strategies and Investments, C; and Non-Government Strategies and Investments, A-). **Conclusions:** Despite good availability of policies, programs, and infrastructure, the overall physical activity levels of Canadian children and youth remain low while sedentary behavior levels remain high. As with many nations, there is room for improvement in most physical activity behaviors and some sources of influence.

Keywords: advocacy, policy, health communication, child health, knowledge translation

The amount of evidence to guide action on physical activity and sedentary behaviors among children (ie, preschoolers aged 3–4 years; school aged children aged 5–11 years) and youth (aged 12–17 years) has proliferated in the past decade. Despite the growing body of evidence highlighting the economic and adverse health outcomes of physical inactivity and sedentary behaviors (ie, seated behaviors in which one maintains a low-energy-expenditure of less than or equal to 1.5 metabolic equivalents¹), these behaviors remain at unhealthy levels among school-aged children and youth in Canada^{2,3} and across the globe.⁴ According to the Canadian Institutes of Health Research,⁵ a focus on knowledge translation, described as a process of knowledge synthesis, dissemination, exchange, and application, is required to move evidence to action.

Active Healthy Kids Canada (AHKC) was established as a national charitable organization in 1994 to 'power the movement to get kids moving'.⁶ First released in 2005, the annual AHKC Report Card on Physical Activity for Children and Youth serves as a "state of the nation," reflecting a synthesis of the most up to date evidence on how Canada is being responsible in providing physical activity opportunities for children and youth. Primarily informed by major nationally representative surveys, the Report Card has served to increase awareness and advance knowledge about Canada's physical inactivity crisis.⁶ While increasing knowledge and awareness of the physical inactivity crisis has been insufficient to catalyze significant population level behavior improvements, the Report Card has had a demonstrable influence on the development of policies, programs, campaigns, and investments designed to enhance opportunities for children and youth to participate in physical activities.⁷

The primary aim of this paper is to summarize the results of the 2014 AHKC Report Card.⁸ Since 2014 is the 10th anniversary of the AHKC Report Card, a secondary aim is to reflect on grades over the last decade. The research synthesized in the AHKC Report Card should be considered within certain contextual realities. Canada is composed of 10 provinces and 3 territories that are distinct in terms of physical and cultural composition. Canada covers 9.98 million km², however, at just over 35 million people, Canadians make up just 0.5% of the world's population.⁹ Canada has 2 official languages (French and English), and is considered a cultural mosaic, influenced by the immigrants who have settled here.¹⁰ Canada is a circumpolar country that has a continental climate with 4 distinct seasons with a wide annual temperature range (eg, –40° C to +40° C, depending on the location in Canada).

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Methods

The 2014 AHKC Report Card⁸ (www.activehealthykids.ca) was developed in collaboration with the Healthy Active Living and Obesity Research Group at the Children's Hospital of Eastern Ontario Research Institute (HALO; www.haloresearch.ca), ParticipACTION (www.participaction.com), and an invited Research Work Group composed of Canadian researchers and policy experts. Full details on the Report Card development process and the roles of the development team have been previously described.^{6,11,12}

To achieve consistency among the countries contributing to a Global Matrix of Report Card Grades,¹³ AHKC selected a priori 9 physical activity indicators for the 2014 Report Card (see Table 1). The Research Work Group decided to include an additional indicator (Non-Government Strategies and Investments) to acknowledge the substantial contributions of the nongovernment sector (eg, charitable organizations, corporations, and volunteers) to the provision of sport and physical activity opportunities for children in Canada. The 10 indicators cluster under several categories, 'Behaviors that Contribute to Overall Physical Activity Levels' (ie, Overall Physical Activity, Organized Sport Participation, Active Play, Active Transportation, Sedentary Behavior), 'Settings and Sources of Influence' (ie, Family & Peers, School, Community & the Built Environment), and 'Strategies & Investments' (Government Strategies & Investments, Non-Government Strategies & Investments).

Following previous practice,⁶ grades were assigned by consensus among experts who comprised the Research Work Group. Grades were primarily informed by the most recent cycle of major nationally representative surveys including Canadian Health Measures Survey (2007–11 CHMS, Statistics Canada);¹⁴ Canadian Physical Activity Levels Among Youth survey (2011–12 CANPLAY, Canadian Fitness and Lifestyle Research Institute [CFLRI]);¹⁵ Physical Activity Monitor (2010–11 PAM, CFLRI);¹⁵ Opportunities for Physical Activity at School Survey (2011 OPASS, CFLRI);¹⁵ and the Health Behaviour in School-Aged Children Survey (2009–10 HBSC).¹⁶ Where new data were not released since the previous

report card the strongest and most recent data available were used to grade the indicator, leaving the grade unchanged from the previous year.

The grading scheme for each indicator was as follows: A, we are succeeding with a large majority of children and youth (81%–100%); B, we are succeeding with well over half of children and youth (61%–80%); C, we are succeeding with about half of children and youth (41%–60%); D, we are succeeding with less than half, but some, children and youth (21%–40%); F, we are succeeding with very few children and youth (0%–20%).

Results

The grades assigned for the 2014 AHKC Report Card are summarized in Table 1 and the front cover is illustrated in Figure 1. Results are discussed herein on a grade by grade basis. While 'Settings and Sources of Influence' and 'Strategies and Investments' have somewhat improved over the last 10 years, 'Behaviors that Contribute to Overall Physical Activity Levels' remain low.

Overall Physical Activity Levels: D-

Current objective data show that only 5% of school-aged children and youth in Canada met the recommendation of at least 60 minutes of moderate to vigorous-intensity physical activity (MVPA) on a daily basis (CHMS 2009 to 11).^{3,17} In sharp contrast, 84% of preschoolers met the Canadian Physical Activity Guidelines for the Early Years, which recommends at least 180 minutes per day of physical activity of any intensity and progressing toward at least 60 minutes per day of energetic play by the age of 5 (2009–11 CHMS).^{18,19} The development of guidelines specific to 3- to 4-year-olds, and data that show children in this age range achieve recommended levels of physical activity, was deemed by the Research Work Group to warrant an increase from an F (2007–2012) to a D- in 2013. In the absence of newer evidence the grade was not changed in the 2014 Report Card.

Table 1 Grades According to Physical Activity Indicator in the 2014 AHKC 10th Anniversary Report Card on Physical Activity for Children and Youth

Indicator	Grades
Overall Physical Activity Level	D-
Organized Sport Participation	C+
Active Play	INC
Active Transportation	D
Sedentary Behaviors	F
Family and Peers	C
Community and the Built Environment	B+
School	C+
Government Strategies and Investments	C
Non-Government Strategies and Investments	A-

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.

Figure 1 — Front cover of the 2014 Active Healthy Kids Canada 10th Anniversary Report Card on Physical Activity for Children and Youth.

Organized Sport Participation: C+

According to recently released parent-reported data from CFLRI (2011–12 CANPLAY), 75% of school-aged children and youth participated in organized physical activity and sport during the previous 12 months,²⁰ which was consistent with previous years of CFLRI data (2009–11 CANPLAY).²¹ Participation decreased substantially with age. 83% of 5- to 10-year-olds participated in sport compared with 61% among 15- to 19-year-olds.²⁰ The well-established socioeconomic gradient noted in all previous report cards remained evident and had not changed over time.^{20,21} While these data provide an indication of participation rates, information about the extent of participation was lacking for previous report cards. New analyses from CFLRI (2010–11 PAM) specified the parent-reported frequency of sport participation per week among 5- to 17-year-olds; 34% participated 4 or more times per week, 50% participated 2–3 times per week, 14% participated

1–2 times per week, and 3% participated less often or variably.²² The data indicated good weekly participation rates for children and youth during the months in which they participated in sport (72% of children and youth participated in sport at least 8 months of the year),²² justifying the increase from a C in 2013 to a C+ in 2014.

Active Play: Incomplete

For the fourth year since appearing in the 2008 Report Card, sufficient data were lacking to assign a grade on Active Play (no clear benchmark or surveillance mechanism in place). When a grade was assigned (2010–2012), Active Play was graded an F. More research is needed to determine if Canada is still failing to engage children and youth in unstructured active play for several hours a day. Active Play will remain difficult to grade in the absence of a recognized benchmark for recommended amounts of active play

among children and a valid and reliable measurement in our systematic surveillance systems.

Active Transportation: D

According to parents (2010–11 PAM, CFLRI), 24% of children and youth in Canada used only active modes of transportation to get to/from school. A further 62% used only inactive modes, representing a significant increase since 2000.²³ This marks 8 consecutive years since 2006 that the grade is in the D range (note: Active Transportation was not graded in 2007).

Sedentary Behaviors: F

The Canadian Sedentary Behaviour Guidelines recommend engaging in less than 1 hour of screen time per day for children in the early years (ages 3–4 years),²⁴ and 2 hours of screen time or less per day for school-aged children and youth (ages 5–17 years).²⁵ According to 2009–11 CHMS parent reported data graded in the 2013 Report Card, 18% of 3- to 4-year-olds met the early years guidelines,¹⁸ 69% of 5- to 11-year-olds met the guidelines for children, and 31% of 12- to 17-year-olds met the guidelines for youth.² Other national self-report surveys reported low adherence to recommendations, with 19% of 10- to 16-year-olds (2009–10 HBSC)¹⁶ and 11% of grade 9–12 students (2010–11 YSS)²⁶ meeting Canadian guidelines for children and youth.²⁵ Age and gender disparities (2011–12 CANPLAY, 2009–10 HBSC) also contributed to the overall failing grade in 2014.^{16,27} This is the 6th consecutive year this indicator has been graded an F.

Family and Peers: C

New parental report data (2010–11 PAM, CFLRI) showed that 37% of parents played active games with their children often or very often, 79% contributed financially to their children's physical activities, 64% took them to physical activities often or very often, 21% volunteered at their school, and 37% volunteered outside of school for their children's physical activities and/or sports over the past year.²⁸ Objective data showed that most adults of parenting age (19% of 18- to 39-year-olds and 13% of 40- to 59-year-olds) failed to meet the Canadian Physical Activity Guidelines for Adults (at least 150 minutes of weekly MVPA)^{17,29} indicating a need to improve modeling behaviors. Peer influence on physical activity of friends remains a research gap. The family and peers indicator has evolved over the years, reflecting the variety of avenues through which families, parents, and peers may contribute to the physical activity of children and youth. While indicators related to the influence of parents and the family have consistently received grades in the C to D range, the 'Peer Influence' indicator has received an incomplete grade each year since being added to the Report Card in 2009.

School Grade: C+

According to parents, 52% of 5- to 17-year-olds participated in sport and/or physical activity programs at school (2010 PAM, CFLRI).³⁰ Infrastructure for school physical activity appears to be strong in this country, with school administrators reporting that students have regular access to a gymnasium (95%), playing fields (91%), and areas with playground equipment (73%) during school hours (2011 OPASS, CFLRI).³¹ There is, however, room to improve the implementation of school physical activity policies. As graded in 2013, schools reported having fully implemented policies to support daily physical education for all students (55%), to provide daily recess

(83%), and to hire teachers with a university teaching qualification to teach physical education (45%).³² In previous Report Cards, school policy, sport and physical activity opportunities at school, and school infrastructure and equipment were graded as separate indicators. Regardless of grouping, school-related indicators have remained consistently in the B to C range over the years.

Community and the Built Environment: B+

The proportion of Canadian parents who indicated availability of parks and outdoor spaces (95%), and local public facilities and programs (94%) where their children could be active was very high (2010–11 PAM, CFLRI).³³ Further, 63% of parents indicated availability of commercial facilities and programs where their children could be active (2010–11 PAM, CFLRI).³³

Government Strategies and Investments: C

There is evidence of increased engagement and investment from the federal, provincial, and territorial governments despite ongoing, tenuous economic conditions. For example, renewal of the Canadian Sport Policy (www.pch.gc.ca/eng/1358351890624/1358352054107) and demonstrated commitment, planning, and action to advance the Federal/Provincial/Territorial Framework on Healthy Weights (www.phn-rsp.ca/thcpr-vcpsre-2013/index-eng.php) are encouraging developments. Although this was evidence of progress through the stages of policy making, this grade remains a C due to persistence of problems with the implementation of spending (eg, in its current form the Canadian Fitness Tax Credit does not meet the needs of most Canadian families³⁴).

Non-Government Strategies and Investments: A-

There is evidence of increased leadership and commitment from traditional and nontraditional private and Non-Government Organization (NGO) sectors to develop strategies and allocate funds to increase physical activity opportunities for children and youth. For example, The Royal Bank of Canada Learn to Play Project has committed \$750,000 in 2014,³⁵ Canadian Tire Jumpstart Charities have invested \$65 million since 2005,³⁶ and George Weston Limited invested \$1.2 million through the Wonder+ Cares Healthy Active Kids Grant Program since 2012,³⁷ with all funds dedicated to programs and initiatives that aim to enhance physical activity programming for children and youth. As a whole, NGOs have given greater recognition to the physical inactivity and obesity crisis than in the past, warranting an increased grade from the B+ assigned in 2013. However, coherence of activities among organizations and sectors is somewhat more fragmented rather than complementary.

Discussion

The results of the 2014 AHKC Report Card demonstrate that the majority of Canadian children and youth are not meeting the Canadian Physical Activity and Sedentary Behaviour Guidelines for their age groups. According to the best available evidence, Canadian school-aged children and youth are not meeting the physical activity recommendation of engaging in at least 60 minutes of MVPA daily, although some are approaching the standard.^{2,3,17} Further, few school-aged children appear to be meeting the sedentary behavior recommendation of 2 hours or less of screen time (2009–11 CHMS).^{2,25} Most Canadian jurisdictions have made physical activity a public health priority, and incremental advances in the support of

physical activity opportunities in Canada over the past decade (eg, improved government attention on physical inactivity, increased investment from NGOs, and increased school physical activity policies and infrastructure) are promising.

Each year the AHKC Report Card includes a cover story to advance knowledge and motivate directed action to enhance physical activity levels of children and youth. The 2014 cover story examined the AHKC Report Card results in an international context. The cover story is inspired by AHKC's leadership in a global collaboration to develop a Global Matrix of Grades¹³ to be presented at the Global Summit on the Physical Activity of Children in May 2014.³⁸ When research studies around the world have measured physical activity objectively, results consistently showed that children and youth failed to achieve recommended levels of daily physical activity.^{2-4,13,39} Recently published global comparison data indicated that overall Canadian children ranked as approximately average relative to children and youth in other nations examined.^{4,39} For instance, among youth from 105 countries, only 20% of 13- to 15-year-old Canadian youth reported that they achieved recommended levels of daily MVPA, which placed Canadian youth as approximately average globally.⁴ In a recent international report based on 39 countries (2009–10 HBSC), a greater percentage of Canadian 13- and 15-year-olds reported engaging in recommended levels of daily MVPA relative to peers for each age and gender group. However, observed differences among countries were not large and all data reflected inadequate physical activity levels.³⁹

Replication of the Report Card process in other jurisdictions around the world in time for the 2014 Global Summit on the Physical Activity of Children³⁸ provides an opportunity to discuss Canada's status relative to other nations. Canada's overall physical activity grade was the same or similar to other high-income countries from the Global Matrix findings, but was noticeably lower than grades reported for low-middle-income countries, such as those in Africa.¹³ Active transportation grades in Canada were also lower than those observed in several other countries.¹³ Nevertheless, indicators related to the school and built environment in Canada were better than many other countries.¹³ The networks developed through the creation of the Global Matrix of Grades can be used to explore variation in grades across countries in an effort to unravel the relative influence of the various settings and sources of influence on the healthy active living behaviors of children and youth.

Research Gaps

Each year gaps in the literature are uncovered during the development of the AHKC Report Card. In 2014, Active Play was assigned an incomplete grade due to a lack of an evidence-based benchmark and quantifiable data. The sector-led initiative to develop a national physical activity strategy for Canada, Active Canada 20/20 (for more details visit: www.activecanada2020.ca), has resulted in the creation of an active play action group, which indicates that there is an agreement within the sector that promoting active play is a priority. However, the current lack of clarity in defining and measuring active play, as well as a poor understanding of the determinants and health outcomes of this behavior poses problems for intervention development and evaluation. Further research is required before an evidence based benchmark can be established to grade this indicator. Efforts to resolve this deficiency must be approached with caution because of the potential of 'instrumentalizing' play by focusing on the physical health benefits of play and disregarding the many important developmental and social benefits.⁴⁰

Research on sedentary behavior may be further developed than it is for active play, but the current state of understanding of

the relationship between sedentary behavior and health indicators is primarily related to screen-time. As such, the benchmark for the Sedentary Behavior indicator is based solely on screen time, even though this behavior comprises a fraction of total sedentary time among children and youth. To advance research in this area, methodologies to assess nonscreen based sedentary behaviors are needed so that the effects of screen-based and non-screen-based sedentary behaviors on health indicators can be differentiated.

Although the Family & Peers indicator was assigned a grade in 2014, the grade was informed solely by family-based data. As a standalone indicator, 'Peer Influence' received an incomplete grade each year. There are no national or regional data which permit the quantification of the influence of peers on physical activity levels of children and youth. How to best measure this construct, particularly at a population level, is a major research gap.

Data were sufficient to inform the grading of the remaining 8 Report Card indicators in 2014. Yet, important research gaps identified over the years persist today. Several have been elevated to global importance by 2 independent panels of international physical activity experts that engaged in a Delphi process led by the University of South Australia.⁴¹ Twenty-nine research priorities for the next decade emerged from the Delphi panel findings. Ranked in terms of importance, the experts identified 3 top research priorities: (1) effective and sustainable interventions to affect long-term increases in children's physical activity behavior; (2) the influence of policy and environmental changes on physical activity and sedentary behaviors; and (3) prospective, longitudinal studies of the independent effects of physical activity and sedentary behavior on health.⁴¹

Recommendations to Improve the Grades

AHKC has a mandate to inform and advise policy makers, practitioners, and educators through the production of the Report Card. Between 2008 and 2013 the Research Work Group has offered evidence-guided recommendations to help identify where efforts can best influence the physical activity levels of children and youth, which in turn could ultimately improve future Report Card grades. A number of messages and themes have been repeated over the years as they represent areas gauged by the Research Work Group to be of highest priority and potential impact. These are highlighted in the following paragraphs as organized by target audience.

Past recommendations targeting policy makers applied to governments and NGOs. At all levels, governments should develop a common action plan based on the recommendations set out in Active Canada 20/20, and provide financial support for its implementation and evaluation (to see recommendations visit: www.activecanada2020.ca). Salient recommendations at the municipal level highlighted the need to consider active transportation before building new developments and to invest in maintaining and improving public parks to create family friendly places (eg, add child-friendly features, natural elements, and activities relevant to immigrant populations). Policies and programs should be provided to influence physical activity in schools, support for, and evaluation of compliance to physical education and daily physical activity. School districts should elevate the priority and accountability for the implementation of quality daily physical education and should mandate the employment of physical education specialists for all grade levels. At the NGO level, community organizations from across sectors should collaborate to ensure alignment and sustainability of emerging strategies and investments, and to develop policies that identify and share community assets for physical activity.

Past recommendations targeting primarily municipal parks and recreation practitioners acknowledged that physical activity

interventions often reached those who already have support to be physically active rather than those most in need. Practitioners should increase awareness of physical activity programming among families as to what is available in their own communities. These programs should target groups of children and youth experiencing the greatest disparities including adolescent girls, those residing in an Aboriginal community, those living with a disability, and those from a low income family or low-education household. Creativity among recreational programmers in designing programs that accommodate various family needs should be encouraged. Coaches and program leaders should organize practices to decrease idle time and increase MVPA, without taking away from the need to focus on skill development. A movement to bring physical activity programming into neighborhoods where families live should be studied in contrast to building bigger and better centralized facilities where children must congregate to participate. The higher level of activity and lower level of built infrastructure observed in the poorer countries participating in the global matrix¹³ substantiate the potential of this approach.

Past recommendations to educators focused on curriculum and classroom management, and the role of the school community in creating safe active transportation environments. The need to maximize the amount of time children and youth spend engaged in MVPA during and outside of physical education class using novel curricula was stressed; improvements need to be made that create more purposeful play opportunities that break-up sedentary time. All school communities should develop and implement a plan to encourage safe and active modes of school travel in the context of local barriers and facilitators.

Future Directions

Several major events (ie, the 2014 Global Summit on the Physical Activity of Children, and the release of the AHKC 10th anniversary Report Card, multiple international Report Cards and the Global Matrix of Report Card Grades, and the inaugural meeting of the Global Active Healthy Kids Coalition) occurring in 2014 provide a valuable opportunity to reflect on the last 10 years of the AHKC Report Card and related knowledge translation activities, and to learn from other countries in the early years of their respective Report Cards. Moving forward, AHKC will consult with Canadian researchers, knowledge users, and issue stakeholders to reexamine the Report Card framework, indicators, and processes. Through these planned consultations AHKC endeavors to reflect the current state of physical activity research and knowledge needs to enhance policies, programs, campaigns, and investments to increase physical activity of Canadian children and youth.

Conclusion

Although availability of policies, programs and infrastructure (ie, facilities) is good, the 2014 AHKC Report Card on Physical Activity for Children and Youth indicates, once again, low overall physical activity levels and high levels of sedentary behaviors among Canadian children and youth. Insights from other countries provided through the Global Matrix of Grades provide new evidence and potential opportunities for Canada to develop creative solutions to power the movement to get kids moving.

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