

THE CASE FOR

A COMPREHENSIVE PROVINCIAL PHYSICAL ACTIVITY STRATEGY



May 2009

“Lack of activity destroys the good condition of every human being, while movement and methodical physical exercise save it and preserve it”.

... Plato

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Nova Scotia Alliance for Physical Activity and Healthy Eating
Heart and Stroke Foundation of Nova Scotia
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The Alliance for Healthy Eating and Physical Activity

is a network of agencies, organizations and individuals with an interest in promoting healthy eating and physical activity for overall health.

It brings together the talents and perspectives of its member organizations to jointly identify priority areas for action related to healthy eating and physical activity. Members represent diverse areas including, but not limited to, health charities, community health boards, community groups, coalitions etc.

Members Include:

Cancer Care Nova Scotia

Canadian Cancer Society, Nova Scotia Division

Canadian Diabetes Association, Atlantic Region

Dietitians of Canada, Atlantic Region

Heart and Stroke Foundation of Nova Scotia

Medical Officer of Health, South West, South Shore and Annapolis Valley DHA's

Recreation Nova Scotia

Individual champions across Nova Scotia

The Mandate of the Group is:

- facilitating communication and information sharing among those working to address healthy eating and physical activity at the local, provincial and national levels
- improving the effectiveness of member efforts in promoting healthy eating and physical activity by facilitating networking and identification of collaborative action
- advocating on issues of importance and relevance to the promotion of healthy eating and physical activity including the need for sustained implementation and adequate funding of comprehensive strategies.
- A key priority for the Alliance at this time is communicating the need for increased investment and coordination in addressing physical inactivity in Nova Scotia.

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EXECUTIVE SUMMARY

The strength of the evidence makes it impossible to ignore. Nova Scotia has a physical inactivity epidemic. Nova Scotians are exceedingly inactive and efforts to increase activity levels need to happen now. Governments, communities and individuals can no longer afford to bear the high costs associated with physical inactivity. It costs in poor health and caregiver burden; decreased productivity in schools and workplaces; pollution; suboptimal communities; high drug, physician, hospital and long term care costs; and in early death and disability. It is time to take action to reduce these unproductive losses to the population and the economy through the funding, development and implementation of an integrated provincial level physical activity strategy.

The majority of Canadians and Nova Scotians are not meeting the recommended physical activity guidelines. In Canada, 51% of adults were considered inactive in 2005. Nova Scotian adults prove to be even less active with 54% of the population considered inactive in 2005 (Statistics Canada 2005) The numbers of Nova Scotian children and youth meeting recommended levels of physical activity declined from 2001 to 2005 in males and females. A Nova Scotia study which measured physical activity rates in grades 3, 7 and 11 found that less than 1% of grade 11 females and 9% of grade 11 males were meeting the recommended levels of physical activity in 2005 (Campagna et al., 2005).

Physical activity is a major contributor to physical and mental health; healthy child development and healthy aging; positive social development of youth; and a healthy environment. It contributes to a productive workforce and lower healthcare costs. Environments that support physical activity can support economic development and safe, cohesive communities. The government of Nova Scotia already acknowledges the value of a physically active population.

Many of Nova Scotia's government strategies and initiatives incorporate physical activity as components of plans. However, there is no coordination mechanism to integrate and harmonize the proposed actions on physical activity in these strategies. Evidence supports a comprehensive, coordinated, all ages approach to increase population levels of physical activity.

The government of Nova Scotia to its credit has already recognized the value of fostering a physically active population.

We know from the lessons learned through our tobacco strategy that prolonged, coordinated, multi-level, multi-component approaches work. Other jurisdictions have taken on the physical inactivity challenge by developing physical activity strategies as part of their commitment to securing their jurisdiction's future.

Nova Scotian municipalities are already involved in organizing and supporting physical activity within their local areas. The voluntary sector and volunteers are poised to support a provincial physical activity strategy through their Collaboration Agreement with the government. Key voluntary sector leaders in the area of health and physical activity have positioned themselves to promote physical activity as the key to a healthier future for Nova Scotia; and countless organizations recognize the need for increased rates of physical activity and are calling for action. The research is clear and the partners are ready to act. It is time to develop a comprehensive physical activity strategy for Nova Scotians.

What is needed is strong provincial leadership truly committed to making Nova Scotia the healthiest and safest place to live, work and play. The Nova Scotia government has demonstrated commitment to this vision in the past with the innovative creation of the first provincial government department, namely, the Department of Health Promotion and Protection, dedicated to disease and injury prevention and health promotion and protection in the country.

This commitment to health promotion can be reaffirmed by taking decisive steps to initiate and lead a unique and progressive provincial physical activity strategy that creates a model for other jurisdictions to follow. Such a strategy will leave a lasting legacy of healthier citizens and sustainable communities.

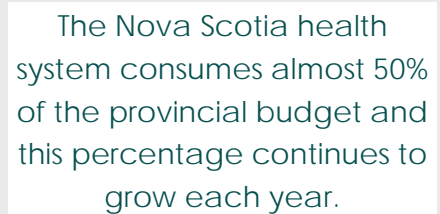
What is needed is strong provincial leadership truly committed to making Nova Scotia the healthiest and safest place to live, work and play.

The social, political and economic conditions are right. Municipal, nonprofit and volunteer sectors are ready to act or already at work on this issue. Together we can make Nova Scotians healthy and prosperous. Let us begin working now to create a cross-departmental, multi-sectoral, all ages, coordinated physical activity strategy for Nova Scotians.

INTRODUCTION

Physical activity is any form of movement by skeletal muscles that increases energy expenditure over resting levels (Katzmarzyk and Tremblay, 2007). Until recent decades, most people engaged in regular moderate physical activity through their occupations and transportation methods, like walking and cycling. Physical activity rates have since declined due to our global society's growing reliance on machines for work and motorized transport.

Although people in developed countries do participate in some active recreation, they spend large periods of time in sedentary pastimes such as watching television and using computers. This shift in population level physical activity patterns from "being active to sedentary is one of the most ominous phenomena of recent decades" (World Cancer Research Fund, 2007).



The Nova Scotia health system consumes almost 50% of the provincial budget and this percentage continues to grow each year.

The Nova Scotia health system consumes almost 50% of the provincial budget and this percentage continues to grow each year (Nova Scotia Department of Health, Business Plan, 2008). One key contributor to this exponential cost growth is increasing population levels of chronic disease. An estimated 50% to 70% of premature mortality from chronic diseases is attributed to a small group of common risks with the most important being use of tobacco products, harmful alcohol use, unhealthy eating and physical inactivity (Colman, 2002).

Nova Scotia has government led provincial level strategies to address most of these issues (Nova Scotia Department of Health, Business Plan, 2008). However, there is a critical gap in these efforts to address chronic disease given the lack of a province wide physical activity strategy. Physical inactivity is the modifiable risk factor for chronic disease that exists at the highest rate (Statistics Canada, 2005). It is estimated that high blood pressure, high blood fats and smoking each influence about 20% of the Canadian population whereas physical inactivity influences over half the population (Canadian Community Health Survey, 2005). Additionally, physical activity impacts the majority of other cardiovascular risk factors including diabetes, obesity, hypertension and high cholesterol (Katzmarzyk, Gledhill, and Shephard 2000; Warburton, Katzmarzyk, Rhodes and Shephard, 2007). It has a role to play in reducing stress and smoking cessation (Heart and Stroke Foundation of Canada, 2009)

While a large proportion of Canadians are inactive, most Canadians believe in the value of physical activity (Canadian Fitness and Lifestyle Research Institute 2003 and 2006). In addition, almost all Canadians have some intention to become physically active (CFLRI 2003). As the majority of the population has been unsuccessful at becoming sufficiently active, the issue of inactivity requires a thoughtful strategy. Effectively supporting physical activity necessitates an evidence based comprehensive approach.

The value of a comprehensive strategy will be dependent on sufficient and sustained provincial government investment to achieve and maintain beneficial population level change in physical activity patterns. This investment could reduce provincial healthcare and lost productivity costs in the short and long term; and position Nova Scotia as a choice destination to live, work, and visit.

A cross departmental, all ages, coordinated physical activity strategy is essential to the prevention and reduction of chronic disease in Nova Scotia. The purpose of this document is to demonstrate to decision makers that a strategy to promote and support physically active lives in Nova Scotia is cost effective and essential to achieving a healthy population, a sustainable healthcare system; and a vibrant and stable Nova Scotia economy.

THE ECONOMIC BURDEN OF PHYSICAL INACTIVITY

Physical activity is crucial to health; so societal inactivity carries enormous costs to the healthcare system. However, these direct costs are only one portion of the total costs of physical inactivity. Production losses from death and disease in those of working age and from the care of people with disease by informal caregivers contribute greatly to the overall financial burden. A 2002 study by Colman and Hayward calculated the economic burden of physical inactivity in Nova Scotia.

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Economic Costs of Physical Inactivity in Nova Scotia in 2002:

- \$107 million each year in hospital, physician, drug costs, and private medical expenditures
- \$247 million per year in indirect costs from lost productivity and premature death
- Total economic burden of physical inactivity for Nova Scotia is \$354 million annually (Colman and Hayward, 2002)

Economic Benefits of Decreased Physical Inactivity in Nova Scotia in 2002:

- a 10% reduction in physical inactivity could save \$7.5 million in health care spending
- a 10% reduction in physical inactivity could result in \$17 million in productivity gains
- a 10% reduction in physical inactivity could result in \$24.7 million in economic savings

Much of the economic costs associated with physical inactivity are related to provincial levels of chronic disease (Colman and Hayward, 2002).

CHRONIC DISEASE IN NOVA SCOTIA: BACKGROUND

“Those who think they have not time for bodily exercise
will sooner or later have to find time for illness.”

~ Edward Stanley

Nova Scotia has some of the highest rates of chronic diseases among Canadian provinces. The statistics include having the second highest provincial death rate from cardiovascular disease and highest rates of disability (Nova Scotia Health Promotion and Protection, Business Plan, 2008). An account of the health status of Nova Scotians can be found in Appendix A.

Health is a personal and societal asset and the lack of health can have costly economic consequences for individuals, families, communities and regions. Chronic diseases:

- have devastating impacts on individuals, families, and care givers;
- are major contributors to poverty; and
- impede the economic development capacity of affected regions (Catford, 2007; Colman, 2002)

Chronic disease costs the Nova Scotia economy more than three billion dollars annually which accounts for about 60 % of all medical care expenditures (Colman, 2002)

- \$1.2 billion of this figure is related to direct medical costs with the remaining
- \$1.8 billion being attributed to indirect costs such as lost productivity

Chronic conditions are predicted to increase in prevalence in the upcoming decades. This forecast will place more pressure on an already overburdened healthcare system and negatively impact the economy and fiscal health of Nova Scotia. This is both a challenge and an opportunity as many chronic diseases are preventable.

Chronic Disease Prevention and Physical Activity

It has been conclusively demonstrated that physical activity is beneficial to health and physical inactivity is harmful to health. For a list of health benefits associated with physical activity see Appendix B. Physical activity protects against a long list of chronic diseases including cardiovascular disease, diabetes and cancer. The World Cancer Research Fund reported that a review of nearly 7,000 scientific studies found that physical activity protected against many cancers including colon, post menopausal breast and endometrial cancers and concluded that 24% of all cancers in the United States could be prevented with appropriate nutrition and physical activity (World Cancer Research Fund, 2007)

It has been conclusively demonstrated that physical activity is beneficial to and physical inactivity is harmful to health.

If Nova Scotians followed the current guidelines for physical activity a significant percentage of death and disability could be avoided, including deaths from 33% of cardiovascular disease, 25% of stroke, 20% of colon cancer and 20% of type II diabetes (Colman and Hayward, 2002).

Moderate to vigorous activity has been found to protect against osteoarthritis in knees and hips (Racunica, 2007). This is important in the current context as wait times for orthopedic surgery in Nova Scotia are higher than the national standard (Nova Scotia Department of Health, 2009).

Chronic Disease Management and Physical Activity

Many individuals have chronic diseases that are poorly managed. This lack of disease management can result in costly disease complications, unnecessary emergency room visits, and preventable deaths (Østbye et al, 2005).

Physical activity is recognized as a key means to manage chronic disease. For example, individuals who have already experienced a heart attack can reduce symptoms and help to avoid additional heart attacks through regular physical activity (Quoted in Heart and Stroke Foundation of Canada, 2009). Physical activity helps to control blood sugar levels in those with diabetes. Uncontrolled blood sugar levels can lead to numerous and costly health complications (Østbye et al, 2005)

In the area of cancer treatment, a large longitudinal study found lower mortality among women diagnosed with breast cancer who reported being physically active after diagnosis than those who did not (Holmes et al., 2005). The 2007 *Expert Report, Food, Nutrition,*

Physical activity is recognized as a key means to manage chronic disease

Physical Activity and the Prevention of Cancer: a Global Perspective recommends regular physical activity for cancer survivors (World Cancer Research Fund, 2009). The panel noted that it may help reduce the recurrence of cancer and clearly helps support a sense of control and general health.

PHYSICAL ACTIVITY AND HEALTHCARE UTILIZATION COSTS

“Walking is man’s best medicine.”
~ Hippocrates

The more active people are, the less they access healthcare services. On average, an inactive Canadian spends 38% more days in hospital, used 5.5% more family physician visits, about 13% more physician services, and 12% more nurse services compared with an active individual. These percentages add up to about 2.37 million family physician visits, 1.33 million other physician visits, 0.47 million nurse visits, and 1.42 million hospital stays in Canada. Pharmaceuticals and other healthcare services not covered by public insurance programs would be in addition to these health services utilization costs (Sari, 2008).

The impact of physical activity on disease prevention and management can provide cost benefits to the health-care system within a short period of time. One study revealed that older adults who increased their activity levels showed decreasing dependence on the health care system over a two year period in comparison with a group who were consistently inactive (Martinson et al, 2003).

Arthritis is a leading cause of disability. Physical activity among adults with arthritis is known to provide economic benefits within a short period of time. A large study found that an inactive adult with arthritis averaged 12.4% more in healthcare costs than those not physically active. This percentage was calculated as \$1,250 in 2000 American dollars (Wang et. al, 2001).

The impact of physical activity on disease prevention can provide cost benefits to the health care system within a short period of time.

Another study found diabetes patients, who increased physical activity levels by 38 minutes per day to 83 minutes per day, over a two year period, demonstrated improved health measures and reduced medical costs up to the amount of \$1,250 annually (Di Loreto et. al, 2005).

HEALTHY WEIGHTS

The majority of the benefits of physical activity act independently of body weight (U.S. Department of Health and Human Services, 2008). However, excessive weight is considered a risk factor for chronic disease and prevalence has increased over the last two decades (WHO, 2006). Although, the issues of overweight and obesity are complex, it is known that healthy eating and regular physical activity are major factors in the promotion and maintenance of good health; and are both important in the consideration of healthy weights (WHO, 2008).

In addressing the issue of healthy weights it will be important to optimize opportunities for linkages and integration across government strategies. Linkages with Healthy Eating Nova Scotia will be important. Comprehensive settings based approaches such as the Nova Scotia Health Promoting Schools initiative offer key opportunities for integration on this issue.

MENTAL HEALTH: BACKGROUND

Mental health is as critical to daily living as physical health. Despite being essential to high quality of life, approximately 1 in 5 Canadians will experience a mental illness in their lifetime (Public Health Agency of Canada, 2002). Mental illness in the form of depression is predicted to become the second most prevalent cause of disability worldwide by 2020 (WHO, Promoting Mental Health, 2005)

Nova Scotians have the 2 nd highest self-reporting of probable depression in Canada	
Nova Scotia	8.7% of population
Canadian Average	4.6% of population
(Province of Nova Scotia. Office of Health Promotion 2005-2006 Business Plan, 2005)	

Cost of Mental Illness

There is no question that the costs associated with mental illness are enormous. These costs include direct costs such as healthcare expenditures and indirect costs such as increased absenteeism and decreased productivity in the workplace. Costs are conservatively estimated in some cost studies related to the economic burden of physical activity, and in some studies these costs are omitted completely.

Mental health costs such as increased demand for social services; costs associated with increased addictions to alcohol, illegal drugs and tobacco; and costs related to individuals with poor mental health coming into contact with the judicial system are generally omitted from these studies. The cost of mental illness in Canada annually is estimated to be over \$33 billion with the biggest factor being depression. Private business absorbs about \$16 billion of this cost (Institute of Health Economics, 2008; Health Canada 2007).

Mental Health and Physical Activity

Although the causes and treatments of mental disease are complex, physical activity is known to have both preventive and therapeutic effects on mental illness whereas physical inactivity is known to increase depression. Moderate physical activity has beneficial effects for numerous mental health conditions including anxiety, stress and schizophrenia and is effective at treating clinical depression in adolescents and adults (Kantomaa, et al., 2008; Augestad, Slettemoen, and Flandes, 2008; Government of United Kingdom, 2004; and Fox, 1999).

Some studies have found that physical activity is at least as effective at treating depression as is medication. (Government of United Kingdom, 2004)

HEALTHY GROWTH AND DEVELOPMENT AND PHYSICAL ACTIVITY

Child and Youth Development and Physical Activity

Regular physical activity is essential for healthy growth and development. It strengthens bones and muscles; and contributes to the development of motor skills. The acquisition of skills, such as skipping or swimming, provides children and youth with a sense of achievement (Santrock et al, 2003).

Physical activity improves social and learning skills; it enhances concentration and memory; and so improves academic performance in children and youth (Santrock et al, 2003). A study of 4,945 grade five students and their parents in Nova Scotia found that sedentary activities negatively affect school performance (Wang and Veugeler, 2008).

Physical activity improves social and learning skills; it enhances concentration and memory; and so improves academic performance in children and youth.

At least five experimentally controlled studies have found that increasing time devoted to physical activity in schools does not negatively impact academic performance and four studies have found that higher physical fitness is associated with higher academic performance (Active Living Research, 2007).

Wang and Veugelers also found that activity positively impacted self-esteem. Self-esteem is an indicator of mental well-being. Children and youth with low self-esteem are more likely to engage in negative behaviours such as missing school and using tobacco, alcohol and drugs (Public Health Agency of Canada, 2000). Those with low self esteem are more likely to experience anxiety, depression and suicidal behaviour (Wang and Veugeler, 2008).

Positive Aging: Background


It is projected that by 2026 the number of individuals in Nova Scotia 65 or older will increase by 71% (Province of Nova Scotia, 2009). This aging population may further stress the healthcare system as the 65 and over age group uses 50% of hospital resources (Corpus Sanchez, 2007). Yet, increased participation in physical activity by older adults could significantly decrease the potential burden of aging on the health sector.

Positive Aging and Physical Activity

Physical activity allows adults to accomplish daily tasks more easily and with less fatigue. It helps older adults maintain strength, flexibility, balance and coordination. Older adults' regular participation in physical activity can reduce risk of disease and disability. One study found that seniors who walked more than others seniors used significantly fewer healthcare resources (Leigh, Hubert, and Romano, 2005).

Regular physical activity prolongs independent living (Health Canada, 2009; Santrock et al.) Physical activity supports older people in living without assistance, as long as possible, through such benefits as:

- Increased ability to perform activities of daily living such as bathing, shopping, stair climbing, and volunteer work (Vogel, et al., 2009)
- Decreased falls and injuries from falls (Daly, et al, 2009)
- Decreased risk of dementia (Hamer and Chida, 2009)
- Protection from arthritis (Heesch and Brown, 2009)



Physical activity allows
prolonged
independent living.

Prolonging one admission to a long term care facility by one year could save Nova Scotians almost \$32,000 (Province of Nova Scotia, 2008).

Physical activity also reduces feelings of loneliness and increases older adult life satisfaction. Other ways in which physical activity supports older adult health and well being are found in Appendix D.

WORKPLACE PRODUCTIVITY AND PHYSICAL ACTIVITY

“Physical fitness is not only one of the most important keys to a healthy body, it is the basis of dynamic and creative intellectual activity”.

~John F. Kennedy

A healthy committed workforce is critical to business and regional economic success. A majority of the more than 15 million Canadians that spend half of their waking hours at work report lack of time as the primary reason for not being physically active (Canadian Fitness and Lifestyle Research Institute, 2006). Workplaces that encourage and support their employees to be physically active report numerous benefits including:

- Increased productivity and reduced absenteeism
- Reduced injury rates, workers compensation, and disability payments
- Improved employee job satisfaction
- Improved employee concentration and focus
- Improved employee recruitment and retention (Public Health Agency of Canada, 2004).

Physical activity programs have been found to reduce absenteeism by up to 20% (National Institute for Health and Clinical Excellence 2008). Canada Life in Toronto showed a return on investment of \$6.85 on each corporate dollar invested in active living through reduced turnover, productivity gains and decreased medical claims (Public Health Agency of Canada, 2004). Clinical studies in the United States found health-care cost reductions for workplaces with physical activity and wellness program in the range of 30% to 46% among participants and non-participants of workplace fitness and wellness programs (Sari, 2008).

Physical activity programs have been found to reduce absenteeism by up to 20%.

SAFE HEALTHY ENVIRONMENTS: BACKGROUND

Statistics Canada reports that, in 2005, 86% of Canadians traveled to work in cars (Leyden, 2003). Vehicle emissions from motorized vehicles are significant contributors to local and global air pollution (Conserve Nova Scotia Drivewiser, 2008; Province of Nova Scotia, Smog, 2008). They produce about twice their weight in carbon dioxide [CO₂] every year and account for about 30% of all CO₂ emissions in Canada. Carbon dioxide (CO₂) is a major contributor to smog, global warming, and climate change; and can effect or alter natural resources (Conserve Nova Scotia Drivewiser, 2008; Province of Nova Scotia, Air, 2009).

Each year Canadians make an average of 2,000 car trips of less than three kilometers (Pathways for People, 2006). A high number of shorter trips may be associated with higher levels of pollution. With all other factors held constant a “cold start engine” contributes the highest portion of pollution for most trips and can account for more than 50% of harmful emissions (Frank, Stone and Bachman, 2000). These distances are easily reached through cycling, biking or other active modes of transportation. If we can decrease the number of shorter car trips we can have a significant impact on emissions.

There are many societal costs to high motorized vehicle use.

Other societal costs of high motorized vehicle use include heat effects of paved surfaces, noise pollution, vehicle disposal costs, contamination of water sources, and loss of green and building space to parking. One study calculated that given land valued at \$46 per square foot, a vehicle with a life span of ten years could spend half this life being stored on public land at a cost of \$19 per square foot over the life of the vehicle (Lemp and Kockelman, 2008)

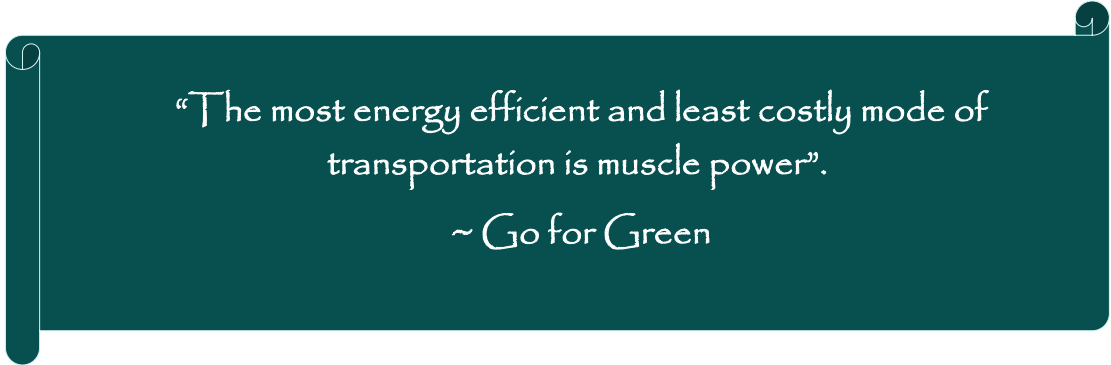
Reductions in motorized vehicle use can provide benefits such as reduced road construction and maintenance costs; healthcare costs for respiratory and cardiac diseases; and individual costs such as fuel and vehicle maintenance (Hartleib, 2008). In addition, the incidence of injuries from traffic collisions is closely related to vehicle miles traveled, speed and traffic volumes. Road safety related injuries carry the highest of all injury related costs in Nova Scotia at approximately \$74 million per year (Province of Nova Scotia Road Safety, 2009).

Safety can be improved through street design and land use development patterns that reduce per capita motor vehicle mileage and speed; increase the number of bicyclists and

pedestrians, and reduce the exposure of pedestrians and cyclists to unsafe conditions (Litman and Fitzroy, 2005, as cited in Frank, Kavage and Litman, 2007). Less dependence on motorized vehicles can also reduce business costs related to employee parking and time spent in congested traffic (GPI Atlantic, 2008).

Major infrastructure alteration to shift land use patterns is often opposed by decision makers due to the incompatibility of infrastructure development and government timeframes. However, transportation investment that increases active transportation linkages between urban destinations can take much less time to implement relative to other infrastructure form changes (Frank, Stone, and Bachman, 2000).

Safe Healthy Environments and Physical Activity



“The most energy efficient and least costly mode of transportation is muscle power”.

~ Go for Green

Some Canadian municipalities are adopting planning models that address economic, environmental, and social sustainability (Transport Canada, 2008) A World Cancer Research Fund report (World Cancer Research Fund, 2009) recommended that all built environment projects should be planned, commissioned, constructed, and operated so as to facilitate physical activity and protect public health.

Community design that supports physical activity through walking and biking has been shown to significantly reduce emissions and traffic congestion. Building, retrofitting and rezoning existing infrastructure to include sidewalks, parks and pedestrian connections to nearby schools, workplaces, shops and services are some of the typical approaches to support increased active modes of transportation. It has been found that in these “walkable communities” people use their cars less and walk more often (Ewing and Cervero 2001) Significantly lower per capita harmful emissions have been demonstrated by communities that emphasize mixed land use, density and street connectivity (Frank et al., 2000 and Frumkin et al.,

2004). One study found that a 5% increase in community walkability was associated with 6.5% fewer traveled car miles and a measurable decrease in harmful chemical compounds (Frank, et al., 2006)

As few as 1.2% of Canadians bike to work (Pucher & Buehler, 2005) This figure is in stark contrast to places such as the Netherlands where 27% of people bike to work. An investigation of this issue found that 66% of Canadians would leave motorized vehicles at home if appropriate alternate infrastructure was in place (Pathways for People, 2006).

This preference is supported by evidence that shows cycling rates increased substantially in locations where government invested in cycling infrastructure, facilities and education; cycling rates increased substantially. Copenhagen, Denmark, demonstrated a 50% increase in cycling over five years after such an investment.

...66% of Canadians would leave motorized vehicles at home if appropriate alternate infrastructure was in place.

(Hartleib, 2006). Such infrastructure can provide costs savings. A study of Nebraskan walking and biking trails found the average cost of the trail per user was \$235 in 2002, yet resulted in a net financial benefit due to medical costs savings of \$622 per person related to increased levels of physical activity (Younger et al, 2008)

A United States government survey found that the number of children walking to school has dropped from about half of all students in 1969 to about 15% in 2001 (Centers for Disease Control, 2004). Parents driving children to school may comprise as much as 30% of morning traffic contributing to traffic congestion and air pollution. Children who walk to school benefit from the demonstrated higher levels of physical activity throughout the day (Robert Wood Johnson Foundation, 2009)

COMMUNITY AND PHYSICAL ACTIVITY

Research has consistently demonstrated that neighbourhoods which are aesthetically pleasing and offer recreational opportunities support walking among a variety of target populations (Bergman et al, 2009). Neighborhoods that are more walkable are believed to increase the social cohesiveness of communities. Walking increases social interactions with neighbours and commercial activity in a community. These practices may have the additional benefit of decreasing crime.

Social interaction can create trust and positive behaviours among citizens such as volunteering and self-policing of communities. Research shows that people living in environments that were more supportive of walking and cycling than others felt more connected and involved in their communities; were more likely to engage in the democratic process; and were more likely to walk to work. An added benefit is that people who are socially engaged at the community level tend to live longer and healthier lives (Leydon, 2003).

Environments that support walking and cycling allow people to incorporate physical activity into everyday life, and are realistic alternatives to more formalized involvement in sport and exercise programs (Cavill et. al, 2008)

HEALTH INEQUITIES

There is substantial evidence to show that health outcomes are related to the social, cultural and economic environments in which people live (CIHI, 2008; Gauvin, 2003). Health inequity is a term used to capture the poorer health of those with lower socio-economic position as compared with those of higher socio-economic position (Coppel and Dyas, 2003). Health inequities are serious problems that affect all of society. Inequities contribute to increased costs of healthcare, erode social cohesion, and impede economic growth (Lockyer and South, 2006; Raphael). Interventions to reduce inequities have also been shown to be cost effective (Lockyer and South, 2006).

Walking and cycling infrastructure can help support lower income individuals travel to work and participate in community activities (Butler, Orpana, and Wiens, 2007).

Municipalities that promote walking and cycling allow greater employment, education, recreation, and consumer opportunities to the approximately 20% of Canadian households which do not possess a motorized vehicle. Safe and accessible walkways can support people with disabilities, older adults, those of lower socioeconomic position and children access public transit and essential services (Leydon, 2003)

Health Inequities and Physical Activity

Recreational physical activity patterns generally correspond with income and education levels. The Canadian National Population Health Survey in 1998/1999 found that persons with a household income of 20 thousand and under were classified as inactive and persons with a household income of 80 thousand and up were classified as active in leisure time according to recommended guidelines for physical activity (Statistics Canada, 1999). Some studies contend this trend appears to be continuing and the gap widening (Gauvin, 2003).

Others suggest that people of lower socioeconomic position may be equally as physically active as other socioeconomic groups due to more active modes of transportation. However, physical activity limited to active transportation would preclude this group from personal,

social, and community benefits attributed to recreational physical activity. Ongoing research investigating physical activity in relation to transportation and public health may be able to clarify this relationship more fully in the future (Sallis, Frank, Saelens and Kraft, 2004)

Other groups that experience proportionately more barriers to participation in physical activity include women, youth, ethnic groups, aboriginals, and those with mental illness (Gauvin, 2003; Lockyer and South, 2006; McCormick et al, 2008). Population health interventions that target the population as a whole, in addition to individuals, are effective in addressing health and social disparities.

In particular, changes that make neighborhoods more walkable, such as safe and connected walkways, can increase activity in these groups through increased walking and biking for transportation. Such changes, along with parental education, could also increase the number of children who walk to school.

TOURISM AND PHYSICAL ACTIVITY

Tourism activity in Nova Scotia has declined over the past years. One of the reasons for this decline is changing tourist expectations and wishes. Tourism opportunities such as hiking and cycling adventures have been identified by the Nova Scotia government as an emerging market to strengthen tourism numbers (Province of Nova Scotia, Emerging Markets Bulletin, 2005). Walking trails, bicycle paths and greenways can generate tourist activity and benefit the local economy, particularly those in the food, beverage, retail and accommodations sectors.

Walking trails, bicycle paths
and greenways can
generate tourism activity.

In Ottawa, about 13 % of cyclists who used the National Capital Commission's bike pathway network at least once a year in 1999 were visitors. This tourism activity was noted as beneficial by retailers (Chow, 2008). In Quebec, the Route Verte network of bicycle paths and trails covers almost the entire province. A primary purpose of developing this trail network was to increase tourism in regions that were not currently attracting mainstream tourists. A University of Quebec study found that cyclists using the Route Verte spent over \$95 million in 2000. This number was expected to increase to \$134 million in 2007 (Vélo Québec, 2003).

Visitors that select Nova Scotia as a hiking destination stay nearly two nights longer than the average visitor and spend almost 17% more per party (Province of Nova Scotia, 2007)

Opportunities to advance Nova Scotia in the hiking and cycling market are constrained by the lack of safe trails and adequate promotional materials. The availability and promotion of trails to the local population would also increase physical activity opportunities to Nova Scotians.

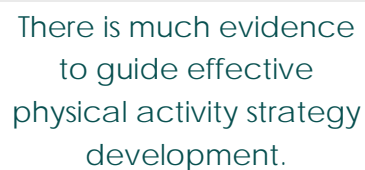
PHYSICAL INACTIVITY IN CANADA AND NOVA SCOTIA

The majority of Canadians and Nova Scotians are not meeting the recommended physical activity guidelines. In Canada, 51% of adults were considered inactive in 2005. Nova Scotian adults prove to be even less active with 54% of the population considered inactive in 2005 (Statistics Canada, 2005).

The numbers of Nova Scotian children and youth meeting recommended levels of physical activity declined from 2001 to 2005. A Nova Scotia study which measured physical activity rates in grades 3, 7 and 11 found that less than 1 % of grade 11 females and 9% of grade 11 males were meeting the recommended levels of physical activity in 2005. A note of interest from the study was that a slight increase in activity on one or two days a week may significantly increase the percentage of grade 7 youth meeting the recommended physical activity guidelines (Campagna et al., 2007). See Appendix D for a comprehensive account of Nova Scotia physical activity levels.

EFFECTIVENESS OF PHYSICAL ACTIVITY INTERVENTIONS

Many approaches to increasing physical activity are proven to be effective. A systematic review of the research by the United States' Centres for Disease Control and Prevention (CDC) identified three categories of effective approaches to increasing levels of physical activity. These were informational approaches; behavioral and social approaches; and environmental and policy approaches.



There is much evidence to guide effective physical activity strategy development.

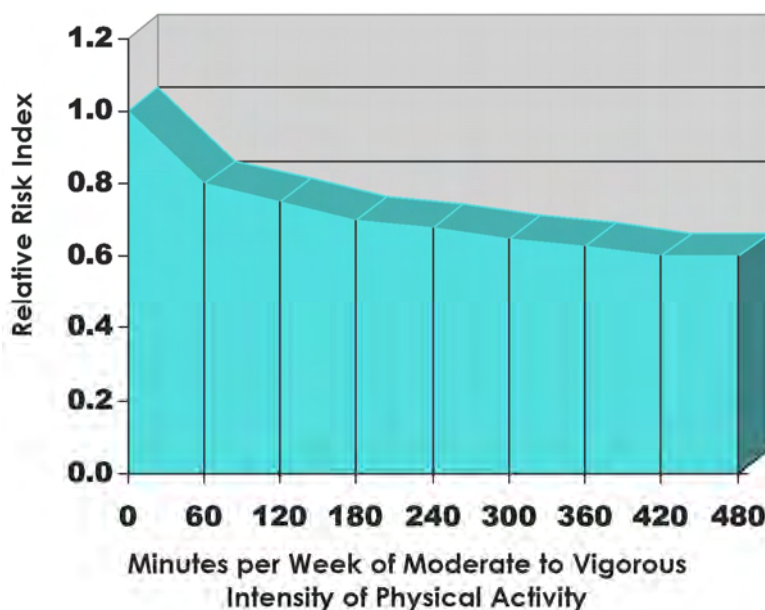
The interventions recommended by the CDC in 2005 are categorized in Appendix E.

Cost Effectiveness of Physical Activity Interventions

Research has found physical activity interventions to be highly cost effective as compared with no intervention. This appears to be the case across the intervention spectrums including individual, community and societal level infrastructural changes. One study found all seven of the CDC recommended types of physical activity interventions to be cost-effective providing good value for money (Roux et al, 2008).

Even large scale interventions have proven cost effective. A rigorous Norwegian study that projected the cost effectiveness of increasing walking and cycling track networks in three Norwegian cities found these investments would yield considerably higher profitability to society than has been reaped for a long time (Sælensminde, 2004).

An important factor to reflect on when considering potential cost effectiveness of interventions is the target population. Evidence shows that the greatest public health benefit can be achieved by moving the sedentary population to become moderately active (Heart and Stroke Foundation, 2009). As demonstrated below, the risk of premature death declines significantly with progress from inactivity to some activity. Risk continues to decline with increased time devoted to activity, but the most dramatic shift occurs with the introduction of activity.



Source: U.S. Department of Health and Human Services, 2008 Physical Activity Guidelines for Americans. 2008.

PHYSICAL ACTIVITY INVESTMENTS IN OTHER CANADIAN JURISDICTIONS

Other jurisdictions have taken action to address physical inactivity and associated costs through the development of multifaceted physical activity strategies. Saskatchewan, Ontario, Manitoba, and British Columbia have all invested in some form of physical activity strategy. The investment level for these initiatives has ranged from \$3.0 to \$7.5 million over time spans ranging up to a few years. One strategy of particular interest is Saskatchewan in Motion.

Saskatchewan in Motion

A Saskatchewan provincial level strategy, Saskatchewan in Motion, has demonstrated significant success. An evaluation of the strategy found a measurable self reported population level increase in physical activity. In many regions of the province, population increases in physical activity levels exceeded 10%, and in some places 20%, in children, youth and adults. Of particular interest is that those with self reported chronic diseases significantly increased physical activity levels over the duration of the strategy (Saskatchewan In Motion, 2005).

Most recent efforts include increasing participation of a broad range of partners in ongoing strategy development and implementation; and the success of community grants which provide concrete support to help communities develop a vision and initial strategic plans to improve community participation in physical activity. Elements of this strategy may be transferable to the Nova Scotia context given comparable population size and demographics; and urban/rural considerations.

Saskatchewan in Motion was initially funded at a level of \$6 million over a three year time frame. This funding level has been sustained to date; however, none of invested monies are directed towards funding land use or infrastructure changes.

NOVA SCOTIA INVESTMENT IN A PHYSICAL ACTIVITY STRATEGY

Nova Scotia can also consider the successful provincial level Tobacco strategy in the determination of how much to invest in a provincial level physical activity strategy. In 2003-2004, the Nova Scotia government allocated \$2.3 million to tobacco control efforts; the equivalent of approximately \$2.45 per capita investment. The impact of investing in the tobacco strategy led to a 24% reduction in smoking rates (from 25% in 2002 to 19% in 2008). Youth smoking rates also declined significantly with a striking 30% decline among 15 -19 year olds and a 26% change among the 20-24 year olds (Statistics Canada, 2009).

A harmonized initial new investment of \$5 million or approximately \$5 per capita would be an appropriate outlay.

Given that the rate of physical activity in Nova Scotia currently stands at more than twice the previously listed level of tobacco use; and the personal, community and societal economic costs of physical inactivity are so high, an initial new investment of \$5 million or approximately \$5 per capita would be an appropriate outlay and will support integration across sectors and government levels to be maximally effective with shared accountability. In addition to this, reflection on efficient infrastructure investment will be important.

Maximization of Investment in Physical Activity interventions

Although many other regions and countries are investing in physical activity strategies, few are gaining maximum return on this investment. An integrated and coordinated approach is recommended to reduce fragmented or contradictory policies; and build on the strengths and assets of strategy partners (Roux, 2008; Bellew et al., 2008). A harmonized approach in Nova Scotia could help build shared ownership and pride for a culture of physical activity and increase accountability through enhanced capacity to engage in research and evaluation.

It would also enable the consideration of multiple perspectives, such as environment, health, and tourism, in all infrastructure and land use planning. Community and infrastructure design is routinely made by urban planners and engineers; and political and government leaders in isolation from other impacted sectors. As the built environment affects health, public health professionals should be included in land and transportation decision-making processes.

Health impact assessment tools can be applied to maximize positive effects and minimize negative effects of infrastructure initiatives (Younger et al., 2008). A European study found that participation of health experts in land use, transportation and urban planning were essential to assessing the effects of physical activity and other health impacts in such decisions (World Health Organization, 2006).

Now that we know how comprehensive approaches, environmental policies and built environments affect community physical activity levels and population health, it is time to apply this knowledge. Although further research to refine our approaches will be needed, this research will require collaboration across sectors and disciplines. Findings from such research can help community leaders and decision-makers design and create healthier communities that support physical activity as the easy choice (Ramirez et al, 2006).

Findings from research can help community leaders and decision-makers design and create healthier communities...

What Could a Nova Scotia Physical Activity Strategy Look Like?

As part of the development of its Physical Activity Strategy, the British Columbia Healthy Living Alliance examined 30 existing provincial, national and international physical activity strategies and initiatives to identify what they have in common. Seven key areas were identified, each of which should be considered and reflected as required in any comprehensive physical activity strategy developed for Nova Scotia. These include:

- Policy and legislation;
- Public awareness activities;
- Active infrastructure and community environments;
- Targeted interventions;
- Partnership development;
- Leadership capacity; and
- Research and knowledge transfer.

Focal Area	Description
Policy and legislation	Policy and legislation that supports active lifestyles and choices and addresses barriers to access to program, services and environments.
Public awareness activities	Public awareness activities that raise public awareness of the benefits, personal relevance and behavior change elements related to physical activity.
Active infrastructure and community environments	Active infrastructure and community environments that support active lifestyle and reduce barriers to activity.
Targeted interventions	Targeted interventions and supports that lead to behaviour change, particularly addressing barriers related to control, health status income, education, family and leisure.
Partnership development	Partnership development that fosters collaborative approaches and communication between key stakeholders.
Leadership capacity	Leadership and systems development support to increase leadership capacity and the ability of systems to respond to the challenges of increasing physical activity levels.
Research and knowledge transfer	Research and knowledge transfer to evaluate effectiveness, improve and adapt program and share findings.

There are several examples of physical activity strategies to consider, both within and outside of Canada. Each draws its directions and actions, in some way, from these key areas and is customized to what best suits that particular jurisdiction's needs.

Nova Scotia can do the same.

The Government of Western Australia developed a Premier's Physical Activity Taskforce and strategy with involvement of senior representatives from Education, Health, Community, Local Government, Planning and Infrastructure, Sport and Recreation and the Office for Children and Youth (Premier's Physical Activity Task Force, 2007)
Nova Scotia could adapt such an approach to suit our context.

BUILDING ON OUR ASSETS

The evidence supports a coordinated approach to increasing physical activity levels as best practice. Nova Scotia has many initiatives on which to build an integrated cross departmental, multi-sectoral, all ages, physical activity strategy.

Alignment with Government Strategies

Physical activity is incorporated into many of Nova Scotia's provincial government strategies, initiatives and frameworks, as can be found in Appendix H. A few examples of initiatives which could benefit from coordination include:

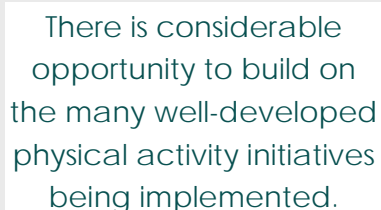
- Weaving the Threads: Nova Scotia's Framework for Social Prosperity: a framework for coordinating related activities and plans to achieve social prosperity in Nova Scotia.
- Active Kids Healthy Kids: strategy aimed at increasing the number of children and youth who are physical active. Unfortunately, physical activity rates in children and youth in Nova Scotia have not increased. This situation may reflect a broader population focused physical activity strategy and an insufficient investment in Active Kids Healthy Kids.
- Strategy for Positive Aging: identified physical activity needs for seniors in relation to goals for health and well-being and housing options.
- Chronic Disease Prevention Strategy: Department of Health Promotion and Protection's long-term plan for a healthier Nova Scotia. In addition, some District health Authorities are developing plans based on the strategy.
- Physical Activity Framework: Department of Health Promotion and Protection's recently announced commitment to develop a long-term population-based framework to get more Nova Scotians physically active.

Alignment with Nonprofit Sector Strategies

Formal strategies and initiatives to increase physical activity are also found outside of the provincial government. A number of nonprofit organizations, including the Heart and Stroke Foundation of Canada (HSFC) and the Coalition of Active Living (CAL), are calling on governments to fund, develop, implement and evaluate comprehensive provincial physical activity strategies.

Alignment with Voluntary Sector Strategies

The voluntary sector and volunteers are a vital component of the social, economic, cultural and environmental well-being of Nova Scotia. This relationship is recognized through the



There is considerable opportunity to build on the many well-developed physical activity initiatives being implemented.

Collaboration Agreement between the Government of Nova Scotia and the voluntary sector, through the Nova Scotia Voluntary Sector Council. The alignment of volunteers' current active role in physical activity supported by the Collaboration Agreement with government will strengthen Nova Scotia's plans for a physical activity strategy.

Alignment with Municipalities

As Nova Scotia develops a comprehensive provincial physical activity strategy, it is important to involve and share costs with municipal governments. Local planning and delivery of physical activity opportunities is aligned through the *Municipal Government Act*. Municipalities have been involved in the past and present provision of physical activity programs and services. In fact, the Union of Nova Scotia Municipalities has made active transportation a priority. It plans to work with its membership and other agencies to advocate for improved infrastructure supportive of safe walking, cycling and other active transportation.

Further, many municipalities are supported in this role through the *Municipal Physical Activity Leadership Program* with Nova Scotia Health Promotion and Protection. There is considerable opportunity to build on the many well developed physical activity initiatives being implemented in the province of Nova Scotia. It is essential that Nova Scotia provide sufficient investment to maximize the success of current investments.

CONCLUSIONS

“If we could give every individual the right amount of nutrition and exercise . . . we would have found the safest way to health”

~Hippocrates

The evidence supports action to improve health status and increase cost-effectiveness. The benefits extend beyond health to the environment, schools, workplace and community. There is significant alignment between a physical activity strategy and other current government and voluntary sector priorities, strategies and initiatives. Clearly physical activity has no boundaries. It can impact and is impacted by many sectors such as health, education, transportation, and the environment.

The time has come for the provincial government to acknowledge this common thread and strengthen it by shaping it into a comprehensive strategy. A provincial strategy can not only maximize the benefit of current initiatives to increase physical activity levels; it can help support other provincial level strategies designed to reduce chronic disease.

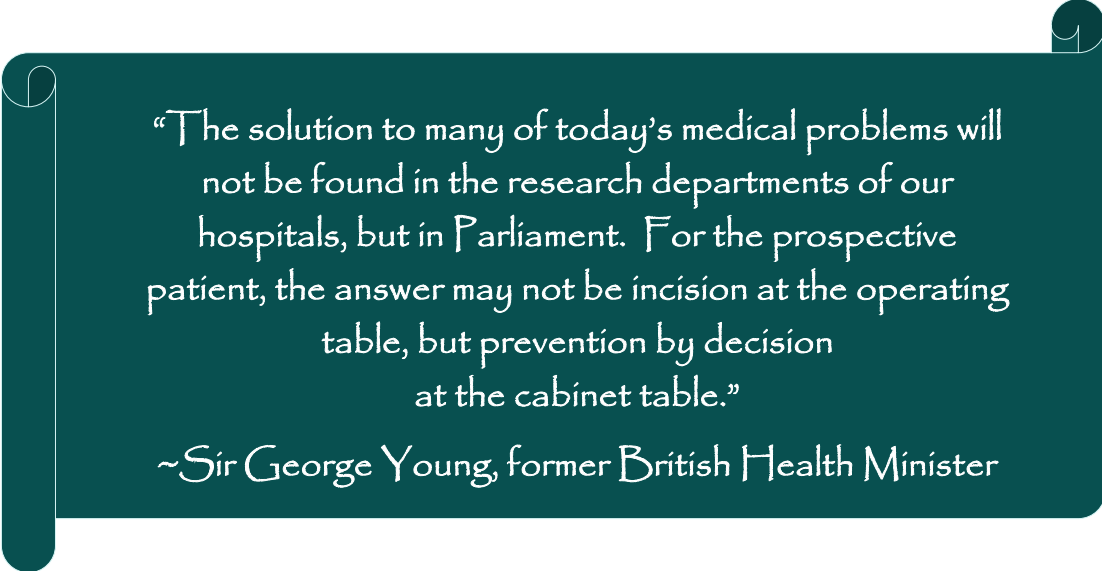
There are calls by numerous stakeholders to increase investment in physical activity strategies. The creation of environments that make physical activity the easy choice needs to involve a broad range of stakeholders including the general public, health professionals, health promotion practitioners, all levels of government, community planners, developers, school boards, employers and researchers.

The time has come for the province to acknowledge this common thread and strengthen it by shaping it into a comprehensive strategy.

This collaboration is essential to the coordinated action needed to shift population physical activity patterns. Such broad representation requires underpinning policy across sectors to be efficient, effective, complementary, sustainable, and accountable.

Governments at all levels, multiple sectors, and people and families everywhere are faced with an uncertain economic situation. An additional investment in physical activity of five dollars per capita will ensure that Nova Scotia receives a larger return on investment for outlays already made. Investment in a Nova Scotia Physical Activity Strategy now will demonstrate short term benefits and serve as an investment in a secure future.

Physical activity has been valued for generations. However, physical inactivity rates are unacceptably high. Our collective investment in the issue has been insufficient. But, we have never been better positioned with evidence to allow us to effectively produce a population level shift in activity patterns. This will require significant government investment, leadership and policy development.



“The solution to many of today’s medical problems will not be found in the research departments of our hospitals, but in Parliament. For the prospective patient, the answer may not be incision at the operating table, but prevention by decision at the cabinet table.”

~Sir George Young, former British Health Minister

APPENDICES

Appendix A: An Account of the Health Status of Nova Scotians

Health Status of Nova Scotians

Nova Scotia has some of the poorest health statistics in the country including:

- the highest rate of deaths from cancer and respiratory disease;
- the second highest death rate from cardiovascular disease;
- the second highest diabetes rate;
- the second highest psychiatric hospitalization rate; and
- the lowest life expectancy and free-of-disability measures for both men and women.

Four types of chronic diseases kill an estimated 5,800 Nova Scotians a year, account for nearly 75% of all deaths in the province, and are the major causes of premature death and hospitalization.

Cardiovascular disease claims 2,800 Nova Scotians each year and accounts for 36% of all deaths in the province.

Cancer kills an estimated 2,400 Nova Scotians each year accounting for 30% of all deaths in the province (**NS Department of Health Protection and Promotion, 2008/09 Business Plan**)

Appendix B: Health Benefits of Physical Activity

Children and Adolescents

Strong evidence

- Improved cardiorespiratory and muscular fitness
- Improved bone health
- Improved cardiovascular and metabolic health biomarkers
- Favorable body composition

Moderate evidence

- Reduced symptoms of depression

Adults and Older Adults

Strong evidence

- Lower risk of early death
- Lower risk of coronary heart disease
- Lower risk of stroke
- Lower risk of high blood pressure
- Lower risk of adverse blood lipid profile
- Lower risk of type 2 diabetes
- Lower risk of metabolic syndrome
- Lower risk of colon cancer
- Lower risk of breast cancer
- Prevention of weight gain
- Weight loss, particularly when combined with reduced calorie intake
- Improved cardiorespiratory and muscular fitness
- Prevention of falls
- Reduced depression
- Better cognitive function (for older adults)

Moderate to strong evidence

- Better functional health (for older adults)
- Reduced abdominal obesity

Moderate evidence

- Lower risk of hip fracture
- Lower risk of lung cancer
- Lower risk of endometrial cancer
- Weight maintenance after weight loss
- Increased bone density
- Improved sleep quality

Source: U.S. Department of Health and Human Services, 2008 Physical Activity Guidelines for Americans. 2008.

Appendix C – Urban Transportation Strategies

Many Canadian municipalities are incorporating active transportation into their existing transportation and urban planning strategies to best achieve local transportation, health and environmental goals.

Vancouver

Downtown Transportation Plan which includes sub-plans that address pedestrian and cyclist issues.

Pedestrian plan: mid-block crossings, wider crosswalks and automatic pedestrian detectors (including sensory devices for the sight and hearing impaired).

Cycling plan: parking facilities, new bicycle lanes and a 25-kilometre downtown cycling network

Toronto

Master Bicycle Plan (2001): street planning; developing bicycle networks; safety and educational training; bicycle parking; promoting cycling using communication materials and events; and incorporating bicycles into its public transit system.

Montreal

In Town Without My Car event since 2003 whereby a portion of the cities downtown is closed to vehicle traffic. Environment Quebec found that nitrogen oxide and carbon monoxide levels at the event were reduced by 90% between 10 a.m. and 3 p.m. compared to an intersection with normal traffic flows.

Ottawa

The Ottawa Cycling Plan is a 20-year two phase strategy. The first, is a ten-year implementation plan that includes network infrastructure, program initiatives and associated costs that will complement the City's Capital Works Plan, Transportation Master Plan and Official Plan. The second phase (year 10 to 20) is presented as input to long-term planning initiatives.

Appendix D - Physical Inactivity by Age Group

Assessment Tool	Age Category	Canadian Inactivity as per Recommendation	Nova Scotia Inactivity as per Recommendation
Measured (PACY, 2005)	Nova Scotia grade 11 youth	Not available	Females: > 99% Males: 91.3%
Measured (PACY, 2001)	Nova Scotia grade 11 youth	Not available	Females: 93.1% Males: 87.4
Measured (PACY, 2005)	Nova Scotia grade 7 youth	Not available	Females: 76.2% Males: 54.7%
Measured (PACY, 2001)	Nova Scotia grade 7 youth	Not available	Females: 55.5% Males: 37.8%
Self reported (CCHS, 2005) *leisure time physical activity"	12 years of age and over	51%	54%
Self reported (CCHS, 2005) *leisure time physical activity"	Older Adults 65 and over	53.3%	64.7%

Appendix E – Types of Effective Interventions

Category of Intervention	Type of Intervention
Informational approaches	<p>Community-wide campaigns - large-scale, highly visible messages directed to large audiences through different types of media, including television, radio, newspapers, movie theaters, billboards, and mailings. Messaging is connected to programming. (Centers for Disease Control and Prevention, Community-wide campaigns are recommended to promote physical activity).</p>
	<p>Point-of-decision prompts – involve signs placed by elevators and escalators that encourage people to use nearby stairs for health benefits or weight loss. These signs tell people about the health benefit of taking the stairs and/or remind people who already want to be more active that an opportunity to do so is at hand (Centers for Disease Control and Prevention, Point-of-decision prompts that encourage people to use the stairs are recommended to promote physical activity).</p>
Behavioral and social approaches	<p>School-based physical education – involve making changes physical education curricula by making classes longer or having students be more active during class (Centers for Disease Control and Prevention, Enhanced physical education classes in schools are recommended to increase physical activity among young people).</p>
	<p>Social support interventions in community settings – involve building, strengthening, and maintaining social networks that provide supportive relationships for behavior change, for instance, setting up a buddy system, making contracts with others to complete specified levels of physical activity, or setting up walking groups or other groups to provide friendship and support (Centers for Disease Control and Prevention, Providing social support in community settings is recommended to promote physical activity).</p>

Behavioral and social approaches (cont.)	Individually adapted health behavior-change – involves teaching behavioral skills such as 1) goal-setting and self-monitoring, 2) building social support, 3) behavioral reinforcement through rewards, 4) structured problem solving, and 5) prevention of relapse into sedentary behavior(Centers for Disease Control and Prevention, Health behavior change programs adapted for individual needs are recommended to increase physical activity).
Environmental and policy approaches	The creation of or enhanced access to places for physical activity combined with informational outreach activities - involves the efforts of worksites, coalitions, agencies, and communities in attempts to change the local environment to create opportunities for physical activity, such as creating walking trails, building exercise facilities, or providing access to existing nearby facilities(Centers for Disease Control and Prevention, Creating or improving access to places for physical activity is recommended to increase physical activity).
	Point of decision prompts - also informational approach, signs that encourage people to use nearby stairs for health benefits or weight loss can be posted in a variety of settings or environments for examples workplaces, schools, and throughout a community (Centers for Disease Control and Prevention, Point-of-decision prompts that encourage people to use the stairs are recommended to promote physical activity).
	Street-scale urban design and land use policies and practices – involves design components such as improved street lighting, infrastructure projects to increase safety of street crossing, use of traffic calming approaches (e.g., speed humps, traffic circles), and enhancing street landscaping, and policies such as building codes, roadway design standards, and environmental changes(Centers for Disease Control and Prevention. Street-scale urban design and land use policies and practices are recommended to increase physical activity.).

Note - The CDC identified several additional interventions for increasing physical activity, but at this time there is insufficient evidence to show that they are effective (Centers for Disease Control and Prevention, Physical activity web page).

Appendix F - Government Strategies and Initiatives in Nova Scotia

The following government strategies and initiatives include references to physical activity:

Framework, Strategy, Action Plan	Description	Lead and Partner Departments	Status
The Power and the Potential: The Physical Activity, Sport and Recreation Framework for Action	This framework sets out the vision, core values, and strategic directions for individuals and organizations that in the PASR sector. It was developed in 2008 through broad consultations within Nova Scotia's physical activity, sport and recreation (PASR) sector.	Health Promotion and Protection	Underway
Municipal Physical Activity Leadership Program	This program supports municipalities in providing physical activity opportunities to their residents through the provision of resource materials, training, networking and consulting support to develop and implement physical activity plans at the local level.	Health Promotion and Protection	Underway
Health Promoting Schools Initiative	Provides and overall framework for key school health initiatives in the province, including healthy eating, physical activity, youth sexual health, tobacco reduction, addiction and injury prevention in the school setting.	Health Promotion and Protection	Underway
Nova Scotia Pathways for People Framework for Action	Provides a framework within which to view active transportation as a fundamentally needed and desired way of increasing physical activity, with wide ranging social, environmental and economic benefits.	Health Promotion and Protection	Underway
Nova Scotia's Climate Change Action Plan, Towards a Greener Future	Recognizes the need to encourage various forms of active transportation as part of Nova Scotia's green future and has committed to establishing a task force by March 31, 2009 to consider all aspects of transportation including active transportation.	Department of Environment	Underway
Connecting Seniors to Active Living Project	This initiative has laid the groundwork for increasing the physical activity levels of seniors in Nova Scotia.	Recreation Nova Scotia, supported by the Dept. of Health Promotion and Protection and Department of Seniors	Underway

Framework, Strategy, Action Plan	Description	Lead and Partner Departments	Status
Our Kids are Worth It: Strategy for Children and Youth	Promotes the health and well being of children and youth	Community Services	Under way
Integrated Community Sustainability Plans	This agreement between governments, which requires municipalities to prepare and submit planning documents in order to receive funding. The municipality must explain how its plan will contribute to cleaner air, cleaner water, and/or reduced greenhouse gas emissions.	Service Nova Scotia and Municipal Relations	Underway
Moving to a Green Future	This is one of the province's five main goals. It seeks to tackle climate change and reduce our greenhouse gas emissions.	Conserve Nova Scotia and Nova Scotia Environment	Underway
Healthy Eating Nova Scotia	This strategic plan provides a framework for comprehensive action on healthy eating, one of the four areas of emphasis recommended in the Nova Scotia Chronic Disease Prevention Strategy.	Health Promotion and Protection	Underway

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