

Literature Review and Online Scan

Healthy Active Living in Newfoundland RESEARCH PROJECT



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Literature Review

Introduction

The first stage of the research project consisted of a literature search and online search of existing initiatives, programs, and activities across Canada and in Newfoundland. The information gained through this search provided a helpful way to frame the different types and areas of healthy active living for the purpose of this study. Examples of literature in Canada on healthy active living programs for school-age children and youth are presented in the following categories: physical activity, healthy eating and mental health.

Methodology

Article searches were conducted across multiple databases (SportDiscus, Pubmed, Web of Science, PsychINFO, ERIC, Google Scholar) to retrieve peer-reviewed articles related to healthy active living initiatives for children and youth across Canada. Studies were included if the programs targeted school-aged children which includes an age range of 5 to 17. Search terms included physical activity, school-based physical activity, active living, healthy living, after school programs, physical activity interventions, school-based health interventions, community-based programs, school based physical activity, healthy eating, community program, community initiative, Canada, youth, teen, adolescents, children. Programs were excluded if it was a one-off event. A reviewer independently reviewed each article and recorded the findings in a table if the information was deemed relevant. Reference lists for each article were examined to find additional articles. The Canadian programs were grouped in categories of physical activity, healthy eating, and mental well being across Canada and within Atlantic Canada. Please note: while there are many programs and initiatives in Canada related to children and youth health, this literature review was specifically interested in *peer-reviewed* articles that are associated with those programs. As such, many known programs and initiatives may not be highlighted in this report.

Physical Activity

The public health agency of Canada recommends 90 minutes of moderate-to-vigorous physical activity (MVPA) daily for children and adolescents (Public Health Agency of Canada, 2008). Only 9% and 4% of Canadian boys and girls respectively, accumulate 60 minutes of MVPA daily (Colley et al., 2011), suggesting there is a need for increased physical activity opportunities for youth in Canada. Active Healthy Kids Canada reports that overall activity rates for children have been poor for three consecutive years. In addition, the least physically active children receive most of their physical activity during school hours (Cox et al., 2006), strongly supporting the need for school-based programs. School programs are a great way to reach a mass number of children from diverse socio-economic backgrounds (Taylor et al., 2000; Fox et al., 2004).

School programs have been shown to contribute significantly to the amount of physical activity of school-age children and have the potential to impact physical activity habits (Trudeau & Shephard, 2005). Trudeau and Shephard (2005) found physical education classes, participation in intramurals, extracurricular physical activity opportunities and active commuting to school positively affected physical activity behavior.

In the recent past, a number of school-based initiatives have been launched across Canada. In British Columbia, the program “Bounce at the Bell” was a physical education based exercise intervention for grade 4 and 5 boys and girls conducted over 20 months (McKay et al, 2000; 2005). The program consisted of simple counter-movement jumps taught to children in physical education class and executed three times each school day (at the bell). This simple program only took a few minutes each day and enhanced bone mass in children. Other similar studies with this method showed positive results related to improving bone health in pre- and early-puberty children (MacKelvie et al., 2001, 2004; Petit et al., 2002).

In 2008, a three-year study conducted by the University of Alberta known as the Alberta Project Promoting active Living and healthy Eating (APPLE) Schools was implemented (Fung et al., 2012). A School Health Facilitator was placed in each of ten schools with a mandate to implement healthy eating and healthy living strategies unique to the needs of each school. All 10 APPLE Schools implemented policies ensuring students received 30 minutes of exercise each day. The School Health Facilitators also engaged parents and promoted physical activity outside of school by organizing after school events and on weekends such as intramural sports and walk-to-school days. The APPLE Schools program was evaluated using Raising healthy Eating and Active Living Kids in Alberta (REAL Kids Alberta), a population-based survey that collected data on health, nutrition, physical activity, lifestyle factors, height, and weight among grade five students. Data on the school and home environment was also collected. Results indicated that students attending APPLE Schools were significantly more active in 2010 compared to 2008. A 16% decline in the odds of being obese was seen among students involved in the APPLE Schools two years into the 3-year intervention. The opposite was seen in other students in the province.

Another school-based program implemented in Canada was Action Schools! BC (AS! BC). Here, an integrated whole school approach that went beyond physical education to promote and encourage physical activity in elementary school students was implemented (Naylor et al., 2008). This model provided significantly more time for students to be physically active throughout the school day. Each school had a designated Action Team who were responsible for six action zones: school environment, physical education, family and community, classroom action, school spirit, and extracurricular activities (Reed et al. 2008). The overall goal of AS! BC was to promote childhood physical activity and positively affect chronic disease risk factors (MacDonald et al., 2007). AS! BC was an effective intervention that led to a 20% improvement in cardiovascular fitness and reduced systolic blood pressure (Reed et al. 2008), while providing small caloric expenditures throughout the day (Naylor et al., 2008).

It is important to develop strong physical activity habits during adolescence as these behaviours often carry through to adulthood (Kelder et al., 1994; Larson et al., 2007). The Annapolis Valley Health Promoting Schools Project (AVHPSP) based on the Center for Disease Control and Prevention provided recommendations that were developed in seven schools in Nova Scotia (Veulegers & Fitzgerald, 2005). This program was funded by Health Canada through the Canadian Diabetes Strategy. In 2003 representatives from Children's Lifestyle and School Performance Study

studied grade five students from 282 of 291 public schools in Nova Scotia. A survey on physical and sedentary activities was distributed. Participating schools had lower rates of overweight and obese students, which were attributed to the higher rates of physical activity and less involvement in sedentary habits. The AVHPSP is considered “best practice” in Canada based on its successful results (Fung et al., 2012).

Children have a wide range of motivators to participate in physical activity, including environment, physical characteristics, perceived abilities, and social influences (Allender et al., 2006; Salmon et al., 2007). A program that originated in Nova Scotia, Heart Healthy Kids (H2K), focused on social influences from parents and peers. H2K targeted school-based physical activity by educating children and using adult and peer mentors for guidance. The education component was delivered biannually with a goal to improve the children’s knowledge and self-efficacy. In year two and three of the pilot program adult mentors were introduced. The mentor was a healthcare professional and athlete. Over the three-year pilot project, pedometers showed increased steps every year. Pre and post-testing for the education component also improved, indicating acute knowledge gains and intermediate knowledge retention. A one-year enhanced pilot was then conducted for the same program in a different school. Instead of using adult mentors, who were resource intensive, a peer-mentoring program was introduced. The peer mentors were grade six students trained in leadership skills, learning their responsibilities in a one-day session. Logbooks were also replaced with a web-based system where students could log on and record their physical activity. The results of the enhanced pilot were positive (Spencer et al. 2013).

The after school hours between 3-6 PM are high-risk times for children and youth as many use this time for sedentary activities (Sharpe et al., 2011). Approximately 600,000 children in Canada attend accredited or provincially regulated childcare centres (Friendly et al., 2002). After-school programs are a great opportunity to increase time spent on physical activity and interventions that support healthy behavior. The main recommendation from the Active Healthy Kids Canada report was to “transform the after-school hours from screen time to active time” (Active Healthy Kids Canada, p.25). A program called Youth Fit for Life attempted to reach a large number of children during their after school hours. Annesi et al. (2009) completed a study around Youth Fit for Life to assess physiological and behavioral changes in children in Calgary, Alberta. Participants were assessed on their cardiovascular fitness, muscular strength, flexibility, self-efficacy for physical activity, physical self-concept, general self, voluntary physical activity, and fruit and vegetable intake. Significant improvements were seen after the 12-week program was complete in cardiovascular endurance, strength, and body mass index. A significant improvement was also seen in voluntary MVPA. Studies have suggested that evidence-based after school programs can help children become more physically active (Durlak et al., 2010; Young et al., 2007; Gardner et al., 2009).

Although implementation of after schools programs is challenging (Sheldon et al., 2010), a program entitled Girls on Track (GOT) has had success (Rajan & Basch, 2012). GOT is a 12-week program that provides young girls with an appreciation for fitness and tools that will lead to living a healthy lifestyle (Girls on the Run, 2011). As a program capstone the children participated in a 5-kilometer run (Rajan & Basch, 2012), hopefully providing the participants with a sense of accomplishment and confidence (Girls on the Run, 2011). To evaluate the program the Commitment to Physical Activity Scale was administered during pre-test and post-tests. An increase to overall commitment to physical activity occurred as well as a decrease in negative attitudes towards physical activity (Girls on the Run, 2011).

Targeting after school programs as a multidimensional health intervention is a great opportunity to promote physical activity and healthy eating in children and youth. The Ministry of Health Promotion in Ontario implemented the After School Strategy in 2008 (Sharpe et al., 2011). Community agencies received funding to develop after school programs that promoted physical activity, healthy eating and nutrition, and wellness and personal health education. To implement the After School Strategy the CATCH Kids Club (CKC) was initiated by two agencies: YMCA Ontario and the Boys and Girls Club (BGC) of Ontario, which reached 8000 children across the province. CKC was designed for school aged children (K-5) as a physical activity and nutrition education program and was modeled after the Coordinated Approach To Child Health (CATCH) program, a school-based program that promotes health through offering physical education, nutrition education, and school food services. The goal of the physical activity component of CKC was to reach 40% of daily MVPA by providing a variety of physical activities. Pre-test and post-test data was collected at 28 sites. At the YMCA sites there was only minimal increase in MVPA compared to other YMCA programs whereas at the BGC sites children spent more than double the time (70.8%) in MVPA compared to another sport program (35.2%) offered at the same sites. Clearly, after school programs are a major contributor to daily requirements of MVPA.

Active transport (AT) (i.e., walking or biking) is another focus area to increase physical activity in children. There has been a decrease in the use of non-motorized transport to and from school (McDonald, 2007; Pooley et al., 2005; Sirard & Slater, 2008). In fact, over half of Canadian children aged 5 to 17 depend solely on inactive transportation modes to get to and from school (Craig et al., 2001). An increase in AT can decrease the time spent in sedentary behavior and increase moderate intensity physical activity. Children who use AT participate in more physical activity than those who use other modes of transportation (Cooper et al., 2003, 2005; Dollman and Lewis, 2007; Faulkner et al., 2009). School Travel Plans (STP) is one intervention designed to promote and enable AT by engaging community stakeholders such as government, parents, teachers, and children (Buliung et al., 2010). A two-year STP pilot took place in 12 schools across four provinces (British Columbia, Alberta, Ontario, and Nova Scotia). A STP facilitator identified and developed solutions to AT barriers in each school. Baseline data was collected in 2008 in the form of a hands-up survey taken by teachers to capture to and from school transport mode for each student. A take home questionnaire was distributed the following year, which questioned school transport modes, reasons behind the choice, and changes in transportation mode. There was a modest increase from baseline to follow-up (43.8% to 45.9%) (Buliung et al. 2010). Forty percent of parents who drove their children to school stated they would allow their children to walk if they were “not alone.” Families that reported driving less indicated two interventions that were the most effective: walking buddies and route identification. Additionally, students who used AT accumulated more daily steps than those who did not use AT, 1420 steps and 986 steps respectively (Pabayo et al., 2012). Over 11% of their daily step count was accumulated during AT (Pabayo et al., 2012). It is clear that AT to and from school appears to be beneficial to physical activity levels of children.

Across Canada, sport is considered to be a key contributor to student health. Children that participate in sports often experience a number of positive benefits including improved positive developmental indicators, self-esteem, emotional regulation, problem solving, goal attainment, social skills, and academic performance (Holt et al., 2011). One reason that sport is a critical piece of these benefits is that children and adolescents who participate in sport are more likely to meet the physical activity guidelines put forth by Active Healthy Kids Canada (Holt et al., 2011). Although sport is considered to be a key component of physical activity, national surveys in Canada suggest that sport participation has declined from 77% to 59% among Canadian youth aged 15-18 years, and from

57% to 51% of children aged 5-14 from 1992 to 2005 (Ifedi, 2008). Financial barriers have been noted as one limiting factor. Throughout Canada, sport participation has been most prevalent for children from high-income households (68%) and lowest for children that come from lower income households (44%) (Clarke, 2008). Access to sport and leisure facilities for those children that live in lower-income neighbourhoods (Gordon-Larsen et al., 2000) may also impact participation rates. One national initiative to impact sport participation is the Canadian Tire Jumpstart program. Launched in 2005, Canadian Tire Jumpstart has provided financial assistance to more than 540,000 children across Canada allowing them to participate in various sports and recreational programs. Children that gain access to these programs are provided with the opportunity to experience fun, social, and engaging activities that they would likely not have otherwise experienced (Physical and Health Education Journal, 2013).

Healthy Eating

Eating habits develop early in life; therefore, it is important to provide healthy options to children to ensure development of healthy eating habits. Unfortunately, this is not the reality in many jurisdictions. For example, 2003 data suggest more than half of the grade five students in Nova Scotia (N = 5200) did not meet Canada's Food Guide to Healthy Eating recommendations for minimum servings from the four food groups (Nova Scotia Department of Health and Wellness, 2015). Poor caloric intake was contributed to skipping meals and purchasing meals at school or fast-food restaurants. Children who purchased food at school were 39% more likely to be overweight compared with those bringing lunch from home. Across Canada, 59% of children 2 to 17 years of age consume fruit and vegetables less than five times a day (Shields, 2004).

During the school day children have multiple opportunities to purchase unhealthy food and beverages. The availability of food such as fries, hot dogs, pizza, and junk food is associated with greater consumption while at school (Park et al., 2010; Templeton et al., 2005) and student body weight (Taber et al., 2012). If children do not achieve adequate physical activity to offset the caloric intake from their food choices then obesity is inevitable. Many provinces have implemented guidelines for healthy eating or food and beverage sales policies to facilitate access to healthy meals and snacks while students are outside of their homes. For example, the province of British Columbia enacted the Food and Beverage Sales in Schools (FBSS) guidelines (Mâsse et al., 2013) and set minimum nutrition standards of food and beverages sold in schools (Watts et al., 2014). These guidelines were designed to increase opportunities for students to purchase healthier options and to fully eliminate the sale of unhealthy food and beverages in all BC schools. To implement the FBSS guidelines, it was found that schools either eliminated or changed the content of vending machines, made cafeteria food healthier by substituting white bread with whole wheat and chicken hot dogs instead of hot dogs, eliminated various food such as fries and classroom treats, and reduced portion sizes (Mâsse et al., 2013). Carbonated beverages were also no longer available in schools (Watts et al., 2014).

In June 2008, the Alberta Nutrition Guidelines for Children and Youth were developed in an attempt to facilitate access to healthy meals and snacks while students are outside of their home. Since its inception, many schools have adopted this healthy eating innovation. Research related to using the guidelines was conducted by Quintanilha et al. (2013) to determine how motivation by key staff members influenced early adoption and implementation of the guidelines, what strategies were used to implement the guidelines, as well as barriers that were encountered throughout

implementation. Results showed that throughout implementation, the largest changes were noted to be changes in the schools' food environment such as food suppliers, as well as nutrition education for students. The major barriers were the education and income of parents, as well as the concern of limiting choices for those students who could not afford healthy food choices. Further results indicated that school boards, principals and superintendents were most responsible for following the guidelines and a recommendation of mandatory implementation.

All elementary (grade 1-6) and consolidated (grade 1-8) schools in the Prince Edward Island school system began to follow School Food and Nutrition Policies (SFNP) in 2006 in an attempt to improve the amount of food available in the school environment, student access to food, school fundraising initiatives, food safety, as well as nutrition education. SFNP regulations include food lists that classify foods in categories according to the frequency that they should be consumed, for example every day, sometimes, and once in a while foods (Taylor et al., 2012). In a comparison study between food served at school and food brought from home with 1980 grade 5 and 6 students, it was determined that foods served at schools had higher levels of nutritional quality. Additionally, food brought from home had low overall diet quality, including very high levels of sodium, typically found in processed foods such as cracker, cheese, and meat combinations (Taylor et al., 2012).

In addition to the removal of unhealthy foods available during the school day, the promotion of fruits and vegetable consumption is also beneficial. Increased fruit and vegetable consumption can lead to improved diet quality, while reducing the overweight and obesity epidemic among children and youth (He et al., 2012). Originating in 2006-07, the Ontario Ministry of Health Promotion began a Northern Fruit and Vegetable Program (NFVP) throughout 24 elementary schools in Northern Ontario. The NFVP aimed to promote awareness of increased consumption of fruits and vegetables among children. Throughout the first year of the campaign, free fruit and vegetable snacks were offered three times per week for students enrolled in junior kindergarten to grade 8. The response to this program was perceived as positive, as many participants viewed the program as having positive impacts on their eating habits, improved awareness of fruits and vegetables, as well as feeling healthier (He et al., 2012).

The APPLE Schools program also had a healthy eating component (Fung et al., 2012). In 2010, students attending APPLE Schools had better diets than in 2008. Both a significant increase in fruits and vegetables and a significant decrease in dietary energy intake were evident over a two-year study. Another nutrition education program, Youth Fit for Life, saw significant increases in vegetable intake at the end of a 12-week period with a corresponding reduction in body mass index.

Mental Well Being

Throughout Canada there is a large gap between the need and availability of child and youth mental health services. Mental health issues are the leading health concerns facing Canadian children with 14% of children aged 4 to 17 experiencing mental disorders and fewer than 25% of these children receiving treatment services (Waddell et al., 2005). Roughly two million Canadian children and youth have significant difficulty with their ability to learn, create friendships, participate in activities, as well as function in their own families, resulting from a psychiatric disorder (Davidson et al., 2010). Many provinces do not gather data on children's mental health or monitor and evaluate prevention programs (Waddell et al., 2005). There is a great need for children's programming to improve mental health of students, prevent health problems, and treat mental disorders.

Mental health is essential for youth since many struggle with stress, anxiety, and depression (Murnaghan et al., 2012). Schools and communities need to understand how to help children and youth deal with these issues. Some school-based mental health programs focus on prevention such as positive psychology and mental health instead of using an intervention illness-based approach (Health and Education Research Group, 2012; Morrison and Kirby, 2012). Mental fitness, as described by Morrison et al. (2009), is a student capacity to be self-determined, to think about, plan and act on personal decisions that contribute to emotional, social, and physical development.

Morrison et al. (2009) suggest that mental fitness is associated with student attitudes and behaviors, pro-social and oppositional behaviors, and tobacco use. Other research demonstrates that school connectedness is correlated with physical activity, anger, harassment, and health risk behavior (Bond et al., 2007; McNeely & Falci, 2004; Rassmussen et al., 2005). In a study completed by Murnaghan et al. (2012) in New Brunswick and Prince Edward Island, mental fitness was assessed in conjunction with school connectedness, pro-social and anti-social behaviors, positive and negative affect, and smoking. This study showed correlation between mental fitness and girls, high school students and high-income communities (Murnaghan et al., 2012).

It is important for youth to address health and behavioral issues during adolescence, a time of physical and emotional development (Rajan & Basch, 2012). Problem behaviors often begin in adolescence when youth develop poor habits, make unhealthy decisions and take part in high-risk activities (Rajan & Basch, 2012). Studies have suggested that intellectual development should be supplemented with emotional and social skill development (Heckman & Rubinstein, 2001).

Researchers have also found that after school health education programs can assist youth in developing social and emotional coping skills, foster healthy relationships, and acquire health education (Durlak et al., 2010; Young et al., 2007; Gardner et al., 2009). For example, the program GOT is a branch of Girls on the Run International that promotes a balanced and healthy lifestyle while teaching young girls how to make healthy choices (Rajan & Basch, 2012). The lessons in this program encourage positive emotional, social, mental, and physical development. A study completed in 2005 assessed body image and showed significant improvements from pre-test to post-test in self-esteem and body size satisfaction (Girls on the Run, 2011).

In 2010, British Columbia initiated the Provincial Family Council for Child and Youth Mental Health to increase the involvement and influence of youth and families in policy related to child and youth mental health. This program was critical in order to ensure that effective dialogue, understanding, and cooperation were present between families, children, and policy makers (Davidson et al., 2010). This council provides innovative ways to solve problems and make improvements, undergoes training and evaluative processes, has approaches to increased family engagement, and aids in developing of policies and practices to improve service delivery to families experiences and outcomes (Davidson et al., 2010).

Another mental health related initiative in Canada is Alberta's Healthy Minds Healthy Children Outreach Service. Developed in 2003, this program makes use of technology in an attempt to combat geographical barriers and help meet children's mental health needs in rural areas of Alberta (Lipton & Donsky, 2012). In a review of the HMHC service, distribution of team activities included 27% clinical consultation to front line mental health workers, 31% educational preparation and teaching, 14% networking including liaising and promotion, as well as 28% administrative tasks such

as team meetings, supervision and documentation. As of 2012, clinical activity numbers have reached as high as 4000 events annually, which emphasizes the overall impact of this program on improving capabilities of mental health workers (Lipton & Donsky, 2012). Formal evaluation after eight years noted that this program should remain a priority of the Government of Alberta, as it provides cost-effective and educational services that meet the needs of isolated rural professionals in order for them to provide timely and accessible supports to children of their region (Lipton & Donsky, 2012).

Online Scan

Introduction

Healthy active living initiatives and programs for children and youth are of utmost importance for today's society as they play a crucial role in the development of physical and mental health, academic performance, youth behavior and community development. In this study, healthy active living initiatives and programs are defined as those that have at least an 8 week duration and aim to improve the current physical activity, healthy eating, and mental health outcomes for children and youth aged 5-18. These health and wellness initiatives are rich in the province of Newfoundland and Labrador, which allow a variety of populations, ages, and abilities to lead healthier lifestyles (Government of Newfoundland and Labrador, 2007). Although there are a number of opportunities throughout the province, there are a variety of reasons for an increased need of programming that promotes health and wellness. These reasons include improving physical activity levels, promoting healthy eating, promoting mental health, as well as decreasing the possibility of developing lifelong disease. It is certainly evident that the Government of Newfoundland and Labrador are dedicated to improving health and wellness among children and youth through a number of initiatives such as the Provincial Wellness Plan, Provincial Health and Wellness Grants Programs, and various Regional Wellness Coalitions situated across the province.

With increased programming and initiatives, comes the issue of coordination and collaboration of each of these activities to create the greatest impact possible. In order to provide maximal benefit for the province of Newfoundland and Labrador, it is critical to undergo evaluative processes that monitor the progress and measure the impact of actions that are taken (Government of Newfoundland and Labrador, 2006). It is also useful to create a network in order to allow children and their families that need the programs to gain information and access.

Methodology

In order to provide a comprehensive report of the healthy active living initiatives for school-aged children and youth in Newfoundland, information was gathered from a systematic scan of initiatives and programs that were accessible online during August 2014. This systematic scan included using the search engine Google with the search terms of wellness initiatives in Newfoundland, Canada physical activity initiatives, Recreation Newfoundland, and Government of Newfoundland physical activity initiatives. A top-down approach was used which began at the national level, then moved to provincial government, and continued on to initiatives connected to organizations and municipalities. Once all 160 initiatives were gathered, the initiatives were grouped according to initiative type, regional comparisons, targeted age groups, government initiatives, and program evaluation types. When selecting further sub-categories under each of these groups, mutually exclusive categories were created to ensure that a program was not used in more than one category.

Data Analysis

Upon completion of the online search for healthy active living initiatives and programs that are available to children aged 5 to 17, the results were analyzed to reveal initiative types available, regional comparisons throughout the province, comparisons of programs for various ages, as well as government initiatives and evaluation of programs.

For initiative type, regional comparisons, and age group analysis, charts were created to display the data that was found. Within these charts, there were a number of mutually exclusive categories in which programs were classified to gain a better understanding of their impact within the province. These categories included sports, informational, funding, summer camps, wellness, unstructured, services, and after school programs.

Sport-based programs are those that have the sole purpose of getting children and youth involved with one particular sport, without necessarily addressing wellness and healthy lifestyles. Informational programs and initiatives provide information to the public regarding healthy active living, but do not provide opportunities for children and youth to become involved in physical activity. Funding programs were those that provide funding for children and youth to promote healthy active living (e.g. healthy eating, participation in sport). Summer camps were categorized as activities that take place in the summer months (typically June to August) for at least eight-weeks and allow children and youth the opportunity to participate in physical and healthy eating activities. Wellness initiatives and programs include those that provide opportunities for physical activity, but also address how these activities lead to a healthier lifestyle. Unstructured programs are those that allowed children and youth to participate in activities that vary with time, and did not have any form of refereeing, rules, or selected teams involved. Finally, after school programs typically take place during the time period of when students are finished school to when their parents are finished work.

When analyzing government initiatives and evaluation processes present in Newfoundland, tables were created to better understand their program significance. For government initiatives, tables include the healthy living initiatives, the objectives and goals of those initiatives, as well as the source or amount of funding provided for that initiative. For evaluation comparisons between initiatives, the table includes the objectives and goals of those initiatives, as well as the company that completed the evaluation.

Results

Types of Programs

There were seven categories used to distinguish the type of initiative or program, including: sport focused, informational, funding, summer camps, wellness, unstructured, and after school programs. Please note: throughout this section, numbers in brackets represent the number of programs/initiatives that were found online.

Figure 1 outlines the distribution of programs that were described online and reveals that the majority of programs across Newfoundland were sport focused (67). These sport focused programs include hockey (3), ball hockey (3), soccer (3), tennis (3), basketball (4), baseball (4), softball (2), golf

(5), skating (3), swimming (11), skiing (6), gymnastics (2), triathlon (4), table tennis (1), squash (1), curling (2), volleyball (2), bowling (2), and dodge ball (1). There are also 5 initiatives that involve a variety of sports at different times.

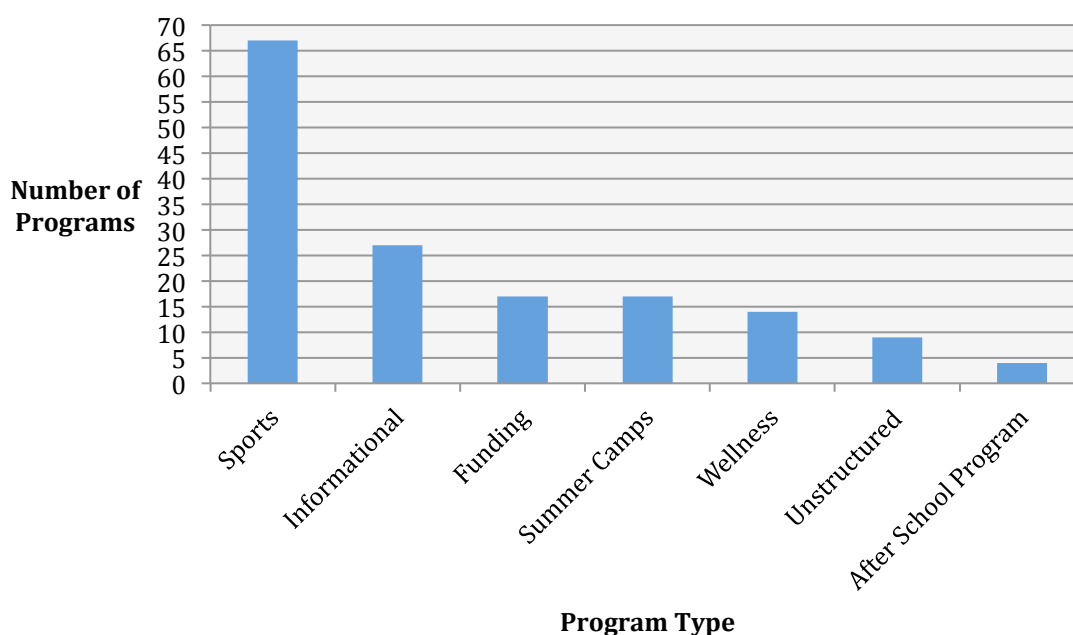


Figure 1. Program Types

There were also a large number of initiatives and programs in Newfoundland that were purely informational (27). The information provided throughout these initiatives includes: the importance of physical activity and healthy eating, avoiding tobacco use, and staying active through participation.

Funding is also a critical component of the provincial government's healthy living framework. Funding initiatives (17) in this online search were considered as those that provide funding to children and youth in order to promote physical activity and wellbeing.

A number of programs for children and youth in the province are summer camps (17), which typically run from the months of June to August. These programs provide excellent opportunities for children to become more active during the summer months. Unfortunately, there are limited camp activities in the months outside of June to August except one-week camps during Easter and Christmas holidays, which were not included in the online search.

Wellness initiatives are critical in developing a greater sense of well-being and healthy living and provide a more holistic approach than sport-focused programs. The wellness initiatives and programs (14) in Newfoundland provide a chance for children to enjoy the outdoors and do relaxing physical activities, while also learning how to take care of their health. Unstructured activities are a good way for children to meet new people and stay active; however, provide very little information on how to live a healthier lifestyle. These unstructured programs (9) typically allow children to drop-in at their own convenience and require no formal commitment to the program. After school programs (8) are usually sport focused, but can also provide students with alternative activities. These programs often take place at school, at local community centres or YMCA's.

Regional Comparisons

When completing the online search for healthy active living programs, three regions were highlighted: the Avalon Region (Avalon Peninsula), the Central/Southern Region (Burin Peninsula to Glovertown), and the Western/Northern (Grand Falls Windsor and remainder of the island). As outlined in Figure 2, it is notable that the Avalon Peninsula had the greatest number of programs and initiatives (68) compared to the Central/ Southern region (11) and the Western/Northern region (38). There are also a number of province and country- wide programs and initiatives (43) that are available in all regions of the province which will not be discussed in this section.

An important note about regional differences is the type of programs that are offered in each region. The online search discovered more programs in the Avalon region (68) than in the Central/Southern (11) and Western/ Northern (37) regions. After school programs also seemed more prevalent in the Avalon (6), compared to two in the Western/Northern and none in the Central/Southern region. Unstructured play (10), wellness initiatives (10) and summer programming (15) is more prevalent in the Avalon region, compared to other regions that had 0-2 of each.

One comparison that is of interest is that the largest category of programs in each region consists of those that are focused solely on sport. The Western/Northern region (32) has more programs and initiatives surrounding sport, followed closely by the Avalon region (26) and the Central/Southern region (6).

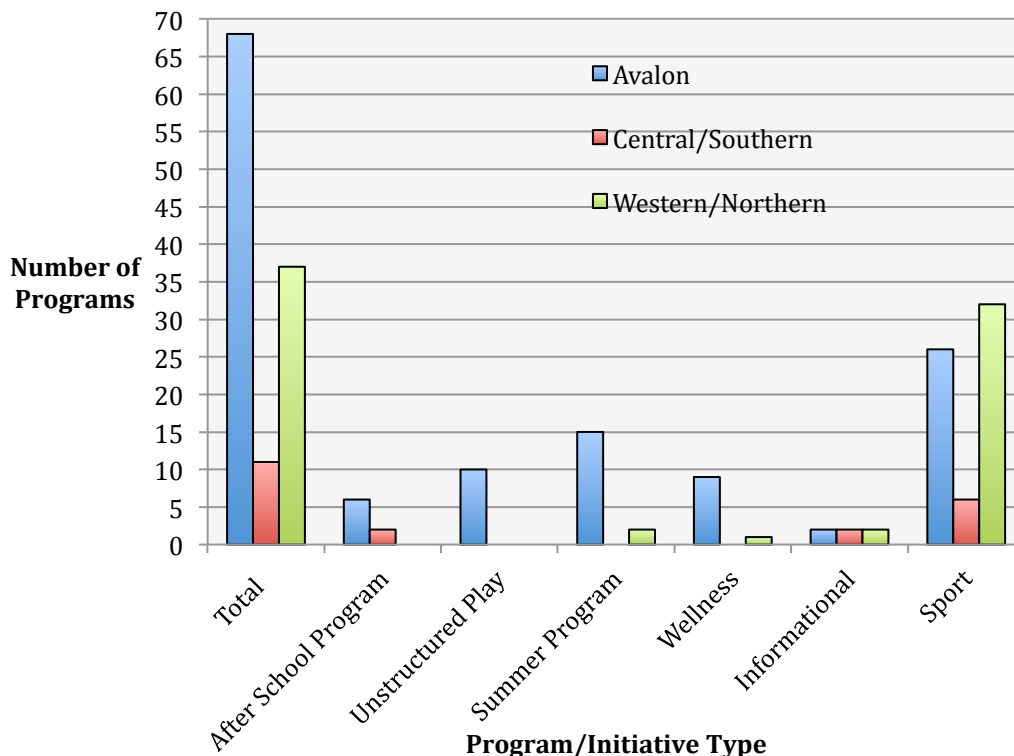


Figure 2. Regional Initiative Comparison

Age

Each healthy active living program has a target age group. In this online search, programs were separated into those that are focused on all ages (56) and those that are targeted towards school-aged children specifically (104). The 'all ages' category includes early childhood and school-aged children. Figure 3 outlines the number of programs for each age category and program type.

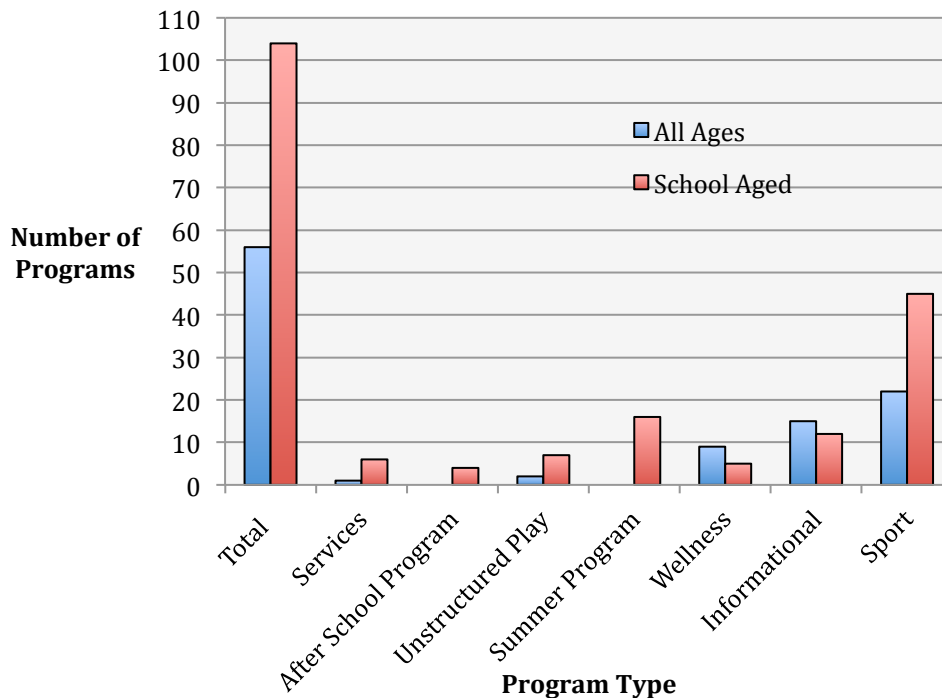


Figure 3. Age Comparison of Programs/Initiatives

Programs targeted towards all ages include a number of government initiatives, Regional Wellness Coalitions, national programs, as well as general wellness activities in the community. Some of the activities for all ages generally included walking, yoga, and Zumba activities. Informational programs were also more prevalent among all ages when compared to school-aged children alone.

The programs for school-aged children are those that serve children and youth that are 5-17 years of age. These initiatives often provide additional information about healthy growth and development in order to promote a healthier and smoother transition into adulthood. These programs include summer day camps, minor sport programs, as well as a number of national and government initiatives. Some of the minor sport programs targeted towards this population included golf, tennis, soccer, baseball, and hockey.

Government Initiatives

The government of Newfoundland and Labrador has been committed to providing health and wellness initiatives to children and youth in the province. The online scan revealed a significant amount of funding has been allocated towards initiatives and programs related to healthy active living for children and youth in Newfoundland (see Table 1). In particular, from 2006 to 2008,

approximately \$2.4 million was distributed from the Provincial Wellness Plan, which has lead to development of Regional Wellness Coalitions and the Provincial Wellness Grants, as well as \$444,000 of funding for the After School Physical Activity initiative. Other initiatives and programs that are provided with funding through the Provincial Wellness Plan include the Alliance for the Control of Tobacco, Provincial Food and Nutrition Framework and Action Plan, and Healthy Students, Healthy Schools.

Table 1.
Government Initiatives and Programs

Initiative/Program	Objectives/Goals	Funding
Provincial Wellness Plan	Develop initiatives that contribute to health and wellness in areas of healthy eating, physical activity, tobacco control, injury prevention, mental health promotion, child and youth development, environmental health and health production.	\$2.4 Million
Wellness Coalitions (Eastern, Avalon East, Central, Western, Northern, Labrador)	Regional initiatives that are in place to support the objectives of the Provincial Wellness Plan.	Provided through Provincial Wellness Plan.
Alliance for the Control of Tobacco	Reduce the negative health, economic, and environmental impacts of tobacco use in NL.	
Provincial Food and Nutrition Framework and Action Plan	Encourage healthy eating and physical activity practices, enhance access to healthy food and nutrition research.	
Healthy Students, Healthy Schools	Promote a school environment that supports healthy living for children, which will continue through life.	
Provincial Health and Wellness Grants Program	Funding to community based organizations to aid in the cost of projects that support healthy living and wellness.	2009-2010: \$579,750 2010-2011: \$700,000 2011-2012: \$500,000 2012-2013: \$862,500 Total of \$2.6 million
After School Physical Activity Initiative	Support individuals, groups, communities, and schools that would like to create comprehensive health and wellness programs.	Total of \$444,000 Up to \$25,000 per school (25 schools involved).
Active Healthy Newfoundland and Labrador	Create a new plan that helps citizens benefit from living an active lifestyle (e.g. becoming more active, social involvement, and personal wellbeing).	No funding information available online
Safe and Caring Schools Policy	Increase public awareness of societal issues of bullying and violent behavior among youth.	
Get Up On It	Promote school clubs, recreation groups, or extra curricular activities to provide skills and confidence regarding drugs, alcohol, and gambling.	
Newfoundland and Labrador Smoker's Help Line	Counseling service available to anyone that wants to quit smoking or remain smoke free.	
Aboriginal Sport and Recreation Circle of Newfoundland and Labrador	Increase the capacity of aboriginal athletes, coaches, and staff.	

The government of Newfoundland and Labrador is also responsible for a number of other initiatives and programs on which the online search did not yield any funding information. These

programs include Active Healthy Newfoundland and Labrador, Safe and Caring Schools Policy, Get Up On It, Newfoundland and Labrador Smoker's Help Line, and the Aboriginal Sport and Recreation Circle of Newfoundland and Labrador.

Evaluation

From our online search, there is little information available about the evaluation of programs at the government level with the exception of mentioning the importance of evaluation in the Provincial Wellness Plan. While some evaluation is reported to be taking place for programs such as the After School Physical Activity Initiative, this information is not available online. Table 2 outlines some of the program evaluation that is taking place in Newfoundland.

Table 2.
Program Evaluation

Healthy Active Living Program/Initiative	Evaluation Details	Evaluation Company
Provincial Wellness Plan	Suggests that assessment and evaluation will be used to evaluate the effectiveness of all initiatives in order to determine if they should be sustained.	Reported as important but no specific details online.
Kids Eat Smart Foundation	Evaluated the impact of the program on provincial wellness initiatives, as well as how far the reach of the program has grown.	Goss Gilroy Management Consultants (2013)
Corner Brook Leisure Recreation Master Plan	Identified demands, established decision- making framework and prioritized needs, determined recreation priorities, and developed a plan.	Tract Consulting (2009)
Leisure and Recreation Master Plan: Town of Grandfalls Windsor	Assessed existing facilities, analyzed current and future needs, and prepared a new master plan.	Tract Consulting (2012)
Recreation and Parks Master Plan 2008-2018: City of St. John's	Identified demands, prioritized needs, determined recreation priorities, and developed a plan.	Tract Consulting (2009)
Town of Torbay Recreation Master Plan	Identified recreation demands, established decision-making framework, determined priorities, developed a master plan.	Tract Consulting (2009)
Paradise Recreation and Parks Master Plan Update	Upgraded information regarding population served with plan, reviewed facilities needed, prioritized evaluation of recommendations, determined if old recommendations were met.	Foothill Associates (2010)

Evaluation processes have begun to make their way into municipal level planning however, as there are currently five municipal recreation master plans conducted that include evaluation of existing programs, needs assessments and recommendations for future planning. External consulting companies for St. John's, Paradise, Torbay, Grand Falls-Windsor, and Corner Brook have conducted these plans.

Another program that has evaluated their effectiveness is the Kids Eat Smart Foundation, which was evaluated in 2013 by Goss Gilroy Management Consultants. Within this evaluation, findings supported the contribution of the program to the provincial government policy priorities, the reach of the program within the province, outcomes of the program, as well as effective practices that need to be continued in the future.

The online search may be one issue limiting the amount of information available to the public on evaluation of programs. Although the Government of Newfoundland and Labrador as well as other provincial and national programs have little or no information about their program evaluation online, there may have been some evaluation that has not been published.

Discussion

Types of Programs

Comparing the types of healthy active living programs and initiatives throughout Newfoundland provides a greater understanding of the strengths, opportunities and gaps in programming. Although there were a number of healthy active living initiatives found in this online scan, 42% of the initiatives and programs were focused on sport. This dominant sport focus likely does not meet the needs of all school-aged children and youth. Thus a better balance of types of programs and a greater emphasis on more wellness-oriented initiatives may provide better opportunities for children to live healthy active lives.

In order to provide children and youth with information about living a healthy active life, there are programs and initiatives that are strictly information based. Aside from sport initiatives, informational programs were the next most prevalent type of program in the results of the online search. Although teaching children and youth information about healthy active living is important, there is often a gap between knowledge and action among children and youth. Therefore, a move to more action-oriented programming would be beneficial.

Another critical aspect that is required for children and youth to participate is the ability to access and afford programs in their communities. There are a number of funding initiatives in Newfoundland that allow children and youth to participate in physical activity and sport which they otherwise would not be able to. These initiatives provide children with the opportunity to participate and therefore gain a new appreciation for healthy active living that may positively contribute to health and education outcomes.

While many summer programs offered were sport camps, some summer day camps include a variety of activities that benefit the social, emotional, physical and spiritual aspects of children and youth. Although there were a large number of summer programs found in the online search, these programs lasted only eight weeks and typically ran from June to August. These programs are a great way for children and youth to be active and learn about their overall wellness during the summer months. The day-camp philosophy with a more holistic approach should be considered for all months of the year.

After school programs (8) that were included in this online search were typically sport focused; however, also often provided students with alternative activities. Although after school programs are a great way for children and youth to receive daily physical activity, there were very few after school programs discovered in the online search. This leads to a need for more after school programs for children and youth in the province.

Regional Comparison

As was seen in Figure 2, the number of programs in the Avalon region far outweighed what was found in the Western/Northern region and the Central/Southern region. This was especially noticeable with after school programs, unstructured play, wellness and summer programs. While this may be primarily from the size of the population on the Avalon Peninsula, it does suggest a wider variety of options for children and youth in the area. It may also suggest that web-based advertising of programs is more prevalent in this region.

Although more programs were found in the Avalon region, sport programming was most dominant in the online search in Western/Northern regions. Sport programming has a very strong tradition across the province and with smaller communities limited in resources and infrastructure, offering a wide variety of programming may not be feasible in these regions.

Although the Central/Southern region is similar in geographical area to the other regions, their programming information available online is lacking. With information about only 11 programs/initiatives available online in this region, it appears to be very few opportunities for healthy active living for children and youth. While there may be adequate programming in the area, the information is not accessible to the public in an online environment.

One factor that may impact the different number of initiatives and programs in each region is the population of that area. Although each of the regions that were selected are similar in geographical size, the populations of some regions are much greater than those of others. A greater population may mean a greater demand of programs and thus a larger number of programs.

Finally, the issue of access to information seems to be different among various regions. One of the major considerations when looking at the total number of regional initiatives is that many of the areas that are part of the Central/Southern region do not have access to program information online. A number of community and town websites have a recreation page with phone contacts for recreation coordinators. Thus, information is only available in these communities through telephone contact or word of mouth.

Government Funding and Evaluation

There has been a significant amount of money from the Provincial Wellness Plan that has been allocated to each Regional Wellness Coalitions and passed on to communities through the Provincial Wellness Grants, however specific amounts are not available online. Overall, from 2005-2013, approximately \$6 million has been funded to different community based organizations to aid in the cost of a project that supports healthy living and wellness, however there is little online information about how this money has been spent and whether the projects meet the goals of the plan.

As mentioned with the After School Physical Activity Initiative, a list of organizations were provided as well as the total amount of funding allotted. The major issue with this is that no information is provided surrounding what this money is used for, as well as no form of evaluation informing the public of the progress made. There were 25 school and community partnerships that received funding up to \$25,000 through this initiative. A list of the school and community partnerships, as

well as the money allocated to each has been published; however there is no specific information that suggests what is being done with the money that is awarded.

As seen in Table 1, there is very little happening with respect to the evaluation of healthy active living programming. This lack of evaluation of programming and initiatives does not allow organizations and government to determine whether goals are successfully met or what can be done to improve programs in the future. In order to ensure that funding is used appropriately, it is critical for the Government of Newfoundland to assess how this funding is being used and evaluate whether the funding is helping to meet healthy active living goals and objectives.

Conclusions

Although Newfoundland has a significant number of healthy active living programs for children aged 5 to 17, there are a number of improvements that could benefit communities. In Newfoundland, the majority of the healthy active living initiatives available are focused on sport. With this in mind, there is an increased need for future programs that focus on broader wellness outcomes and other aspects of healthy living. There are also a number of summer programs for children; however, these programs typically run from June to August, and do not allow for year-long participation opportunities. Therefore, it would be beneficial to create more programs that operate throughout the entire year in order for children to be healthy and active year round.

The Government of Newfoundland and Labrador has spent millions of dollars in an attempt to improve the number of healthy active living initiatives for children in the province; however, there is a greater need for program evaluation in order to determine how to improve programs in the future and meet the needs of children and youth. Although this was not seen throughout the online search at the government level, a promising trend is beginning at the municipal level in which external contractors perform evaluations of existing programs and facilities in the area, creating master plans for the future. Other evaluation strategies for communities and government-wide initiatives would be helpful to assess health, education and performance outcomes, as well as plan for future healthy active living programs for children and youth.

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