

Older But Not Wiser Canada's Future At Risk

Canada's Report Card on Physical Activity for Children & Youth – 2007

“I just can’t help but make a comment after hearing on the news tonight that once again Canada received a D (in physical activity). This is extremely alarming to me. Just today, at our schools track meet, my husband and I were discussing how many kids were actually WALKING in the long distance race. We couldn’t believe it – we see it every day, kids are just not in good physical condition, even those who are not over weight.”

CONCERNED CANADIAN PARENT (MAY 26TH, 2006)

Active Healthy Kids Canada was established as a charitable organization in 1994 to advocate the importance of physical activity for children and youth where they live, learn, and play. As a national leader in this area, Active Healthy Kids Canada provides expertise and direction to decision-makers at all levels, from policy-makers to parents, in order to increase the attention given to, investment in, and effective implementation of physical activity opportunities for all Canadian children and youth.

Acknowledgements

On behalf of Active Healthy Kids Canada, we thank all those who have contributed to the development of the 2007 Canada's Report Card on Physical Activity for Children and Youth. Contributors are recognized below in alphabetical order:

Mike Arthur	Nova Scotia Department of Health Promotion and Protection
Ian Bird	Sport Matters
Michelle Brownrigg	Consultant
Cora Craig	Canadian Fitness and Lifestyle Research Institute
Rachel Deans	Active Healthy Kids Canada
Judith Down	Alberta Centre for Active Living
Nancy Dubois	Coalition for Active Living
Diane Finegood	Canadian Institutes of Health Research
Lise Gauvin	University of Montreal
Jane Gray	First Nations Centre at the National Aboriginal Health Organization
Thida Ith	Dietitians of Canada
Ian Janssen	Queen's University
Pam Jolliffe	Boys and Girls Clubs of Canada
Bryna Kopelow	Action Schools! BC
Karin Lofstrom	Canadian Association for Advancement of Women in Sport and Physical Activity
Steve Manske	University of Waterloo
Louise Mâsse	University of British Columbia
Patti-Jean Naylor	University of Victoria
Cyndy Neilly	Canadian Diabetes Association
Art Quinney	University of Alberta
Greg Reid	University of Montreal
Stephen Samis	Heart and Stroke Foundation of Canada
John Spence	University of Alberta
Agata Stypka	York University
Mark Tremblay	Children's Hospital of Eastern Ontario
Joanne Trudeau	Kellogg's Canada Inc.
Doug Willms	University of New Brunswick

We also gratefully acknowledge the financial support received for the 2007 Report Card from Kellogg Canada, the Heart and Stroke Foundation of Canada, The Lawson Foundation, and the Canadian Institutes of Health Research – Institute of Population and Public Health.



Table of Contents

Report Card Time: Looking Back and Looking Forward	4
• 2006 Report Card Recommendations for Action	
• How are we doing one year later?	
Report Card Categories and Indicators: Where Do We Stand in 2007?	5
Physical Activity and the Health of Canada's Children and Youth	6
• Physical Activity and Inactivity	
- Physical Activity Levels	
- Screen Time	
- Sport Participation	
• Health	13
- Overweight and Obesity	
- Overall Physical Well-Being and Psychosocial Development	
• Societal Influences on Physical Activity	15
- Family	
- Family Perceptions and Roles Regarding Physical Activity	
• School and Community	18
- Physical Activity Programming at School	
- Social Support for Physical Activity at School	
- Training of School Personnel	
- Community Facilities and Programs: Access and Use	
- Community Parks and Outdoor Spaces: Access and Use	
• Policy and Investments	22
- Progress on Government Strategies and Investments	
- Sector Investments in Research, Industry, Foundations	
• Moving Forward: Key Recommendations in 2007	25
2007 Overall Grade	27
Appendix	
• The Standing Committee on Health Report Recommendations, March 2007	28
• Research Methodology, Primary Data Sources, the 2007 Report Card Development Process, and Historical Overview	30
• Acronyms and Definitions	34
References	36



Report Card Time: Looking Back and Looking Forward

The 2007 Canada's Report Card on Physical Activity for Children and Youth, conducted by Active Healthy Kids Canada, is the third annual overview of key indicators in relation to the physical activity levels of Canada's young people. Each year, the goal is to further evolve the Report Card in providing an annual comprehensive assessment of physical activity for children and youth.

The 2007 Report Card examines indicators that involve assessment of actual physical activity levels, and the health and well-being issues associated with those physical activity levels, among Canadian children and youth. It also looks at the role of societal influences that can facilitate or inhibit physical activity, including family, school, community, government and others.

Recognizing that the responsibility to improve the grades of the Report Card indicators cannot be accomplished by one organization, community or individual alone, Active Healthy Kids Canada is committed to working in partnership with all levels of government, non-government organizations, researchers, corporations and foundations, in a collaborative effort to keep Canada's kids active, healthy and happy.

The knowledge and insight gained from each annual Report Card is disseminated nationwide through media, stakeholder networks, and direct mail to practitioners, policy-makers and researchers. Our hope is that this will support effective program and message development as well as enhanced policy creation and implementation, and identify areas that require further research and monitoring.

2006 REPORT CARD RECOMMENDATIONS FOR ACTION

The 2006 Report Card provided not only grade assessments, but also identified three key Recommendations for Action involving support across government, non-government and corporate sectors in an aim to improve Report Card grades in the short term and over time. These recommendations included:

- Develop a multi-faceted public awareness initiative directed at parents and caregivers to re-establish the importance of unstructured physical activity and “play” among families;
- Support the implementation and evaluation of school-based daily physical activity policies as well as consistent delivery of quality health and physical education classes in all provinces; and
- Encourage kids to step away from the screen, and replace sedentary TV and computer leisure time with physical activity.

How are we doing one year later?

There have been some interesting developments over the last year. Funding for a new ParticipACTION has been announced^{1,2}, which has identified children and youth as one of its key target groups. The Standing Committee on Health has recommended that the federal government should “establish a comprehensive public awareness campaign on healthy weights for children”³ that promotes quality physical activity. In addition, the new version of Health Canada's Food Guide makes reference to increasing physical activity along with information regarding healthy eating, which supports public awareness efforts. Also, Concerned Children's Advertisers released a new physical activity promotion public service announcement targeted at 10 to 12 year-olds as part of its Long Live Kids program and a broader campaign addressing marketing directed at children and youth (the initiative is further described later in this document).

An evaluation of the implementation of Daily Physical Activity policies in Alberta and Ontario is not yet available, but it would seem there is increasing focus and momentum on the role of schools in these provinces in promoting and increasing physical activity among children and youth. A series of articles in the *Globe and Mail* described nationwide assessments and profiled the issue of physical activity in relation to healthy schools.^{4,5,6,7} An announcement from the government of Manitoba that health and physical education will be part of the mandatory curricula in grades 11 and 12 shows another policy level step in relation to this recommendation.⁸ In addition, multi-sectoral community engagement approaches to physical activity promotion in schools have demonstrated important advancements. For example, Action Schools! BC, while supported by government, does not involve a policy mandate, yet is currently being implemented by 75 per cent of elementary schools in the province.

The recommendation to reduce screen time in order to increase physical activity levels is perhaps a more challenging endeavour. In 2007, newly available data sources and corresponding literature indicate that we still have work to do in relation to the amount of time our children and youth are spending motionless in front of screens.

Report Card Categories and Indicators: Where Do We Stand in 2007?

The Research Work Group for the Report Card includes an interdisciplinary selection of experts who are responsible for identifying and ranking Report Card indicators in key issue categories, based on current data and research. This group accesses additional experts and researchers to assist in gathering the current knowledge in relation to the indicators.

The grade assignments are based on the analyses of newly available data from various sources. These analyses studied data from the 2005/2006 *Health Behaviour in School-age Children Survey* (HBSC), and also considered trends over time in relation to the 2001/2002 HBSC. In addition, these analyses looked at findings from the 2006/2007 *Tell Them From Me Survey* (TTFM), the *Canadian Fitness and Lifestyle Research Institute* (CFLRI)'s 2005 *Physical Activity Monitor* (PAM), the 2005 *Survey of Canadian Schools*, and the Canadian Physical Activity Levels Among Youth (CAN PLAY) study. Where appropriate, the most recent data from the Statistics Canada *Canadian Community Health Survey* (CCHS) and the *National Longitudinal Survey of Children and Youth* (NLSCY) were also referenced. Where possible, studies conducted by particular provinces were considered, and additional research in relation to the indicators is also referenced in each section. Grade assignments include an assessment of disparities and inequities in relation to indicator areas where there are available data.

For detailed information regarding primary data sources, Report Card methodology, the Report Card development process, an explanation of the grade rankings and an overview of grades from previous Report Cards, please refer to the Appendix.

Although awareness and support has been growing for the issue of improved physical activity levels among children and youth, the 2007 grade assignments for many of the indicators demonstrate a need for continued attention and effort in all areas, as there are still many problematic areas. Trend analyses over time, along with ongoing refinement and accuracy in data-gathering methods, further indicate that we need to build on and enhance the good work that is underway to address the issue of physical inactivity and the related health and development issues among children and youth.

Physical Activity and the Health of Canada's Children and Youth

The main objective of the Report Card is to provide a comprehensive overview and assessment of the state of the nation in regard to physical activity levels of Canadian children and youth, and the relationship of these activity levels to their immediate and future health. Indicators for these key areas are identified in the following two sections. Full descriptions of key data sources can be found in the Appendix, and all additional sources are cited in the references section.

PHYSICAL ACTIVITY AND INACTIVITY

The 2007 assessment of physical activity and inactivity among children and youth in Canada involved the examination of data for indicators that have been assessed in previous Report Cards, including daily physical activity levels, “screen time” and sport participation.

The assessment of physical activity levels is done in relation to current Canadian guidelines. Data sets are derived from self-report studies of leisure-time physical activity; in addition, for the first time, the Report Card includes analyses of nationwide objective measures of physical activity levels.

The data examined for screen time pertains to television and computer use; they do not yet reflect the use of other electronic devices with screens, such as hand-held video games and cellphones. A new analysis of screen time in the after-school hours reveals some interesting findings.

The data for sports reflects an analysis of participation levels only; it does not reflect measures of quality, or assess actual physical activity levels of children and youth during sport participation. These areas should be further explored in future.

Indicator: Physical Activity Levels Grade: F

The data gathered in relation to physical activity levels draw upon new information from various surveys and sources. As will become apparent below, these sources do not all use consistent guidelines or “cut points” to assess physical activity levels; they vary from a guideline of 30 minutes to 90 minutes of physical activity, ranging from five to seven days per week. Collectively, however, this information does provide a useful overall perspective on current physical activity levels. What is particularly noteworthy are the comparisons between information derived from self-report surveys and what has been learned from recent studies using more objective measures of physical activity.

HBSC self-report data indicate that the number of physically active children and youth — based on European guidelines that recommend youth engage in 60 minutes of physical activity on at least five days per week — increased by 9.2 per cent from the 2002 to the 2006 survey.

While this seems like a step in the right direction, newer objective pedometer data from the CAN PLAY study, which examined rates of participation in organized and unorganized physical activities both in school and outside of school, provide very different results. These data indicate that 91 per cent of Canadian children and youth do not meet the guidelines set forth in *Canada's Physical Activity Guides for Children and Youth*, which recommend 90 minutes per day of moderate to vigorous physical activity, the equivalent of 16,500 steps.⁹ (See highlight on the next page for more information on the *Canada's Physical Activity Guides for Children and Youth*.) The mean number of steps taken in the CAN PLAY study was only 11,356.⁹

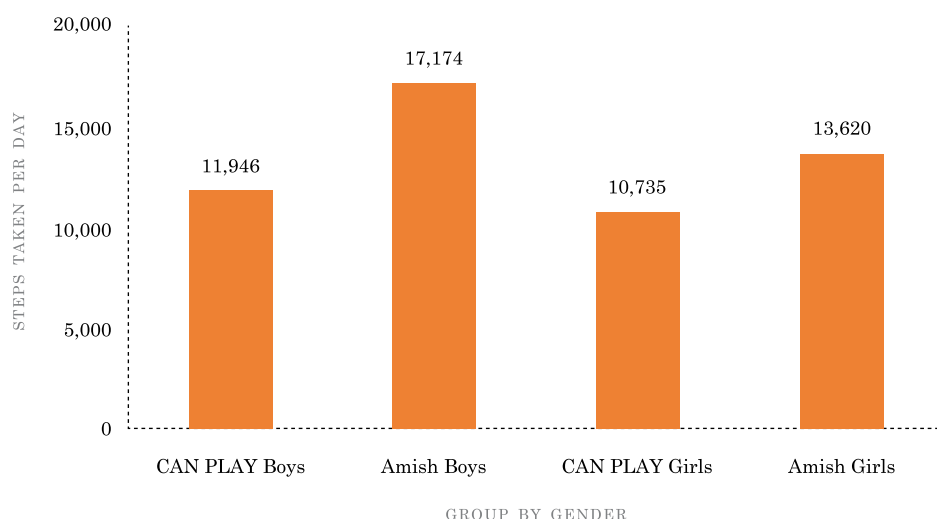
Canada's *Physical Activity Guides for Children and Youth* specifically recommend that inactive children and youth (ages six to 14) increase the amount of time they currently spend being physically active by at least 30 minutes more per day, and decrease the time they spend on TV, playing computer games and surfing the Internet by at least 30 minutes less per day. The increase in physical activity should include a combination of moderate and vigorous activity.

Over several months, children and youth should try to accumulate **at least 90 minutes more physical activity per day** and decrease by at least 90 minutes per day the amount of time spent on non-active activities such as watching videos and sitting at a computer.

For more information, www.phac-aspc.gc.ca.

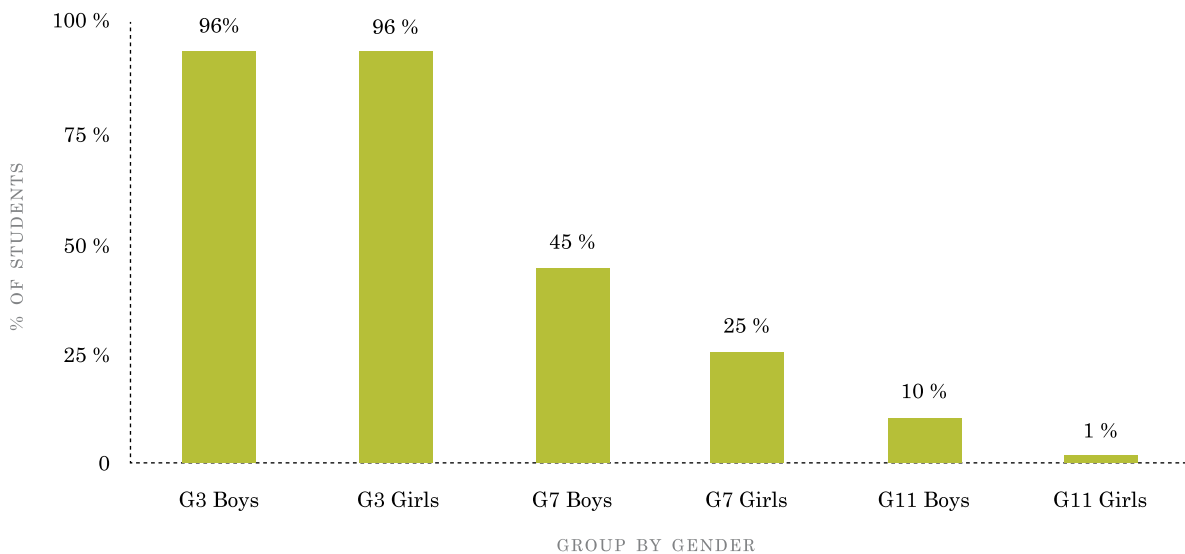
Gender disparities, which have been consistent over time, were again evident, indicating that boys (who average 11,946 steps per day) are more active than girls (who take approximately 10,735 steps per day). Even studies of Amish children, which have shown higher physical activity levels in comparison to other Canadian children, demonstrate that only Amish boys are meeting the Canadian guideline, at 17,174 steps per day, whereas Amish girls average 13,620 steps per day.¹⁰ Figure 1 provides a comparison of the CAN PLAY data and the Amish study for an average number of steps taken per day by gender.^{9, 10} Gender disparities are also found in the HBSC, PAM, the *Physical Activity and Dietary Intake Levels of Children and Youth* (PACY) study from Nova Scotia,¹¹ and the *School Health Action, Planning and Evaluation System* (SHAPES) study in Ontario,¹² particularly in the move from childhood into youth.

Figure 1:
Average Number of Steps Taken Per Day by Gender (CAN PLAY/Amish Study)



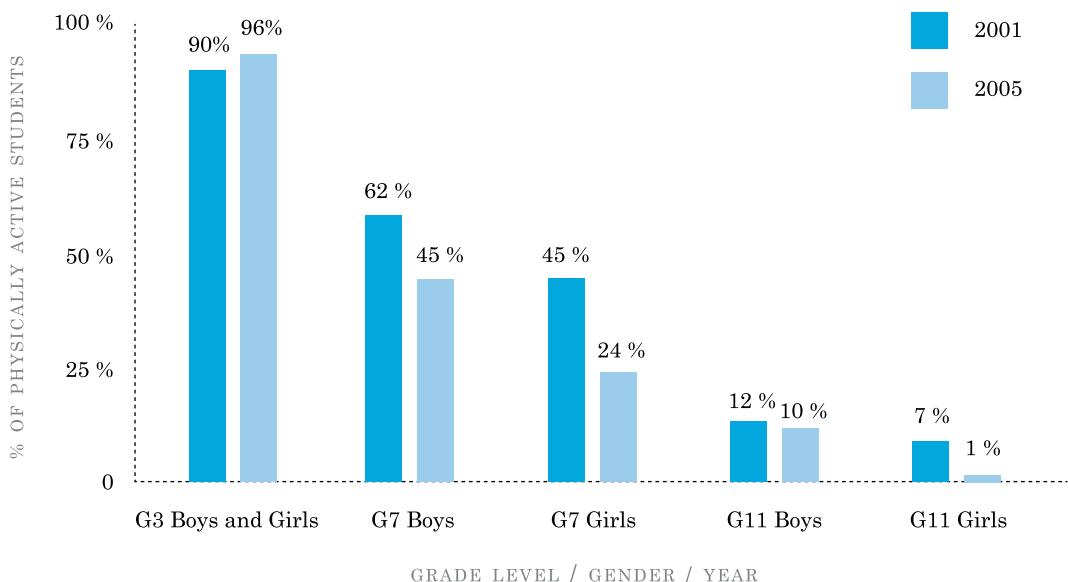
On this note, particular attention needs to be given to the marked decline in overall physical activity levels as age increases. The CAN PLAY study indicates that younger children take more steps than preteens, who take more steps than teens. This is reinforced in the TTFM and HBSC data, as well as the PACY and SHAPES studies. In particular, Figure 2 provides a graph that illustrates the PACY findings, which indicate that 96 per cent of both male and female Grade 3 students meet the European guideline of 60 minutes or more of moderate to vigorous physical activity on five or more days per week, while only 45 per cent of boys and 25 per cent of girls meet this guideline in Grade 7.¹¹ Furthermore, in Grade 11, only 10 per cent of boys and fewer than one per cent of girls are meeting these guidelines.¹¹

Figure 2:
Number of Students who Participate in 60 minutes or more of moderate to vigorous Physical Activity on five or more days per week (PACY)



The PACY data also demonstrate that provincial strategies and interventions seem to be achieving success among younger children. As shown in Figure 3, physical activity levels for Grade 3 students increased from 90 per cent in 2001 to 96 per cent in 2005.¹¹ However, there has been a decline in physical activity levels among students in Grade 7 and Grade 11 from 2001 to 2005. Specifically, the number of Grade 7 students who accumulated 60 minutes of moderate to vigorous physical activity at least five days a week decreased from 62 per cent in 2001 to 45 per cent in 2005 among boys, and from 45 per cent to 24 per cent among girls. In Grade 11, boys decreased slightly between 2001 and 2005, slipping from 12 per cent down to 10 per cent; girls decreased notably from what was only seven per cent in 2001 to less than one per cent in 2005.¹¹

Figure 3:
Physical Activity Levels for Students in Grades 3 to 11 in 2001 and 2005 (PACY)



There is a decided lack of evidence with respect to the early years, as all data sources and literature currently referenced involve children five years or older. In the future, efforts need to be made to gather and communicate information on this important stage of development. One possibility would be to engage with the *Understanding the Early Years* initiative supported by Human Resources and Social Development Canada. This national initiative enables members of communities across Canada to better understand the needs of their young children and families so that they can determine the best programs and services to meet those needs. Research is conducted in participant communities and these communities are then provided with quality information on the readiness to learn of their kindergarten-aged children; family and community factors that influence children's development; and the availability of local resources to support young children and their families. Parents, teachers, key decision-makers, and others interested in the well-being of children in each community can then work together to address issues identified by this information. It would seem that there is a good opportunity to integrate with this work to create a strong information source in relation to physical activity for the early years.

Among Aboriginal communities, fewer than half of children and youth are moderately to vigorously active for 30 minutes per day five days each week, indicating another disparity that must be addressed, considering that most nationwide studies have been using the 60 and 90 minutes/day physical activity guideline level. The gender issues previously noted are evident in this population as well, with fewer than 40 per cent of Aboriginal girls achieving these guidelines.¹³

The HBSC indicates that children in families of higher socioeconomic status (SES) have higher levels of physical activity compared to people of lower SES. This is also demonstrated in the PAM/CAN PLAY data, particularly in relation to organized activities. The PAM/CAN PLAY data also note that physical activity levels are higher among children of parents with higher levels of education. Consequently, parental educational disparities regarding physical activity must also be considered.

While we do not have a national data set for physical activity levels among disabled children and youth, a recent study from the United States indicates that 56 per cent of people with a disability reported participating in no daily exercise.¹⁴ It is reasonable to assume that we have similar challenges in Canada that need to be considered.

Recent studies examining the CCHS indicate that physical activity levels among Canadian adults vary in relation to both immigrant status and ethnicity, and strategies to promote physical activity and prevent inactivity need to take into consideration the disparities that exist in relation to these determinants.¹⁵ Similar analysis needs to be conducted among children and youth to determine the role these factors play in their physical activity levels.

The grade of F for this indicator represents a decline from previous years. This assessment does not necessarily reflect a decline in the provision of opportunities for children and youth to be physically active; it is heavily influenced by the new findings based on objective measures, which provide a more accurate measure of physical activity levels than was previously gathered through only self-report measures.

However, the disparities in activity levels (by age, gender, Aboriginal populations, socioeconomic and educational status, and disabled populations), as well as the clear evidence of decline in physical activity levels among youth all indicate a strong need to continue and enhance societal level supports for physical activity. Elements of these societal supports are assessed below.

Another important note with respect to this indicator regards the need for more consistent measurements moving forward. As the cited studies use different guidelines for assessment, it is difficult to effectively compare and analyze data and progress with respect to increasing physical activity levels. A common set of agreed-upon measures would facilitate comparisons across studies.

Moving forward, there is a need for valid, reliable and robust data that can be more easily compared and effectively tracked over time. This data, further supplemented with both quantitative and qualitative studies, can help to develop a national picture of children's and youth's physical activity and inactivity levels.

Indicator: Screen Time

Grade: D-

In recent analyses, sedentary screen-time behaviour (i.e., TV/video viewing, computer usage) was shown to be consistently and significantly associated with increased body mass index and a decreased level of physical activity.^{16,17}

Trends over time indicate that Canadian children and youth are still not meeting the guideline of two hours or less of screen time daily, as recommended by the American Academy of Pediatrics and the Canadian Paediatric Society. HBSC research findings show that only 16.7 per cent of Canadian youth have met these screen-time guidelines.

The HBSC results indicate that Canadian children aged 10 to 16 are spending, on average, six total hours per day watching television, playing video games and/or using the computer. This was determined by assessing both weekday and weekend use, and calculating a weighted mean to determine average screen time per day. Screen time is approximately one hour per day higher in boys than girls.

Half of Aboriginal youth reported watching more than three hours of television per day, and one in five reported playing video games or using a computer for more than three hours per day. Playing video games is two to three times more prevalent among First Nations boys than girls.¹³

There is evidence that the prevalence of childhood obesity, low physical activity and high TV viewing is greater in lower socioeconomic groups.¹⁸

Data that look at trends and effects of screen time among children and youth with disabilities need to be gathered, as there is a lack of research in this area. It is possible that disabled youth, who may feel excluded from physical activity, will choose screen time activities instead.

An analysis of the TTFM data, which looked at a six-hour period after school, indicates that children and youth report spending twice as much time in front of a screen as they do engaged in physical activity. In relation to computer time, TTFM notes the opposite of the trend that was identified in the section on physical activity levels — these data show leisure-related computer time increases with age. The PACY data demonstrate a significant increase in screen time between 2001 and 2005, also indicating that time spent watching television, using the computer and playing video games increases with age.¹¹ It is likely that this increased screen time reduces the amount of time dedicated to physical activity pursuits, and may be related to the decline in physical activity among youth.

TTFM results found that both television viewing and time spent using a computer not only have the potential to affect physical activity levels, but can pose other developmental risk factors as well.

For example, time spent watching television is a significant risk factor for:

1. Anxiety
2. Depression
3. Low sense of belonging

Time spent using a computer for e-mailing, chatting, surfing the Internet or playing games is a significant risk factor for:

1. Anxiety
2. Depression
3. Low sense of belonging
4. Low self-esteem

Of most concern are the findings that playing violent computer games may increase aggressiveness and desensitize a child to suffering, and that the use of computers may blur a child's ability to distinguish real life from simulation.¹⁹

The recent trend in video games that involve actual physical activity through sport and dance-based activities needs to be noted for future research, which should assess how these games may serve to at least support more active time in front of the screen. Studies should examine the relationship between physical activity levels and these new products.

Conversely, there is a growing movement to reduce screen time and reconnect children and youth to nature through outdoor education and physical activity, to address risk factors such as those identified in the TTFM results above. A study prepared for the California Department of Education found that participants in outdoor education programs improved their conflict resolution and problem-solving skills, and experienced better self-esteem and motivation to learn, as well as demonstrating increased test scores.²⁰ A combined approach that reduces screen time and increases physical activity time through after-school initiatives (both indoors²¹ and outdoors) may serve to support both increased physical activity levels and other positive benefits.

At this time, however, if trends in the data continue along the current trajectory, we can expect an ever-increasing amount of time being spent in front of the screen as children become youth. As such, the grade for this indicator, which decreased in 2006, now remains at a D-, flagging the need for action in this area to prevent the grade from slipping even further.

Indicator: Sport Participation

Grade: C

Sport participation is an important contributor to physical activity levels among children and youth. For example, the CAN PLAY study shows that children who participate in organized sports take more steps per day. The TTFM data reveal that higher levels of participation in school sport correlate with higher physical activity levels overall, and reveal stronger connectedness to school and positive self-esteem. Studies also demonstrate that young athletes with disabilities have better health status in adulthood than comparable adults who did not participate in sports as children.²²

Available data from the NLSCY indicate that on average, 60 to 80 per cent of children and youth in Canada are participating in organized sport programs as well as unorganized sport activities. Results indicate that while boys and girls have relatively equal participation rates in organized sports, boys tend to be more active in unorganized sports.

The NLSCY also indicates that income level plays an important role in children's sport participation. Only about 55 per cent of low-income children participate regularly in organized sports, compared with 65 per cent of middle-income, and 79 per cent of high-income children. Although the gap is not as significant for unorganized sports, there is also an income disparity here that requires further examination.

The 2005 PAM also indicates high levels of sport participation — nearly 80 per cent — particularly in structured, competitive sport, and particularly among those aged 10 to 13. This participation also reflects a relatively equitable representation of boys and girls. Sport participation among Aboriginal children is lower (around 63 per cent overall).¹³ In addition, 57.1 per cent of Aboriginal girls reported never participating in non-school-related sports teams, indicating a further gender disparity in this population.¹³

Nationally representative data indicating sport participation levels among children and youth with special needs is needed.

The 2005 PAM indicates that participation levels in structured but non-competitive sport opportunities, and unstructured physical activity, are considerably lower than that of structured, competitive sport, dropping to under 20 per cent and 15 per cent respectively, compared to the nearly 80 per cent who participate in structured sport as described above. Half of parents indicated that their children like both organized and unorganized activities, and another third indicated that their children prefer unstructured activities. Half of children also indicated they like both competitive and non-competitive activities, but again, one-third indicated they prefer non-competitive pursuits.

As such, it seems possible that participation levels in unstructured and non-competitive activities are not in alignment with the number of children who indicate a preference for these activities. Further research needs to examine the reasons for lower participation in unstructured physical activity and sport, which may be due to issues of access to appropriate space, or concerns with safety. Regardless, it seems there is an opportunity to improve the role sport can play in supporting increased physical activity levels by increasing unstructured sport participation.

The 2005 PAM also indicates a significant drop in sport participation overall among 14- to 17-year-olds, who reported participation levels that are approximately 15 per cent lower than 10- to 13-year-olds. At this age level there is still a relative balance across gender, whereas it is interesting to note that among children aged five to nine, sport participation is higher in boys. Participation on sports teams is generally lower among older First Nations teens compared with younger children as well.¹³

The C grade in this area reflects existing data in relation to the disparities in participation based on SES, the new data that demonstrate the disparities in relation to Aboriginal communities, as well as data that reflect the drop in sport participation among youth. The grade assessment also takes into account the low participation numbers in non-competitive and unstructured sport, which is an important physical activity opportunity for children and youth.



Indicator: Overweight and Obesity Grade: F

According to the CCHS, which has also been cited in the House of Commons Standing Committee on Health Report Healthy Weight for Healthy Kids, one-quarter of Canadians aged two to 17 are overweight or obese.

The HBSC reports that the number of obese children and youth increased by 35.7 per cent (from 4.2 per cent to 5.7 per cent) between the 2003 and 2006 surveys. These data also indicate that lower SES is related to higher levels of obesity, particularly among boys.

Rates among Aboriginal children are of even greater concern. Evidence reveals that about 55 per cent of First Nations children on reserves and 41 per cent of Aboriginal children living off reserve are either overweight or obese.¹³

Again, research on children and youth with disabilities in relation to overweight and obesity is lacking.

Research has demonstrated that excess weight puts children at risk for a range of preventable health problems, including type 2 diabetes, cardiovascular disease, joint problems and mental health issues.

The issue of childhood obesity presents a complex health concern, with many experts predicting that today's children will be the first generation within our collective memory to have poorer health outcomes and a shorter life expectancy than their parents.²⁴

The burden of obesity on the health care and social system is astonishing and expected to increase. One estimate suggests that obesity in the overall population currently costs Canada about \$1.6 billion annually in direct health care costs, or 2.4 per cent of total health care spending.²⁴

In addition, another \$2.7 billion in indirect costs is associated with obesity, as a result of lost productivity, disability insurance, reduced quality of life, and mental health problems due to stigmatization and poor self-esteem.²⁴

This area of health concern is linked to physical activity levels. Before this indicator's grade level can be improved, we must address the trends that continue to show that levels of overweight and obesity are not declining. In addition, it is necessary to recognize that while obesity is an important issue, physical inactivity goes well beyond issues related to excess weight. There are many young people who may not be categorized as overweight or obese, yet are very inactive and at risk for health issues.

Indicator: Overall Physical Well-Being and Psychosocial Development Grade: C-

There are demonstrated linkages between physical activity and both physical and psychosocial health outcomes.

An extensive systematic review of evidence-based physical activity interventions for school-aged youth examined these relationships.²⁵ With respect to physical health and development, the evidence

base is strong for beneficial effects of physical activity on musculoskeletal health, several components of cardiovascular health, adiposity in overweight youth, and blood pressure in mildly hypertensive adolescents. As well, evidence is adequate to make informed judgments about the beneficial effects of physical activity on lipid and lipoprotein levels and adiposity in normal-weight children and adolescents, blood pressure in normotensive youth, and other cardiovascular variables.

Increased rates of obesity in Canada and worldwide have coincided with an increased prevalence of pre-conditions for chronic disease among children and youth (e.g., insulin resistance, a pre-condition for diabetes; or increased blood lipid levels, a pre-condition for heart disease). In the case of diabetes in particular, chronic disease often occurs among children and youth,^{26,27} most notably among young Aboriginal Canadians. A recent paper looking at cardiovascular disease risk factors indicates that physical activity levels need to be higher than the current international guidelines of 60 minutes per day to prevent the clustering of these risk factors.

Both the systematic review referenced above,²⁵ and another study published in the *Journal of Mental Health*²⁹ indicate that there are some associations between physical activity and positive self-concept, reduced anxiety and some reduction in symptoms of depression. The *First Nations Regional Longitudinal Health Survey*¹³ notes that higher levels of physical activity are associated with lower reports of suicide ideation among Aboriginal children and youth.

The TTFM data also indicate that physical activity is inversely associated with low self-esteem, anxiety and depression. A decrease in physical activity levels in adolescence was shown earlier in this report. It is interesting to note that an increase in reports of anxiety, depression and low self-esteem occur at the same age level that physical activity begins to decline, though these data do not provide evidence of causality.

The TTFM data also show positive associations between physical activity and school sport participation, and a sense of connection and belonging at school. Literature has indicated that students who have these positive perceptions of school climate display fewer symptoms of depression and anxiety, report fewer incidents of in-school problem behaviour, and are more likely to perform well academically.³⁰

Physical activity has been shown to be related to improved concentration and memory as well as academic performance.^{21,31} It should also be noted that there is growing evidence supporting a relationship between daily physical activity, and increasing cognitive performance and social interaction skills for students with attention-deficit/hyperactivity disorder (ADHD) and autism spectrum disorder.^{32,33}

Analysis of the 2001/02 HBSC indicates that 20 per cent of girls and 13 per cent of boys report frequent physical health problems, and 30 per cent of girls and 23 per cent of boys report frequent psychological health problems. Both boys and girls with higher physical activity levels are less likely to report somatic and psychosocial health issues such as feeling “low”, irritable or nervous, or having difficulty sleeping.³⁴ The 2006 HBSC results mirror this finding, and what is concerning is that the number of somatic and psychosocial health issues reported by children and youth has increased from 2001 to 2006. At both times, girls reported a greater number of complaints than boys. Considering the previous discussion regarding the ongoing gender disparity between boys and girls and physical activity participation, this is worth further exploration.

It is important to recognize the layered relationships between physical activity, physical well-being and psychosocial development, while at the same time being mindful of the complexity of these relationships. The grade level of C- for this indicator reflects concern that physical activity levels need to be increased not simply to reduce obesity levels, but also to support prevention of chronic disease risk factors and support the overall psychosocial development of Canadian children and youth.

Societal Influences on Physical Activity

The previous section provided reflections and assessments with respect to physical activity, inactivity and related health outcomes. In order for sustained individual and population level behaviour to change in a way that positively influences both individual and population health outcomes, societal level supports to increase physical activity levels must be in place. Each year the Report Card examines current data in relation to the various societal influences that can either enable or inhibit increased physical activity levels among children and youth.

FAMILY

Parents and caregivers play a key role in creating a culture in the home and community that supports physical activity participation for children and youth. The 2006 Report Card examined parents' perceptions in relation to the physical activity levels of their children, and parental support in ensuring their children were active; it also reflected on the levels of parental participation in activities with children. In 2007, the Report Card takes a closer look at the role of perceptions and modelling among families in relation to physical activity levels.

Indicator: Family Perceptions and Roles Regarding Physical Activity Grade: D

In 2006, it was evident that the majority of parents were not aware of the recommended guidelines for physical activity outlined in *Canada's Physical Activity Guides for Children and Youth*. As well, nearly all parents reported that their children were very physically active, whereas the PAM clearly indicates that fewer than half of Canadian children and youth are active enough to ensure healthy growth and development.

This year, the Report Card looks more closely at similar issues regarding role modelling and the gaps between perception and reality. First, it is important to establish the connection between parents' attitudes and behaviours in relation to physical activity, and the physical activity levels of children and youth.

The CAN PLAY study notes that parents who consider themselves to be less active than their peers have children who take fewer steps, prefer sedentary activity, and participate in activity mostly to achieve a particular goal and not for personal satisfaction.⁹ The 2005 PAM also indicates that less active parents are less likely to identify the availability of local facilities and spaces where their children can be active. As such, there is some indication that parental physical activity levels may be linked with physical activity levels of children.

The results of the CAN PLAY study, taken in consideration with the results of the HBSC, suggest the possibility of a perception gap — the self-reported HBSC data suggest that physical activity levels among children and youth are increasing, whereas the objectively measured physical activity data from CAN PLAY demonstrate that children are still not active enough to meet recommended guidelines. Just as data in last year's Report Card indicated that kids were likely less physically active than their parents perceived they were, it is possible that children and youth perceptions of how physically active they are also do not align with their actual activity levels. This needs further exploration, as other reports are also beginning to identify issues in relation to perceptions that are related to physical activity and inactivity.

A recent Ipsos-Reid study commissioned by the Canadian Medical Association, the Canadian Paediatric Society and the College of Family Physicians of Canada indicates even further gaps between perceptions and reality among Canadian families, particularly between parents and children in those families.³⁵

For example, with respect to the relationship between physical activity and screen time, it is interesting to note that the survey found that 57 per cent of parents reported watching two hours or more of TV a night — a number that rose to 66 per cent when children were asked about their parents' viewing habits.³⁵

Further, 60 per cent of parents said they participate in a common family physical activity at least once a week, yet only 27 per cent of children agreed.³⁵

Looking broadly at modelling and other parental social support, the 2005 PAM indicates that parents who are more active are also more likely to volunteer their time to support their child's sport or physical activity event (within or outside of school), and to financially support physical activity. The report also indicates that fewer than half of parents volunteer their time in this manner, and there has been a small decline in volunteer support from 2000 to 2005. However, three-quarters of parents have provided financial support to their child's physical activity. The ability to volunteer, to provide financial support and even to participate in family physical activity is affected by SES, and lower-income families are more vulnerable in this regard.

The SHAPES study in Ontario indicates that 80 per cent of high school students felt their parents are somewhat active. However, only one-third felt their parents encourage them to be active, and 20 per cent indicated that their parents provide no encouragement or actually discourage them from being active.¹²

The CFLRI 2005 *Survey of Canadian Schools* indicates that while 60 per cent of schools reported encouraging teachers to be role models for physical activity, only 20 per cent encourage parents in this regard.

This collection of findings presents the fundamental challenge among Canadian families. There is a lack of clarity and/or understanding on actual physical activity levels and recommended physical activity among both children and parents. There is also an array of mixed perceptions, messages and behaviours in relation to parental role modelling and support of physical activity, making it challenging to create a culture of support for physical activity at home and in the community from a family perspective.

This indicator receives a grade of D because we clearly need to support parents in making a better assessment of their own physical activity levels, their children's physical activity levels, and the relationship between the two. Better education regarding physical activity guidelines and support for family physical activity opportunities is needed.



In order to have quality physical activity opportunities, children and youth need support not only from families but from adults and peers in their schools and communities. This category examines programming and social support in schools, as well as the spaces, facilities and programs in communities.

Indicator: Physical Activity Programming at School Grade: C

The CFLRI 2005 *Survey of Canadian Schools* examined physical activity policies, programs, facilities and opportunities available in Canadian schools. A national review of schools has not been conducted since the last review conducted by CFLRI in 2000.

According to the 2005 *Survey of Canadian Schools*, almost all elementary and middle school students in Canada take at least one physical education class per week: The average is three days of physical education classes per week. Daily physical activity policies in Alberta and Ontario mandate additional classroom time for physical activity in addition to physical education class; these policies have been implemented but not yet evaluated. Other promising initiatives that support daily physical activity include Action Schools! BC,³⁶ which has demonstrated an increase in the amount of physical activity delivered to their students by 50-100 per cent.

In contrast, the CFLRI 2005 *Survey of Canadian Schools* reports that a significantly lower percentage of high school students take at least one physical education class per week. This is also supported by the SHAPES study,¹² which demonstrates a decline in participation in physical education class from grades 9 to 12 in Ontario, as well as by another study that has shown a declining enrolment in physical education beyond the base requirement for graduation.³⁷ This trend is particularly evident among female students. A recent review notes that most young children have a very positive attitude toward physical education and physical activity, but as they grow older, their perception of physical education as a positive experience seems to become more ambiguous. This suggests that future research should address factors influencing the change of perceptions as children mature.³⁸ Recent policy changes in Manitoba and Quebec, mandating physical and health education credits for each high school grade, offer hope for improving the overall situation.

Eighty per cent of schools provide intramural and interscholastic opportunities for physical activity, but just over half support transportation to support these activities, which may limit participation options for some students. In addition, one-third of schools reported that at least half of the student body participates in activities before and after school, yet only 10 per cent of schools arrange late busing so students can participate in after-school activities, which again limits opportunities for participation.

The level of student body participation in physical activity at recess and lunchtime is about 65 per cent, but this participation declines in relation to grade level, with a drop-off at middle school and a further decline once adolescents reach high school. The SHAPES¹² study also points out that the participants in recess activities in many cases are the same students who participate in intramural and interscholastic sports. Of those not involved in recess activities, many students indicated that they do not participate because the sports are not of interest. This was particularly true of females in grades 11 and 12. Using objective physical activity monitoring, the Nova Scotia PACY study clearly shows a dramatic decline across grades and an overall very low level of activity among high school students.¹¹

The grade of C for this indicator acknowledges that some promising practices are occurring in the nation, but collectively these practices are not engaging students as they move toward secondary school, and seem particularly lacking in relation to girls. Considering the earlier-noted concerns regarding physical activity levels among girls and the decline in physical activity levels in adolescence, this needs to be addressed. In addition, the minimal supports for transportation in relation to after-school activities may be a key barrier for students who rely on busing to support these physical activity opportunities.

In order to meet the recommended Canadian guidelines of 90 minutes of physical activity per day, schools need to ensure a quantity and quality of physical education that is sufficient to support skill development and promote physical activity, as well as physical activity in other class time and throughout the school day. It is important to assess not only the amount being offered but also the quality, both through careful, objective measures.

For example, a study in California revealed that on average, only four minutes of every half-hour of physical education in California schools involves vigorous activity, and only eight minutes of that time involves moderate activity, a factor further affected by larger class size.²⁰ The same study indicates that students in more affluent schools spend 20 per cent more physical education time engaged in moderate to vigorous physical activity than do students in low-income schools. Issues of disparity in relation to facilities also need to be considered; for example, of the more than 500 First Nations schools, only half have a gym.³ Evaluation that considers program quality and inclusion of all students, including those with disability,³⁹ will be important.

Indicator: Social Support for Physical Activity at School Grade: B-

The CFLRI 2005 *Survey of Canadian Schools* reveals movement toward a number of promising practices in relation to social support for physical activity at school:

- Two-thirds of Canadian schools reported that they have policies or programs that encourage teachers, parents and students to be involved in organizing physical activity events, services and facilities.
- 72 per cent of Canadian schools reported having integrated physical activity into their lesson plans over the past year.
- 81 per cent reported that they provide information on opportunities to be physically active at school (through such means as bulletin boards, web pages and public service announcements), while two-thirds provide such information specifically to parents and families of students (e.g. through flyers or newsletters).
- Almost three-quarters of schools promote community physical activity programs to students and their families.
- 79 per cent of schools reported having encouraged participation in special physical activity events.

Nevertheless, there are areas for improvement. The CFLRI 2005 *Survey of Canadian Schools* further found that only 30 per cent of Canadian schools reported that they provide their students with examples of physical activity drawn from different cultural backgrounds in an attempt to be more inclusive. In addition, the study notes that only 10 per cent reported using physical activity to reward students, and only half reported hosting social events in order to publicly recognize students who participate in physical activity or sport.

As noted in the previous section, it is important to consider that this information is self-reported. To have the most accurate reflection of social support in the school environment, it is necessary to follow up this work with studies that would objectively measure the implementation of the practices described above.

Another area that requires further attention is an assessment of active transportation to and from school, as this has been shown to facilitate meeting physical activity guidelines and supporting daily physical activity in schools.^{40,41,42} Improving active transportation practices, and recognizing healthy physical activity behaviours and practices of students, can help to build the culture for physical activity in Canadian schools.

The grade of B- is based upon the need to recognize the encouraging reports from the CFLRI 2005 Survey of Canadian Schools, with the understanding that further examination is needed to determine whether the self-report data reflects actual practice, as noted above. The grade is also based on recognition of progress that is emerging through other initiatives that support effective school-community approaches to increase physical activity levels.^{43,44,45,46} Initiatives such as Action Schools! BC,⁴⁷ Ontario's Living School,⁴⁸ the Schools in Motion component of the Saskatchewan in Motion initiative, and Nova Scotia's Active School Communities and Health Promoting School initiatives,⁴⁹ all support a comprehensive approach to facilitating implementation of daily physical activity in schools. Action Schools! BC and Nova Scotia's Health Promoting Schools have significant investment (e.g., in Nova Scotia, each of the school boards can be eligible for \$100,000 based on a plan submitted to the Education and Health Promotion ministries). Some, but not all, of these initiatives have evaluation results at this time; however, most are still in relatively early stages of implementation. It will be important to continue to track the progress of these initiatives.

Such approaches have global support. Internationally, the National Center for Chronic Disease Prevention and Health Promotion's Coordinated School Health⁵⁰ and CATCH⁵¹ models in the United States are grounded in this perspective, as are the European Network of Health Promoting Schools⁵² and the World Health Organization's Global School Health Model.⁵³ Moving forward, we need to ensure the effective establishment and leveraging of resources to support comprehensive social support approaches to promoting physical activity. As well, evaluation is needed in all areas to have a better understanding of how social support for physical activity in schools is truly being realized in school communities across Canada.

Indicator: Training of School Personnel

Grade: C-

The CFLRI 2005 *Survey of Canadian Schools* indicates that the following supports are provided to support school staff with physical activity promotion and programming:

- 42 per cent of schools provide physical activity guidelines to all staff, while 38 per cent provide these guidelines only to physical education teachers.
- 38 per cent provide information from various media on physical activity promotion to all staff, and 29 per cent provide this information only to physical education teachers.
- 24 per cent provide professional development on physical activity promotion to all staff, and 26 per cent provide it only to physical education teachers.

It is promising that these supports are being provided; however, to build a culture that will increase physical activity levels in schools, all staff need to feel engaged, competent and comfortable to support physical activity program and initiatives. Many schools do not have physical education specialists on staff. The provision of materials only to physical educators does not build capacity in this way and, considering that only one-quarter of school staff receive training and fewer than half are given the physical activity guidelines, this is an area that will require improvement. Furthermore, policy shifts that rely on the provision of required physical activity during non-physical education class time must be supported with a training model that supports all educators in developing the capacity to provide adequate physical activity opportunities. Hence this indicator receives a grade of C- at this time.

Indicator: Community Facilities and Programs – Access and Use

Grade: C

The 2005 PAM examined access to and use of public and private facilities in communities across Canada. While 92 per cent of parents reported that public facilities and programs are available, only 60 per cent indicated that these meet their children's physical activity needs either well or very well.

Further, only a quarter of parents indicated that they use these facilities often or very often, and parents of teen girls indicated they use them rarely or never.

Three-quarters of parents indicated that private facilities and programs are available, but only 44 per cent indicated that these facilities meet their children's physical activity needs well or very well.

Ratings of availability for both private and public programs are higher among higher-income families, and higher among parents whose children participate in organized sport.

It appears there are some income and gender disparities regarding access to and use of facilities, but in general there also seems to be an issue with these facilities meeting the needs of children with respect to physical activity, and a much lower level of use compared to recognition of availability. It also appears that perhaps facilities and programs are catering more to those with an interest in sport and less so to those interested in other forms of physical activity. The influence of cost may also be an important factor.

This results in a C grade, as there is a need to explore why available facilities are not accessed more. This could involve examinations of program offerings, scheduling, quality of programs, and cost.

Indicator: Community Parks and Outdoor Spaces – Access and Use

Grade: C+

The 2006 Report Card provided a grade assignment of B- for the indicator of Proximity of Parks and Playgrounds. While there was a high degree of accessibility to parks and playgrounds, it was noted at the time that there were no available data to assess the effective use of these spaces. An examination of the 2005 PAM in relation to open spaces shows some different information that informs the use of community parks and playgrounds.

While 95 per cent of Canadians reported that parks and outdoor spaces that are conducive to children's physical activity are available locally, only 57 per cent indicated these spaces meet their needs well or very well, and only 34 per cent use them often or very often. There has been a slight decrease from 2000 to 2005 in the number of people reporting that these spaces meet children's needs. This needs to be further explored to determine what the issues are (perhaps concerns with safety,⁵⁴ park maintenance and available facilities / equipment).

Parents of teens are more likely to report that their children use these facilities rarely or not at all, and that these spaces do not meet their needs well or at all. There is decreased use of such spaces as children get older, a result that is consistent with findings in 2000. Children who participate in sport are more likely to use the spaces. Families from low-income households are less likely to report that these spaces meet their children's needs.

While there are encouraging data from the United States that indicate a positive relationship between open spaces and physical activity level,^{55,56,57} there is a need to further examine why the 2005 PAM data seem to be indicating that these spaces are not meeting community needs as effectively as they could be, and perhaps not being used as a result. There also needs to be consideration of how to make the spaces more appealing to youth, and how to support lower-income families in using the spaces.

POLICY AND INVESTMENTS

With a federal election and government change in 2006, there have been opportunities to raise physical activity issues at the national level in the political realm. Policy initiatives relating to physical activity outlined in the Conservative government's election platform included the following:

- Commitment to spend at least one per cent of total federal health funding annually on physical activity, including amateur sport and programs for school-age children, such as the Awards of Excellence program; and
- Allow the parents of children under 16 years old who register their children in programs that promote physical fitness to claim a federal tax credit (on spending up to \$500 per year per child on registration fees and memberships).

Indicator: Progress on Government Strategies and Investments

Grade: C

There have been mixed reviews on the government's directions. The federal tax credit was announced in the 2006 budget, to begin in the 2007 tax year. While there is general support for this tax credit, there were some challenges in identifying what activities would qualify.^{58,59} It will be important to evaluate the initiative's implementation and determine whether it has an effect with respect to physical activity levels among children and youth, as well as whether it benefits all equally or only certain segments of the population.

The progress on the commitment to spend one per cent of federal health funding on physical activity is also unclear, with respect to whether it has been implemented by the government or whether it is still in development. There is some feeling that the election promise has not yet been met.⁶⁰ Groups such as Sport Matters and the Coalition for Active Living, and many of the individual organizations that are part of these coalitions, have prepared submissions to the government on how to effectively resource sport and physical activity in Canada in relation to this promise.^{61,62,63}

Sport Canada and the Public Health Agency of Canada have supported the resurgence of ParticipACTION as well, committing \$5 million with a directive to secure further corporate support to re-establish the organization as a key communicator and catalyst in promoting physical activity in Canada. While this is promising, it is only a one-year funding commitment at this time; as well, the resources for the Physical Activity Contribution Fund at the Public Health Agency continue to fall short of what is needed to support progress in relation to capacity for physical activity promotion. Indeed, funding for this program has, paradoxically, decreased significantly over the past decade.

There have been some commitments in relation to sport for individuals with special needs, as the Policy on Sport for Persons with a Disability was announced. Under this policy, the federal government provided \$12.5 million in funding to encourage more people with disabilities to participate in sport. Of that total, \$11 million was to be provided annually for initiatives that improve access to sport and \$1.5 million annually will go toward increasing participation in sport for persons with disabilities.⁶⁴

The Standing Committee on Health Report, released in March 2007, represents a comprehensive policy document discussed by this committee in relation to healthy weights. Refer to the Appendix for a summary of the committee's 13 Recommendations, which include specific actions in relation to healthy eating and increasing physical activity levels for children and youth.³

There has also been considerable activity at the provincial/territorial and municipal levels. The federal, provincial and territorial ministers responsible for sport, physical activity and recreation developed a draft framework for developing bilateral agreements on physical activity and healthy eating to encourage and enable more Canadians to be more physically active and to make healthy food choices.⁶⁵

Ministers approved new federal, provincial and territorial priorities for collaborative action that will guide their efforts in advancing the goals of the Canadian Sport Policy until 2012. In addition to ongoing priorities, the ministers agreed to focus their collaborative efforts toward enhancing sport capacity and infrastructure.

As well, the ministers agreed that sport, recreation and physical activity infrastructure continues to be their top priority in support of healthy, active lifestyles and sport participation. The federal minister reiterated the government of Canada's commitment to working in cooperation with provinces and territories in developing a comprehensive plan for infrastructure in general.

There are numerous provincial/territorial level strategies in each province, which have all committed to targets to increase physical activity in their jurisdictions. While they are at different stages of implementation, and reports on progress of implementation are varied, over time national tracking mechanisms such as the NLSCY, CCHS, PAM and other measures can provide nationally representative data that can be analyzed to reflect how these strategies are collectively making a contribution in relation to physical activity levels and health status of children and youth.

Considering the variability in available information on the progress of provincial and territorial initiatives, it is a challenge to assess the overall level of resources as well as the measures that should be taken to determine the effectiveness of the strategies in a collective way. It does seem evident that there has been increasing attention to, and investment in, physical activity at various levels of government. It will now be important to leverage these resources effectively across levels of governments as well as within different government ministries, and to evaluate their implementation to determine whether these investments are contributing to desired outcomes in relation to physical activity and health among children and youth.

The grade of C is an increase over last year; this recognizes the amount of activity and profile that has been given to the issue, and reflects cautious optimism that these forward movements will continue.

Indicator: Sector Investments in Research, Industry, Foundations Grade: INC

This is a newly developed indicator for the 2007 Report Card; a grade cannot be assigned at the moment due to a lack of comprehensive data. Nevertheless, it has been identified in order to document the need for further investigation on a growing area of investment.

As awareness and concern has grown with regard to physical inactivity among children and youth, various sectors have begun to identify where they can contribute to effect change.

Examples include the strategic focus established by the Institute for Nutrition, Metabolism and Diabetes on obesity, which has yielded an increased number of research grants in relation to physical activity. In addition to this division of the Canadian Institutes for Health Research, other institutes have chosen to focus in this area, including the Institute of Population and Public Health and the Institute for Aboriginal People's Health. Other organizations, such as the Heart and Stroke Foundation of Canada and the Canadian Institute for Health Information, have also established focused research funding opportunities in relation to physical activity, along with increased opportunities through the Social Sciences and Humanities Research Council.

As well, philanthropic and corporate foundations have shown growing interest and involvement in supporting active healthy living. The Canadian Tire Foundation's "Jump Start" initiative is a community-based charitable program that helps children in financial need participate in organized sport and recreation. The Max Bell Foundation, which has a strategic priority focused on educating Canadians about public policy and practice alternatives, has a program stream in relation to health and wellness that is beginning to look into physical activity issues in this regard. The Ontario Trillium Foundation identifies "healthier and more physically active Ontarians" as one of its key granting priorities. The Toronto Community Foundation has a "Growing Active Kids" program that focuses on three priorities: recreation programs that enable participation by children and youth who otherwise might not have access due to cost or other barriers; programs that encourage diverse ethno-cultural participation; and programs that encourage leadership and mentoring of youth and/or provide opportunities for young people to gain paid employment. The Laidlaw Foundation has done some work in relation to youth engagement and recreation, and is currently focused on fostering diverse youth leadership on community issues that affect healthy growth and development.

The J.W. McConnell Family Foundation has taken some initial steps into the sport and physical activity domain in the past year. Statistics Canada's *Survey of Giving, Volunteering and Participating* findings reflect that almost 40 per cent of all Canadians who volunteer do so through sports and recreation programs, and taking part in such programs is one of the most accessible pathways for recent immigrants and other socially marginalized groups to enter mainstream community life. Given these facts, the Foundation has launched an ongoing initiative to support sports and recreation programs that reach disengaged young people, as participants, and then subsequently as volunteers and leaders. A particular emphasis is being placed on recent immigrants and Aboriginal youth. More than \$3 million has been allocated in the first year alone by the Foundation towards this long-term initiative.

The most notable investment has been made in Quebec, where a collective contribution championed by the André and Lucie Chagnon Foundation, which also involves a financial commitment from the Quebec government, will amount to \$40 million until 2012.⁶⁷ The Chagnon Foundation and the provincial government joined forces to increase publicity and school programs promoting healthy living. Taking a population health approach, the Chagnon Foundation seeks to contribute to the development and improvement of health through prevention of poverty and disease. It focuses primarily on children and their parents, and has taken leadership among the philanthropic foundations with respect to physical activity. Moving forward, these efforts could be mirrored by others from this sector with an interest in this area.

With respect to industry, there have been many individual company and partner initiatives in relation to active, healthy living for kids. One particular example that demonstrates multi-level industry partnership is *Canada's Food and Beverage Advertising Initiative*, which involves a commitment from 15 companies, Advertising Standards Canada, Food and Consumer Projects Canada, and Concerned Children's Advertisers.⁶⁸ This is a collective plan to implement responsible advertising practices in relation to children and youth, which involves both the promotion of active healthy living and a reduction in the promotion of unhealthy products. Beginning in 2008, participants in the initiative will devote at least 50 per cent of their television, radio, print and Internet advertising directed at children under 12 years of age to promoting healthy lifestyles through promotion of healthy food choices and healthy

active living messages. This industry commitment will be important to monitor in terms of the contribution it can make in relation to social influences on children pertaining to their physical activity levels.

The leadership demonstrated by several philanthropic and corporate foundations is very encouraging. The activities in each of these areas provide an indication of growing cross-sector investment and collaboration in relation to this important issue and should be more formally tracked in future.

MOVING FORWARD: KEY RECOMMENDATIONS IN 2007

The recommendations of the 2006 Report Card focused on public awareness for parents, increased school-based physical activity, and a reduction in screen time. These recommendations continue to require significant attention to improve and sustain momentum. The 2007 recommendations build on those from 2006, and focus on the following specific areas:

Better Measurement, Better Progress.

It is clear that there is a need to enhance efforts to gather accurate objective measures of physical activity levels in relation to clearly understood guidelines. The clear discrepancies between self-report data and pedometer-based information demonstrates that the more we refine our methods of assessing physical activity levels, the more accurate we can be about where we are and where we need to be.

Policies that have been developed in relation to physical activity (e.g., Daily Physical Activity policies) also need to be objectively evaluated in order to implement measures that will allow for comparison across studies and geographic regions, and over time.

Both research objectives and results need to be more effectively communicated, to reduce the gaps between perception and reality that have been observed among parents, children and the broader community. The information also needs to be used to further identify and reduce disparities — SES, gender, Aboriginal population, special needs populations, etc. — in relation to physical activity opportunities.

Transform the After-School Hours from Screen Time to Active Time.

There is some progress in relation to school-based physical activity opportunities, and these opportunities need to be monitored and assessed as they evolve. What is clear is that we have both a looming concern and an opportunity in relation to the increasing amount of screen time that children and youth are logging after school and into the evening.

Recent attention has been focused on the fact that after-school physical activity options are limited, and children are seeking meaningful, enjoyable activities. Research indicates that “the vast majority of children told us that they want to be engaged in activities that build their competence, their connectedness and their physical health. Not one said they wanted to watch more TV after school.”⁶⁹ Creative “homework” opportunities that support physical activity participation after school is one unique approach that can be used to reinforce what kids learn in school with what they enjoy doing after school hours. The CFLRI 2005 *Survey of Canadian Schools* indicates that 47 per cent of schools are in fact assigning homework that involves participation in some type of physical activity. This approach, which can replace screen time in the after-school hours, is an interesting concept that can be further explored.

In addition, the school-community model has been consistently identified as one of the best approaches for enhancing physical activity during school time; this model needs to be broadened to ensure it is applied to the after-school hours as well, through effective partnerships between schools, community agencies and school-aged child programs that serve to provide opportunities for structured and unstructured physical activity opportunities. It is essential that schools are not solely relied upon to address these issues — partnerships between schools, parents, community programs and care providers are essential.

Engage Our Youth.

Nearly every indicator in this year's report has identified a concern that we are not doing a good job of engaging our youth when it comes to physical activity. The mass of evidence — declining physical activity levels, declining sport participation, declining involvement at school, less use of parks and facilities compared to younger children, along with increasing screen time and increases in emotional health challenges at the stage of adolescence — all sends a very clear message that this important developmental period is sorely neglected. A recent systematic review was conducted to examine the barriers to, and facilitators of, physical activity among young people aged 11-16 years.⁷⁰ The review examined community and society-level interventions. Young women in particular identified barriers to physical activity associated with certain ways of providing physical education in schools. Young people in general identified a need for increased choice and facilities within the community and emphasized physical activity's social side.

In order to effectively address this issue, it will be critical to engage in a working relationship with youth that provides them with some autonomy and opportunity to direct and design physical activity opportunities that will be motivating, socially stimulating and enjoyable.



2007 Overall Grade: D

Canada's Report Card on Physical Activity for Children and Youth seeks to assess the physical activity levels and related health status of children and youth in Canada. In the three years that the Report Card has been tracking this topic, we have seen little sign of improvement. Does that mean we're stuck in a rut?

Not entirely. As discussed above, past data relied on self-measurement of activity, but we have now started to use more objective measurements. While this provides us with more reliable information, in the transition period it means a disconnect from the optimistic self-measures of previous years.

This false optimism is something that must be addressed. Many parents are not even aware of the recommended guidelines for physical activity and, as our Report Card found, they also greatly overestimate the amount of physical activity their children receive. Moreover, there is a perception among many that physical education is less important than other school activities, especially in the higher grades. This perception needs to be addressed, through better education and more funding provided to increase physical activity programming, and to ensure that it is happening. To further support this, we need to continue to replace sedentary time with physical activity time. Kids need less "screen" time and more opportunities for physical activity participation that are fun, age appropriate and support a lifelong commitment to active healthy living as they get older.

The Report Card shows the vital importance, health-wise, of doing this. It is important to educate individuals, schools, government and other stakeholders about the very real health consequences of physical inactivity, especially among youth. Physical inactivity can lead to a range of emotional, mental and physical conditions. By contrast, physical activity can increase children's sense of self-esteem and connectedness with society.

The good news is that we are starting to take steps: Some progress is being made in relation to some of the key societal influences that can lead to an increase in physical activity levels and better health for our youth. Various provinces have launched initiatives that aim to increase physical activity participation levels. However, the Report Card shows that a great deal of work still needs to be done in order to ensure we effectively enhance, leverage and evaluate what is happening in homes, schools and communities — on the ground and in the offices of decision-makers in government, industry and those with philanthropic interests to support this issue.

It is very important to recognize the good work that is underway through the many strategies, initiatives and commitments that are taking place in various sectors and at various levels. It is equally or more important to determine how to build on the foundation that is now being laid to support physical activity participation among children and youth.

It's an uphill journey: While we have established some solid footholds, we need further support to reach the summit, where we will have attained clearly demonstrated increases in physical activity levels and resulting shifts in health status for children and youth. In order to reach that peak, we need to foster even greater collective action across all the areas of influence that will help to make Canada's kids active healthy kids.

Appendix: The Standing Committee on Health Report Recommendations, March 2007

The Standing Committee on Health Report, released in March 2007, represents a comprehensive policy document discussed by this committee in relation to healthy weights. The following is a summary of the 13 specific recommendations, which include specific actions in relation to healthy eating and increasing physical activity levels for children and youth.

RECOMMENDATION 1

- Establish targets to achieve healthy weights for children through physical activity and healthy food choices including:
 - A halt to the rise in childhood obesity by 2010,
 - A reduction in the rate of childhood obesity from 8% to at least 6% by 2020;
- Implement, in collaboration with First Nations and Inuit, immediate measures to halt obesity among First Nations and Inuit children; and,
- Report annually to Parliament on overall efforts to attain healthy weights for children and on the results achieved.

RECOMMENDATION 2

- Establish a comprehensive public awareness campaign on healthy weights for children;
- Promote both quality physical activity and healthy food choices as key elements of the campaign;
- Employ all available media in all regions of the country;
- Develop and disseminate clear, easy to use, multilingual, culturally diverse educational tools for parents, children, teachers, health professionals, community planners, etc.; and,
- Collaborate with provincial and territorial partners, national Aboriginal organizations and other stakeholders as appropriate.

RECOMMENDATION 3

- Implement a mandatory, standardized, simple, front of package labelling requirement on pre-packaged foods for easy identification of nutritional value;
- Apply a phased-in approach starting with foods advertised primarily to children; and,
- Promote the new labelling requirement to parents through an aggressive media campaign.

RECOMMENDATION 4

- Establish regulations by 2008 that limit trans fat content in food as recommended by the Trans Fat Task Force, while not increasing saturated fat content.

RECOMMENDATION 5

- Collect data on a regular and continuous basis on healthy weights for children;
- Make data available on both physical activity levels and food choices;
- Provide data from a variety of biometric measurements, including body mass index, waist-to-hip ratio and abdominal circumference;
- Include data on diverse ethno-cultural and socioeconomic groups, specifically including Inuit; and,
- Collaborate with provincial and territorial partners, national Aboriginal organizations and other stakeholders as appropriate.

RECOMMENDATION 6

- Create a mechanism for knowledge exchange on healthy weights for children that:
 - Includes a focus on both physical activity and food choices;
 - Disseminates ongoing and published research, results of evaluations, best practices, promising practices, unsuccessful practices, etc.,
 - Collects and makes information available in diverse languages, reflective of multiple ethnocultural demographic communities, including First Nations, Inuit and Métis; and,
- Collaborate with provincial and territorial partners, national Aboriginal organizations and other stakeholders as appropriate.

RECOMMENDATION 7

- Build research capacity across the broad range of health determinants related to healthy weights for children;
- Ensure a research focus on both quality physical activity and healthy food choices;
- Include, but do not limit research efforts to, federal departments and agencies such as the Canadian Institutes of Health Research, Social Sciences and Humanities Research Council, Statistics Canada, Health Canada, Public Health Agency of Canada, Indian and Northern Affairs Canada; and,
- Develop individual research components on the determinants of health for First Nations, Inuit, and Métis children.

RECOMMENDATION 8

- Identify immediately a lead department or agency for federal interdepartmental action on healthy weights for children;
- Include but do not limit action to the following departments: Health Canada, Public Health Agency of Canada, Canadian Institutes of Health Research, Finance Canada, Indian and Northern Affairs Canada, Sport Canada, Heritage Canada, Infrastructure Canada, Human Resources and Social Development Canada, the Canadian Food Inspection Agency, the Canadian Radio-television and Telecommunications Commission and Statistics Canada;
- Ensure that action encompasses a healthy eating and a physical activity focus; and,
- Establish an ongoing mechanism for consultation with First Nations, Inuit and other national Aboriginal organizations.

RECOMMENDATION 9

- Assess the effectiveness of self-regulation as well as the effectiveness of prohibition in the province of Quebec, in Sweden and in other jurisdictions;
- Report on the outcomes of these reviews within one year;
- Explore methods of regulating advertising to children on the Internet; and,
- Collaborate with the media industry, consumer organizations, academics and other stakeholders as appropriate.

RECOMMENDATION 10

- Evaluate, with First Nations and Inuit, methods to provide their remote communities with access to nutritious food at a reasonable cost, including the Food Mail Program, the use of traditional foods, and various self-sustaining initiatives.

RECOMMENDATION 11

- Establish immediately a reliable baseline with respect to the number of children who enrol in sports and physical activity;
- Report on the uptake of the Children's Tax Credit within two years; and,
- Evaluate the effectiveness of the Children's Fitness Tax Credit and report within five years.

RECOMMENDATION 12

- Work to facilitate, in collaboration with the Joint Consortium for School Health, appropriate healthy food and physical activity standards and programs in schools;
- Provide appropriate healthy food and physical activity standards and programs in First Nations schools within federal jurisdiction; and,
- Collaborate with the provincial and territorial partners, national Aboriginal organizations and other stakeholders as appropriate.

RECOMMENDATION 13

- Provide new and dedicated infrastructure funding to facilitate access to varied options for children with respect to quality physical activity and healthy food choices; and,
- Collaborate with the provincial and territorial partners, national Aboriginal organizations and other stakeholders as appropriate.

Appendix: Research Methodology, Primary Data Sources, The 2007 Report Card Development Process, and Historical Overview

RESEARCH METHODOLOGY AND PRIMARY DATA SOURCES

The primary sources of information for the 2007 Report Card were the 2005/2006 *Health Behaviour in School-age Children Survey* (HBSC), the 2006/2007 *Tell Them From Me Survey* (TTFM) the Canadian Fitness and Lifestyle Research Institute's 2005 *Physical Activity Monitor* (PAM), the 2005 *Survey of Canadian Schools*, and the *Canadian Physical Activity Levels Among Youth* (CAN PLAY) study. Where appropriate, the most recent data from the Statistics Canada *Canadian Community Health Survey* (CCHS) and the *National Longitudinal Survey of Children and Youth* (NLSCY) were also referenced, as were selected research studies and data in each category area, as noted below in the References section.

Different data sources examine different age ranges, but overall the Report Card examines opportunities from the early years through adolescence.

Health Behaviour in School-Age Children Survey (HBSC)

The Health Behaviour in School-Age Children Survey is an international study of health and its determinants in young people aged 11, 13 and 15 that takes place every four years. The HBSC is sponsored by the European branch of the World Health Organization and is carried out by research teams from 41 countries. The Canadian HBSC is funded by the Public Health Agency of Canada.

The 2007 Report Card uses data from the 2005/06 HBSC, and also considers trends over time in relation to the 2001/02 HBSC.

Canadian Fitness and Lifestyle Research Institute:

Physical Activity Monitor (PAM) and Survey of Canadian Schools

PAM is part of the Physical Activity and Sport Monitoring Program of the Canadian Fitness and Lifestyle Research Institute (CFLRI), and is undertaken in partnership with the Fitness/Active Living Unit of the Public Health Agency of Canada, Sport Canada and the Interprovincial Sport and Recreation Council. PAM is an annual telephone survey that tracks changes in physical activity patterns, factors influencing participation, and life circumstances in Canada (i.e., outcome indicators of the efforts to increase physical activity among Canadians).

The 2007 Report Card accesses data from the 2005 PAM and also draws upon the 2005 Survey of Canadian Schools, which was conducted in a representative sample of schools in all provinces and territories.

Canadian Fitness and Lifestyle Research Institute:

Canadian Physical Activity Levels Among Youth (CAN PLAY)

Undertaken in partnership with the Public Health Agency of Canada and the Interprovincial Sport and Recreation Council, CAN PLAY is designed to collect comprehensive and accurate, objective information on the physical activity levels of Canadian children and youth (10,000 recruited annually in approximately 6,000 families). In 2005, 2006 and 2007, through the use of pedometers, CAN PLAY measured the exact number of steps taken daily for children and youth aged five to 19.

The 2007 Report Card accesses CAN PLAY data to inform the following categories: physical activity/inactivity and family.

Tell Them From Me (TTFM)

Tell Them From Me is an evaluation system for school reform and evidence-based decision making. A web-based evaluation system, the TTFM allows teachers and students in grades 5 to 12 to give continuous feedback on a concise set of school indicators in three domains: Student Engagement, Student Health and Wellness, and School/Classroom Climate, which are all directly linked to school policy and practice.

The 2007 Report Card accesses data from TTFM to inform the following indicators: physical activity levels, screen time, sport participation, and overall physical well-being and psychosocial development.

National Longitudinal Survey of Children and Youth (NLSCY)

The NLSCY is a multi-purpose survey that provides a national database on the characteristics and life experiences of Canadian children as they grow from infancy to young adulthood. It is used to support evidence-based policy and provides a means for researchers to conduct research on children's development.

The 2007 Report Card uses data for children from the fourth cycle of the NLSCY, conducted in 2001/02. This cycle was chosen because it is the most recent cycle that allows for an examination of interprovincial trends in measures pertaining to children aged eight to 17 years. The analyses also report the trends, over the five cycles, for body mass index, overweight/obesity, disparities and acculturation for children aged eight to 11 years.

Canadian Community Health Survey (CCHS)

The CCHS is a Statistics Canada survey that seeks to provide regular and timely cross-sectional estimates of health determinants, health status and use of the health care system.

The 2007 Report Card uses data from the 2004 CCHS to produce overweight and obesity rates for children and youth aged two to 17 years. The survey does not include residents of the three territories, Indian reserves and some remote areas, and regular members of the Canadian Armed Forces. The response rate was 76.5 per cent. Measured height and weight were obtained for 66 per cent of the two- to 17-year-olds who responded to the 2004 CCHS, a total of 8,661 individuals.



2007 REPORT CARD DEVELOPMENT PROCESS

In May 2005, the first annual Canada's Report Card on Physical Activity for Children and Youth was released, which gave us an overall grade of D. The 2005 Report Card sounded the alarm and underscored the need for action. The 2006 Report Card, released in May 2006, maintained a failing grade of D; however, it included new data, indicators and specific Recommendations for Action.

The development of each annual Report Card is largely supported by the work of the Research Work Group. This Group includes an interdisciplinary selection of experts, who are responsible for identifying and ranking Report Card indicators based on available data, research and key issue areas that can be graded nationally. As part of the development process, the Research Work Group accesses additional experts/researchers to fill issue-specific gaps as applicable.

Research Work Group Members

Dr. Mark Tremblay (Chair)	Children's Hospital of Eastern Ontario; Adjunct professor University of New Brunswick and University of Saskatchewan
Dr. Ian Janssen	Queen's University
Dr. Peter Katzmarzyk	Queen's University
Dr. Doug Willms	University of New Brunswick
Dr. Louise Mâsse	University of British Columbia
Dr. Steve Manske	University of Waterloo
Prof. Cora Craig	Canadian Fitness and Lifestyle Research Institute

In addition to the contribution of the Research Work Group, the development of each annual Report Card incorporates feedback and consultation with key stakeholders, who are representative of multiple sectors (government, non-government, foundations and corporations) across Canada.

In 2004, a National Physical Activity Symposium was held to establish the category indicators, and collect and analyze data for the 2005 Report Card and subsequent Report Cards.

In 2006, Active Healthy Kids Canada hosted an Improve the Grade: National Action Planning Forum, where more than 50 key stakeholders from across Canada gathered to identify specific Recommendations for Action for the 2006 Report Card, cross-referenced with the Coalition for Active Living's Pan-Canadian Physical Activity Strategy.

In 2006, a feedback form was distributed to more than 1,500 key stakeholders across Canada to provide feedback on the 2006 Recommendations for Action. An overwhelming majority (90-95 per cent) of stakeholder respondents agreed or strongly agreed with the 2006 Recommendations for Action. Stakeholders also indicated that they used the Report Card as an information reference as well as a planning and advocacy tool.

In 2007, an Improve the Grade: Online Teleconference was held with 13 key stakeholders across Canada to further respond to the progress of the 2006 recommendations and to inform future recommendations identified in this year's Report Card.

INDICATOR DEVELOPMENT, DATA COLLECTION AND ANALYSIS, AND CONTENT DEVELOPMENT

In each indicator area, when deciding on the appropriate grade, the Research Work Group considers the overall framework established in 2005, assesses the data sets provided in terms of key findings and, where possible, examines disparities in ethno-racial, gender and socioeconomic status, as well as trends over time and international comparisons. For some indicators, sufficient national data do not exist for a proper assessment to be made, and therefore those indicators are marked "INC" (for incomplete).

- A Canadian children and youth are active enough and reaching optimal growth and development.
- B The majority of Canadian children and youth are active enough and reaching optimal growth and development; however, children who are obese, or physically or mentally challenged may not have appropriate physical activity opportunities.
- C Insufficient appropriate physical activity opportunities and programs are available to large segments of Canadian children and youth.
- D Insufficient appropriate physical activity opportunities and programs are available to the majority of Canadian children and youth.
- F Canadian children and youth have a sedentary lifestyle.

Note: For several of the indicator categories, these exact criteria do not apply but give general guidance for the grade assignment.

HISTORICAL OVERVIEW

The following chart provides an overview of the evolving categories and indicators for each annual Report Card and their associated grades for the past three years.

2005 OVERALL GRADE D	2006 OVERALL GRADE D	2007 OVERALL GRADE D
<p>Physical Activity / Inactivity</p> <ul style="list-style-type: none"> • Physical Activity Levels: D • Screen Time: C- • Sport Participation: C+ Family • Family Physical Activity: D • Ensuring That Kids Are Active: C- <p>School</p> <ul style="list-style-type: none"> • Daily Physical Education: F • Trained Personnel: D- • School-Based Physical Activity Opportunities: INC <p>Community Environment</p> <ul style="list-style-type: none"> • Access and Quality of Programs: C • Community Infrastructure: INC <p>Policy</p> <ul style="list-style-type: none"> • Federal Strategies and Investments: C- • Provincial / Territorial / Municipal Strategies and Investments: INC <p>Health</p> <ul style="list-style-type: none"> • Overweight / Obesity: F • Chronic Disease Risk Factors: INC 	<p>Physical Activity / Inactivity</p> <ul style="list-style-type: none"> • Physical Activity Levels: D • Screen Time: D- • Organized Sport Participation: C- • Unstructured Sport Participation: C <p>Family</p> <ul style="list-style-type: none"> • Family Physical Activity: D- • Ensuring That Kids Are Active: D • Parent Perspectives on Activity: D (new) <p>School and Community</p> <ul style="list-style-type: none"> • Physical Activity at School: INC • Access and Quality of Recreation Programs: C • Built Environment: INC • Neighbourhood Safety and Support: B (new) • Proximity to Parks and Playgrounds: B- (new) • Active Transportation: D (new) <p>Policy</p> <ul style="list-style-type: none"> • Progress on Government Strategies and Investments: C- <p>Health</p> <ul style="list-style-type: none"> • Overweight / Obesity: F • Overall Physical and Psychological Well-Being: C (new) 	<p>Physical Activity / Inactivity</p> <ul style="list-style-type: none"> • Physical Activity Levels: F • Screen Time: D- • Sport Participation: C <p>Family</p> <ul style="list-style-type: none"> • Family Perceptions and Roles Regarding Physical Activity: D <p>School and Community</p> <ul style="list-style-type: none"> • Physical Activity Programming at School: C • Social Support for Physical Activity at School: B- (new) • Training of School Personnel: C- (new) • Community Facilities and Programs: Access and Use: C • Community Parks and Outdoor Spaces: Access and Use: C+ <p>Policy</p> <ul style="list-style-type: none"> • Progress on Government Strategies and Investments: C • Sector Investments in Research, Industry, Foundations: INC (new) <p>Health</p> <ul style="list-style-type: none"> • Overweight / Obesity: F • Overall Physical Well-Being and Psychosocial Development: C-

DISSEMINATION OF INFORMATION

Once gathered, the raw report card data are organized and presented in both a summary format and a more detailed version in English and French, distributed in both hard copy and electronically through www.activehealthykids.ca. The promotion and distribution of the Report Card involves a variety of communication methods, ranging from media distribution to direct mail dissemination as well as via various stakeholder networks. We can expect the report card, given adequate resources, to evolve into an annual comprehensive measurement/benchmark of physical activity for children and youth. The knowledge and insight gained from each annual report card should be used to influence building better programs, creating better messages and developing better policies.

For more information or to obtain additional copies of Canada's Report Card on Physical Activity for Children and Youth, visit www.activehealthykids.ca or contact info@activehealthykids.ca, toll free 1-888-446-7432.

Appendix: Acronyms and Definitions

Acronym	Definition
ADHD	Attention-Deficit/Hyperactive Disorder
CAN PLAY	Canadian Physical Activity Levels Among Youth
CATCH	Coordinated Approach to Child Health
CCHS	Canadian Community Health Survey
CFLRI	Canadian Fitness and Lifestyle Research Institute
CIHR	Canadian Institutes of Health Research
HBSC	Health Behaviour in School-age Children Survey
INC	Inconclusive
NLSCY	National Longitudinal Survey of Children and Youth
PACY	Physical Activity and Dietary Intake Levels of Children and Youth
PAM	Physical Activity Monitor
SES	Socioeconomic Status
SHAPES	School Health Action, Planning and Evaluation System
TTFM	Tell Them From Me Survey
WHO	World Health Organization



References

- ¹ \$5M to bring back ParticipACTION exercise program. (2007, February 19). CBC News. Retrieved from <http://www.cbc.ca/health/story/2007/02/19/participaction.html>.
- ² Fortier, M. Canada's new government re-launches ParticipACTION. (2007, February 19). Canada NewsWire [Ottawa], p. 1.
- ³ Report of the Standing Committee on Health. (2007). Healthy weights for healthy kids. House of Commons Canada. Retrieved from <http://cmte.parl.gc.ca/cmte/CommitteePublication.aspx?COM=10481&SourceId=199309>.
- ⁴ Alphonso, C., & Picard, A. (2007, January 20). Canada's schools fail the health test. Globe and Mail. [On-line]. Retrieved from <http://www.theglobeandmail.com/servlet/story/RTGAM.20070119.wschools-main20/BNStory/National/home>
- ⁵ Alphonso, C. (2007, January 23). Nationwide healthy school strategy urged. Globe and Mail. [On-line]. Retrieved from <http://www.theglobeandmail.com/servlet/story/LAC.20070123.SCHOOLSREAX23/TPStory/Education>
- ⁶ Picard, A. (2007, January 22). Is it time for examinations in physical fitness? Globe and Mail. [On-line]. Retrieved from <http://www.theglobeandmail.com/servlet/story/RTGAM.20070122.wschoolphysed22/BNStory/National/home>
- ⁷ Picard, A. (2007, January 22). Sick schools? Globe and Mail. [On-line]. Retrieved from <http://www.theglobeandmail.com/servlet/story/RTGAM.20070119.wliveschoolhealth0122/BNStory/specialComment>
- ⁸ Physical education becomes part of curriculum for grade 11 and 12 students in 2008: Bjornson. (2007, April 10). [On-line]. Retrieved from <http://news.gov.mb.ca/news/index.html?archive=today&item=1435>
- ⁹ Canadian Fitness Lifestyle Research Institute. CAN PLAY Study. Participation in organized physical activity or sport and steps taken. (2007, March 1). [On-line]. Retrieved from http://www.cfri.ca/eng/programs/canplay/documents/pam05_sec5.pdf
- ¹⁰ Bassett, D.R., Tremblay, M.S., Esliger, D.W., Copeland, J.L., Barnes, J.D., & Huntington, G.E. (2007). Physical activity and body mass index of children in an Old-Order Amish community. *Medicine and Science in Sports and Exercise*, 39, 410-415.
- ¹¹ Campagna, P., Wadsworth, L., Amero, M., Arthur, M., Durant, M., Murphy, R., Porter, J., Rehman, L., & Thompson, A. (2007, February). Physical activity levels and dietary intake of children and youth in the province of Nova Scotia — 2005. Report to the Nova Scotia Department of Health Promotion and Protection and Department of Education, pp. 1-142.
- ¹² Hobin, E., Bonin, E., Manske, S., & Leatherdale, S. (2007). School Health Action Planning and Evaluation System (SHAPES): Ontario study. Now under review; provided with special permission to Active Healthy Kids Canada for the 2007 Canada's Report Card on Physical Activity for Children and Youth.
- ¹³ (2005, November). First Nations Regional Longitudinal Health Survey (RHS) 2002-03: Results for adults, youth and children living in First Nations communities. First Nations Information Governance Committee, Assembly of First Nations, First Nations Centre at the National Aboriginal Health Organization.
- ¹⁴ Rimmer, J.H., Riley, B., Wang, E., Rauworth, A., & Jurkowski, J. (2004). Physical activity participation among persons with disabilities: Barriers and facilitators. *American Journal of Preventative Medicine*, 26(5), 419-425.
- ¹⁵ Tremblay, M.S., Bryan, S.N., Pérez, C.E., Ardern, C.I., & Katzmarzyk, P.T. (2006). Physical activity and immigrant status. *Canadian Journal of Public Health*, 97(4), 277-282.
- ¹⁶ Adlaf, M.E., Allison, R.K., Dwyer, J.J., Faulker, G., Goodman, J., Koezuka, N., & Koo, M. (2006). The relationship between sedentary activities and physical inactivity among adolescents: Results from the Canadian Community Health Survey. *Journal of Adolescent Health*, 39, 512-522.
- ¹⁷ Faulkner, E.G., Marshall, J.S., & Spanier, A.P. (2006). Tackling the obesity pandemic. *Canadian Journal of Public Health*, 97(3), 255-257.

- ¹⁸ Burns, F.C., Harrison, M., Heslin, J., McGuinness, M., & Murphy, N. (2006). Influence of health education intervention on physical activity and screen time in primary school children: 'Switch off — get active'. *Journal of Science and Medicine in Sport*, 9, 388-394.
- ¹⁹ Greenfield, M.P., Gross, F.E., Kraut, E.R., & Subrahmanyam, K. (2000). The impact of home computer use on children's activities and development. *Children and Computer Technology*, 10(2), 124-144.
- ²⁰ American Institutes for Research. (2005). Effects of outdoor education programs for children in California. Report prepared for the California Department of Education.
- ²¹ Ayadi, E.A., Cradock, A., Gortmaker, L.S., Hannon, C., Harris, A., Keefe, L., & Wiecha, J. (2006). Play across Boston: A community initiative to reduce disparities in access to after-school physical activity programs for inner-city youths. *Preventing Chronic Disease*, 3(3), 1-8.
- ²² (2005). Bits & pieces — Athletes with disabilities become healthy adults. *Palaestra*, 21(3), 46.
- ²³ Olshansky, S.J., Passaro, D.J., Hershov, R.C., Layden, J., Carnes, B.A., Brody, J., Hayflick, L., Butler, R.N., Allison, D.B., & Ludwig, D.S. (2005). A potential decline in life expectancy in the United States in the 21st century. *New England Journal of Medicine*, 352, 1138-1145.
- ²⁴ Katzmarzyk, P.T., & Janssen, I. (2004). The economic costs associated with physical inactivity and obesity in Canada: an update. *Canadian Journal of Applied Physiology*, 29:90-115.
- ²⁵ Strong, W.B., Malina, R.R., Blimke, C.J.R., Daniels, S.R., Dishman, R.K., Gutin, B., Hergenroeder, A.C., Must, A., Nixon, P.A., Pivarnik, J.M., Rowland, T., Trost, S., & Trudeau, F. (2005). Evidence based physical activity for school-age youth. *Journal of Pediatrics*, June, 732-736.
- ²⁶ Pinhas-Hamel, O., & Zeitler, P. (2004). The global spread of type 2 diabetes mellitus in children and adolescents. *Medical Progress*.
- ²⁷ Lee, J.M., Herman, W.H., McPheeters, M.L., & Gurney, J.G. (2006). An epidemiologic profile of children with diabetes in the U.S. *Diabetes Care*, 9(2), 420-421.
- ²⁸ Andersen, B.L., Anderssen, A.S., Brage, S., Ekelund, U., Froberg, K., & Sardinha, B.L. (2006). Physical activity and clustered cardiovascular risk in children: A cross-sectional study (The European Youth Heart Study). *The Lancet*, 368, 299-304.
- ²⁹ Armstrong, P.T., Tang, C.K., Ommeren, V.M., & Saxena, S. (2005). Mental health benefits of physical activity. *Journal of Mental Health*, 14(5), 445-451.
- ³⁰ DeWit, D., McKee, C., Fjeld, J. & Karioja, K. (December 2003). The critical role of school culture in student success. Centre for addiction and mental health. [On-line] Retrieved from <http://www.voicesforchildren.org>.
- ³¹ Ahamed, Y., Liu-Ambrose, T., Macdonald, H., McKay, H., Naylor, P.-J., & Reed, K. (2007). School-based physical activity does not compromise children's academic performance. *Medicine & Science in Sports & Exercise*, 39(2), 371-376.
- ³² Harvey, W.J. & Reid, G. (2003). Attention deficit/hyperactivity disorder: A review of research on movement skill performance of and physical fitness. *Adapted Physical Activity Quarterly*, 20, 1-25.
- ³³ O'Connor, J., French, R., & Henderson, H. (2000). Use of physical activity to improve behavior of children with autism — Two for one benefits. *Palaestra*, 16(3), 22-29.
- ³⁴ Janssen, I., Katzmarzyk, P., Boyce, W.F., & Pickett, W. (2004). The independent influence of physical inactivity and obesity on health complaints in 6th to 10 grade Canadian youth. *Journal of Physical Activity and Health*, 1, 331-343.
- ³⁵ Canadian Health Reference Guide. (2007). Children should do as their parents say, not as they do. [On-line]. Retrieved from http://www.chrgonline.com/news_detail.asp?ID=66735.
- ³⁶ Naylor, P.J., Zebede, J.A., Macdonald, H.M., Reed, K.E., & McKay, H.A. (2006). Lessons learned from Action Schools! BC — An 'active school' model to promote physical activity in elementary schools. *Journal of Science and Medicine in Sport*, 9, 413-424.

- ³⁷ Faulkner, G., Goodman, J., Irving, H., Adlaf, E., & Allison, K. (2007). Centers for Disease Control and Prevention (CDC). Participation in high school physical education — Ontario, Canada, 1999-2005. *Morbidity and Mortality Weekly Report*, 26(56), 52-56.
- ³⁸ Trudeau, F., & Shephard, R. (2005). Contribution of school programmes to physical activity levels and attitudes in children and adults. *Sports Medicine*, 35(2), 89-105.
- ³⁹ Kalyvas, V., & Reid, G. (2003). Sport adaptation, participation, and enjoyment of students with and without physical disabilities. *Adapted Physical Activity Quarterly*, 20, 182-199.
- ⁴⁰ Andersen, L.B., Cooper, A., Froberg, K., Page, A., Wang, H., & Wedderkopp, N. (2006). Active travel to school and cardiovascular fitness in Danish children and adolescents. *Medicine & Science in Sports & Exercise*, 38(10), 172-173.
- ⁴¹ Spinks, A., Macpherson, A., Bain, C., & McClure, R. (2006). Determinants of sufficient daily activity in Australian primary school children. *Journal of Pediatrics and Child Health*, 42, 674-679.
- ⁴² Bain, C., Macpherson, A.K., McClure, R.J., & Spinks, A.B. (2006). Compliance with the Australian national physical activity guidelines for children: Relationship to overweight status. *Journal of Sports Science and Medicine*.
- ⁴³ Timpero, A., Salmon, J., & Ball, K. (2004). Evidence-based strategies to promote physical activity among children, adolescents, and young adults: review and update. *Journal of Science and Medicine in Sport*, 7(1), 20-29.
- ⁴⁴ Thomas, H. (2004). Effectiveness of physical activity enhancement and obesity prevention programs in children and youth. Hamilton, Ont.: Effective Public Health Practice Project.
- ⁴⁵ Dollman, J., Norton, L., & Norton, K. (2005). Evidence for secular trends in children's physical activity behaviour. *British Journal of Sports Medicine*, 39(12), 892-897.
- ⁴⁶ U.S. Department of Health and Human Services. (1997). Guidelines for school and community programs to promote lifelong physical activity among young people. *MMWR Publication No. RR-6*.
- ⁴⁷ Naylor, P.J., Macdonald, H.M., Reed, K.E. & McKay, H.A. (2006). Action Schools! BC: A socioecological approach to modifying chronic disease risk factors in elementary school children. *Public Health Research, Practice and Policy*, 3(2), 1-8.
- ⁴⁸ Shain, M. (2005). Living school pilot project evaluation report. [On-line]. Retrieved from <http://www.livingschool.ca/Opheia/LivingSchool.ca/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=13571>
- ⁴⁹ (2006) Key findings and recommendations taken from a qualitative evaluation of the Active Kids, Healthy Kids strategy. [On-line]. Retrieved from <http://www.gov.ns.ca/hpp/physicalActivity/publications/Final%20AKHK%20Evaluation.pdf>.
- ⁵⁰ CDC Coordinated School Health Model. [On-line]. Retrieved from <http://www.cdc.gov/HealthyYouth/CSHP/>
- ⁵¹ CATCH: Coordinated Approach to Child Health. [On-line]. Retrieved from <http://www.sph.uth.tmc.edu/catch/about.htm>
- ⁵² European Network of Health Promoting School Initiative. [On-line]. Retrieved from <http://www.euro.who.int/eprise/main/WHO/Progs/ENHPS/Home/>
- ⁵³ WHO Global School Health Initiative. [On-line]. Retrieved from http://www.who.int/school_youth_health/gshi/en/
- ⁵⁴ Brand, A.D., Etelson, D., & Weir, A.L. (2006). Parents' perceptions of neighborhood safety and children's physical activity. *Preventive Medicine*, 43(3), 212-217.
- ⁵⁵ Frank, L.D., Kerr, J., Chapman, J.M.S., & Sallis, J. (2007). Urban form relationships with walk trip frequency and distance among youth. *American Journal of Health Promotion*, 21.
- ⁵⁶ Epstein, H.L., Raja, S., Robinson, J., Roemmich, N.J., Winiewicz, D., & Yin, L. (2006). Association of access to parks and recreational facilities with the physical activity of young children. *American Journal of Preventive Medicine*, 43(6), 437-441.

- ⁵⁷ Calfas, J.K., Norman, J.G., Nutter, K.S., Ryan, S., & Sallis, F.J. (2006). Community design and access to recreational facilities as correlates of adolescent physical activity and body-mass index. *Journal of Physical Activity and Health*, 3(1), 118-128.
- ⁵⁸ Department of Finance Canada. (2006). Report of the Expert Panel for the Children's Fitness Tax Credit. [On-line]. Retrieved from www.fin.gc.ca/activity/pubs/ctc_e.html.
- ⁵⁹ Fitzpatrick, M. (2006, October 27). Fitness tax credit requires 'sweat': Panel does not list specific activities for children. *National Post* [Ottawa], p. A10. Retrieved from www.canada.com.
- ⁶⁰ Norris, R. (2007, March 30). Sports funding in federal budget falls short of election promise. *Guelph [Ont.] Mercury*.
- ⁶¹ Sport Matters, Standing Committee on Finance. (2006). Leveraging sport to give Canada the competitive edge: A brief for the 2006 pre-budget consultation on the 2007 federal budget. [On-line]. Retrieved from <http://www.sportmatters.ca/content/home.asp>.
- ⁶² Sport Matters. (2006). 2006 conference on federal-provincial-territorial ministers responsible for sport, physical activity and recreation. Ottawa — June 21-22, 2006.
- ⁶³ The Coalition for Active Living. Pan-Canadian physical activity strategy. [On-line]. Retrieved from http://www.activeliving.ca/pdf/PASstrategy%20_Feb%202004.pdf.
- ⁶⁴ Toft, G. (2006). Canada's new government committed to increasing number of persons with disabilities participating in sport. *Canadian Heritage*. [On-line]. Retrieved from http://www.pch.gc.ca/newsroom/index_e.cfm?fuseaction=displayDocument&DocIDd=CMC060398.
- ⁶⁵ Douketis, D.J., Hramiak, M.I., Lau, C.W.D., Morrison, M.K., Sharma, M.A., & Ur, E. (2007). 2006 Canadian clinical practice guidelines on the management and prevention of obesity.
- ⁶⁶ Statistics Canada. Canadian Survey on Giving, Volunteering, and Participating (CSGVP). (2004). Retrieved from <http://www.givingandvolunteering.ca/home.asp>.
- ⁶⁷ Quebec, private foundation to spend millions on healthy living. (2006, October 23). *CBC News*. [On-line]. Retrieved from www.cbc.ca/canada/montreal/story/2006/10/23/healthylivingprogram.html
- ⁶⁸ Marketers vow to help make kids healthier; 15 dominant companies will promote exercise, healthy foods and smaller portions. (2007, April 17). *Toronto Star*. [On-line]. Retrieved from <http://pqasb.pqarchiver.com/thestar/access/1255718801.html>
- ⁶⁹ Gordon, A. (2007, April 23). Critical middle years: Young kids have few after-school options, but they're keen for something meaningful. *Toronto Star*. [On-line]. Retrieved from <http://www.thestar.com/article/205991>
- ⁷⁰ Rees, R., Kavanagh, J., Harden, A., Shepherd, J., Brunton, G., Oliver, S., & Oakley, A. (2006). Young people and physical activity: a systematic review matching their views to effective interventions. Evidence for Policy and Practice Information and Coordinating Centre (EPPI-Centre), Social Science Research Unit, Institute of Education, University of London, Published by Oxford University Press.





1185 Eglinton Avenue East, Suite 501 Toronto, ON M3C 3C6 1 888 446 7432

www.activehealthykids.ca