



# Public Health – Everyone's Business



2009 Annual Report of the Chief Medical Officer of Health of Ontario to the Legislative Assembly of Ontario

# Table of Contents

---

Letter of Transmission	1
Introduction	2
2009 – The Year in Public Health	3
Prevention – The Next Evolution of Health Care	6
Introduction	6
H1N1 and Pre-existing Conditions	7
Prevention – Not a New Idea	8
Economic Case for Prevention	9
A Healthier Society	11
We simply cannot afford not to reduce obesity and physical inactivity	15
We simply cannot afford not to invest in healthy child development	16
We simply cannot afford not to prevent injuries	17
We simply cannot afford not to reduce health inequities	18
We simply cannot afford not to invest in the war on tobacco	21
Conclusion	25
Appendix	26
References	27

---

# Letter of Transmission

**Ministry of Health  
and Long-Term Care**

Chief Medical Officer of Health  
Public Health Division  
11th Floor, Hepburn Block  
Queen's Park  
Toronto ON M7A 1R3

Telephone: (416) 212-3831  
Facsimile: (416) 325-8412

**Ministère de la Santé  
et des Soins de longue durée**

Médecin hygiéniste en chef  
Division de la santé publique  
Édifice Hepburn, 11<sup>e</sup> étage  
Queen's Park  
Toronto ON M7A 1R3

Téléphone: (416) 212-3831  
Télécopieur: (416) 325-8412



December 2010

The Honourable Steve Peters  
Speaker of the Legislative Assembly of Ontario  
Room 180, Main Legislative Building  
Queen's Park  
Toronto ON M7A 1A2



Dear Mr. Speaker:

I am pleased to provide the 2009 Annual Report of the Chief Medical Officer of Health of Ontario for submission to the Assembly in accordance with the provision of section 81.(4) of the Health Protection and Promotion Act.

Yours truly,

Original signed by Arlene King

Arlene King, MD, MHSc, FRCPC  
Chief Medical Officer of Health

Attachment

# Introduction

*“Let us not forget that the ultimate goal of Medicare must be to keep people well rather than just patching them up when they get sick.”<sup>1</sup>*

Tommy Douglas

2009 was the year of the H1N1 flu here in Ontario as in the rest of the world. From early spring, when the alarm bells first started to ring about what appeared to be a new strain of flu in Mexico, to the worldwide spread that led to the World Health Organization declaring a global pandemic in early summer, and culminating in the immunization program in the fall, H1N1 was the biggest ongoing news story of 2009. From a public health point of view, it often seemed as if it was the only story.

This is not to say that nothing else happened in public health in Ontario. Despite the fact that H1N1 consumed an extraordinary amount of time and a huge number of resources, the work of public health continued every day all around the province. This annual report looks back at an extremely busy year. It begins, of course, with H1N1, but also includes other events of importance to public health, including the introduction of the Ontario Public Health Standards,<sup>2</sup> expansion of the Children In Need of Treatment (CINOT) dental program,<sup>3</sup> release of a comprehensive plan of action in support of early childhood development and learning,<sup>4</sup> and the *Initial Report on Public Health 2009*.<sup>5</sup>

However, the review of 2009 is really just the starting point for this report. Public health as I believe it must be practiced, involves much more than managing official public health programs. It is about being the person or organization that identifies issues and brings them to the attention of the public and government, while providing guidance about what ought to be done, as well as feedback on what is being done. As Chief Medical Officer of Health, my overriding interest lies in shaping a direction and plan for the years ahead. In that regard, the defining event of 2009 – the H1N1 flu pandemic – was important not just because of its immediate impact but also because of its implications for public health.

This annual report was written in late 2010, many months removed from the events of 2009. The perspective that comes with that distance has only reinforced the lessons taught by the pandemic. Those lessons are that we must collectively shift our focus from sickness care to prevention, and that public health is everyone’s business. This report explores those lessons and the many good reasons for heeding them, and begins to lay the groundwork for my recommendations for a comprehensive, system-wide strategy that I plan to release in 2011.

# 2009 – The Year in Public Health

## H1N1

As stated in the introduction, the public health story of 2009 was the H1N1 flu. H1N1 dominated the headlines, consumed the time, resources and energy of public health officials, health care providers and politicians alike, and spread concern and anxiety throughout the population.

Much has been written about H1N1. There have been a number of reports, one of which was released by this office.<sup>6</sup> There are three key points, however, that I do still need to make. The first is that Ontario's and indeed the country's response to H1N1 was characterized by a high degree of collaboration and cooperation, from public health units and primary care providers through to the provincial governments and on up to Ottawa. H1N1 became everyone's business, and everyone pulled together to deal with it. This was crucial during the pandemic, and I believe it will be crucial as we move forward in public health, both as a province and as a country.

The second point is that sustained health education efforts pay off. Ontarians understood the importance of hand hygiene, cough/sneeze etiquette and staying at home when ill. This change in understanding and behaviour, which was supported by public, non-profit and private sector organizations throughout the province, promises to prevent countless numbers of infections in health care facilities and in the community.

The final point that needs to be made – which informs and drives much of this annual report – concerns the implications of the pandemic for public health in general. H1N1 reminded us in no uncertain terms of the connection between poor health, the risk factors for poor health, and vulnerability to serious illness. There will be much more on that in the next section.

## Ontario Public Health Standards

The first important development in public health in Ontario in 2009 occurred less than a day into the new year, when the Ontario Public Health Standards (OPHS) and Protocols replaced the Mandatory Health Programs and Services Guidelines, 1997.<sup>2</sup> This event marked a key achievement in public health renewal in Ontario as it signalled a move towards a system that is up-to-date, informed by the best available evidence and focused on the needs of Ontarians right across the province.

The replacement of the Mandatory Health Programs and Services Guidelines with the Ontario Public Health Standards and Protocols was part of *Operation Health Protection*, a public health action plan that was developed in the wake of SARS.<sup>7</sup> The OPHS establish baseline requirements for fundamental public health programs and services, which

include assessment and surveillance, health promotion, disease and injury prevention, health protection and preparedness for public health emergencies. The OPHS outline the expectations for Ontario's 36 boards of health which are responsible for providing public health programs and services that contribute to the physical, mental and emotional health and well-being of Ontarians.

## Children in Need of Treatment Dental Program

There was another significant non-H1N1 event that occurred in January 2009, and that was the expansion of the Children in Need of Treatment (CINOT) dental program. CINOT is a program designed to help ensure that children and youth receive the urgent and emergency dental care they need. On January 1st, 2009, CINOT was expanded from the old cut-off of children up to Grade 8 or their 14th birthday (whichever was later) to include children up to their 18th birthday.<sup>3</sup> The program, which is administered through Ontario's public health units, offers assistance to low-income families without dental insurance, for whom the cost of dental care would create financial hardship.

In 2009, CINOT paid for basic dental care for 50,779 children and youth with serious, urgent dental conditions which might otherwise have gone untreated. This total reflected 3,816 youth who received care through the program's expansion.<sup>8</sup>

## With Our Best Future in Mind

In June 2009, Premier Dalton McGuinty received and made public the report of his Early Learning Advisor, Dr. Charles Pascal. *With Our Best Future in Mind* provides a comprehensive "well being" blueprint for healthy human development that extends from the prenatal period to 12 years of age.<sup>4</sup> This is a public health plan that, if fully implemented, will advance the health of our children, realize a substantial economic return, and reduce poverty and youth violence. The government should be commended for its quick response to the report's cornerstone initiative – full-day learning for four- and five-year-old children.

## Initial Report on Public Health

In August 2009, the Ministry of Health and Long-Term Care's Public Health Division released its first ever report on the state of public health in Ontario.<sup>5</sup> The report was intended to be a snapshot of Ontario's public health sector, providing an overview of the scope of public health and profiling local program and service delivery.

In the years since Walkerton and SARS, Ontario has been working to establish a public health performance management system, intended to enable the public health sector to demonstrate its achievements in terms of improvements in both outcomes and services



over time. The *Initial Report on Public Health 2009* was an important step in the development of that system.

## Public Health Units

No annual report from the Chief Medical Officer of Health would be complete, or responsible, if it did not make mention of the extraordinary work done, day in and day out, by the 36 public health units that serve Ontario communities right around the province.

From seasonal influenza vaccine delivery to pandemic planning, from injury prevention to environmental health, from healthy babies and children's programs to chronic disease prevention, the men and women who work in our public health units are the absolute front line in the fight to prevent disease and promote better health.

In 2009, in addition to the services described above, Ontario's public health workers also had to manage the pressures of responding to the H1N1 flu pandemic. Through all of this, they did their work as they always do, with professionalism, competence and grace.

## Ontario Agency for Health Protection and Promotion (OAHPP)

In addition to saluting the work done by Ontario's public health units, I would also like to acknowledge the work of the Ontario Agency for Health Protection and Promotion. The OAHPP was conceived in the wake of SARS.<sup>9,10</sup> It is dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. The OAHPP links public health practitioners, front-line health workers and researchers to the best scientific intelligence, evidence and knowledge from around the world, and it provides invaluable service to this office, to the Ontario government and to the people of this province.



## Prevention – The Next Evolution of Health Care

### Introduction

The Public Health Agency of Canada offers the following definition of public health: “Most Canadians are familiar with our system of health *care* – the system of hospitals, doctors, nurses and other professionals to whom we turn when we are sick or injured. The *public* health system plays a different role: It is responsible for helping protect Canadians from injury and disease and for helping them stay healthy. A good *public health* system means fewer people become sick or injured – and more people can live longer, healthier lives.”<sup>12</sup>

Public health as we know it has a proud history that goes back at least 100 years in Canada and around the world. Public health triumphs in the twentieth century include safer food, water and milk, family planning, environmental policies to improve air and water quality, action on tobacco control, safer workplaces, improved motor vehicle safety, reduced deaths from cardiovascular disease and stroke, and universal policies such as Medicare and old age security. Smallpox was eradicated from the globe, polio was eliminated from the western hemisphere, and thanks to immunization programs, the infectious diseases that 100 years ago were the leading cause of death worldwide now cause less than five per cent of all deaths in this country.<sup>11</sup>

In addition, consider that in the early 1900s, poor maternal and infant health was a significant problem. Since then, there has been a significant decline in maternal and infant death rates because of improved sanitation, nutrition, standard of living, and level of education.<sup>11</sup>

What is interesting about these accomplishments is that they help underscore the main themes being advanced in this report. We see that prevention is a critical component, and we realize that many of these major achievements originate from beyond the health care field. Public health really is everyone’s business.

#### Fact

“The average lifespan of Canadians has increased by more than 30 years since the early 1900s. Twenty-five of those years are attributable to advances in public health.”<sup>11</sup>



## H1N1 and Pre-existing Conditions

While this in no way is meant to minimize the impact of the H1N1 flu virus nor dismiss concerns about its severity, it must be noted that in some respects the pandemic that caused such concern turned out to be less serious than the regular seasonal flu. Fewer people died as a result of H1N1 than generally die during a regular flu season.<sup>6</sup>

Where the H1N1 pandemic takes on critical importance from a public health point of view, however, is in the link between poor health, risk factors for poor health, and vulnerability to H1N1. In Ontario, the odds of severe illness requiring Intensive Care Unit (ICU) admission and/or mechanical ventilation were higher among hospitalized patients who reported at least one underlying medical condition (such as diabetes, pulmonary disease, heart disease and cancer) than among patients who were hospitalized but reported no underlying medical conditions.<sup>13</sup>

Eighty-eight per cent of those who died during the pandemic had at least one underlying medical condition reported. There was a strong association found between pneumonia and death, with hospitalized cases that experienced pneumonia having nearly five times the odds of dying than those without pneumonia.<sup>13</sup>

Nationally, we saw the same story. Overall, 47.5 per cent of patients who were admitted to hospital and 60.2 per cent of those admitted to ICU during the first wave of the pandemic had underlying medical conditions. Of those who died, 73.3 per cent had underlying medical conditions. During the second wave, the corresponding proportions rose to 59.7 per cent, 73.9 per cent and 85.5 per cent.<sup>14</sup>

These results should be considered sobering because they clearly reinforce something that we probably know intuitively as a society, but do far too little about. That is that unhealthy habits and unhealthy environments lead to poor health, and poor health leads to worse health outcomes. It might be vulnerability to a new flu virus; it might be an increased likelihood of contracting diabetes; and it might be a greater probability of getting cancer. The point is that we know there are external factors (e.g., poverty) that affect health, lifestyle predictors

### H1N1 Facts

- In Ontario during the first wave of the disease, individuals who were hospitalized were five times more likely to have a previously reported chronic condition than people who weathered the flu at home.
- Individuals reporting high household density were 44 per cent more likely to be hospitalized.
- People who were underweight had a 67 per cent increased risk of being hospitalized, and those overweight had a 117 per cent increased risk.
- Individuals who smoked were 90 per cent more likely to have been hospitalized.<sup>15</sup>

of poor health (e.g., inactivity), and health status indicators of vulnerability to poorer health (e.g., high blood pressure). These are all things that could be influenced by a greater emphasis on disease prevention. This, more than anything else, is the point this report seeks to emphasize.

## Prevention – Not a New Idea

This report is not remotely the first to advocate the notion that we need to shift our focus in health care towards prevention. The man known as the father of Medicare, Tommy Douglas, believed prevention was a critical component of health care, as the quote at the beginning of this report illustrates.

In 1974, a policy paper issued by then Minister of National Health and Welfare Marc Lalonde catapulted Canada to the forefront of this issue. The paper, entitled *A New Perspective on the Health of Canadians: a working document*, came to be known as the Lalonde report.<sup>16</sup> This was a pioneer paper in acknowledging that biomedical interventions, such as physician and hospital services, were not solely responsible for individual wellbeing and population level improvements in health status.<sup>17</sup> The Lalonde report introduced the health field concept, which viewed health as a product of lifestyle, human biology, environment and health care organization.

Twenty-two years later, Canada once more played a leading role in advancing the importance of prevention. In 1986, then Minister of National Health and Welfare Jake Epp released a report entitled *Achieving Health for All: A Framework for Health Promotion*. Epp's framework was presented at the first ever international conference on health promotion, which was held by the World Health Organization in Ottawa. What came out of that conference was the *Ottawa Charter*, which defined health promotion as the process of enabling people to increase control over and improve their health. It focused on the population as a whole in the context of their everyday lives, and described the five main components of health promotion – building healthy public policy, creating supportive environments, strengthening community action, developing personal skills and reorienting health services.

In 1987, three reports published in Ontario set the province on its new health promotion course. *Toward a Shared Direction for Health in Ontario*, *Health for All Ontario*, and *Health Promotion Matters in Ontario* all articulated a common vision for improving the health of Ontarians. They advocated for health promotion and disease prevention. In 1991, The Premier's Council on Health Strategy continued to emphasize health promotion through its report, *Nurturing Health, A Framework on the Determinants of Health*.<sup>18</sup>

The landmark Romanow report of 2002 emphasized that the integration of prevention and promotion initiatives should be a central focus of primary health care in Canada. Romanow put it very simply: "One of the key objectives of primary health care is to prevent illness and injury, and improve the overall health of Canadians. There is a growing awareness that many illnesses can be prevented if people take better care of their health."<sup>19</sup>

Most recently, in September 2010, Canada's Federal, Provincial and Territorial Ministers of Health and of Health Promotion/Healthy Living adopted the *Declaration on Prevention and Promotion*.<sup>20</sup> This was a written, public declaration of the need to work together, and with others, to make the promotion of health and the prevention of disease, disability and injury a priority right across this country.

## Economic Case for Prevention

*“For the longer-run, restraining growth in health care spending will be an essential ingredient in fiscal stability. Like many advanced countries, Canada faces the twin long-run challenges of population aging and health care inflation. Left unchecked, growth in health care spending would put increasing and unsustainable pressure on the fiscal positions of Canada’s governments.”*

International Monetary Fund (IMF) assessment of Canada  
in the wake of the global recession<sup>21</sup>

The arguments for prevention date back more than 50 years to the introduction of Medicare in Canada. They have been recognized and repeated around the world. And yet – in this province, this country and in most of the world – we are still set up first and foremost to treat people once they have gotten sick, instead of helping them avoid getting sick in the first place.

Part of the reason for this focus on care over prevention may lie in the economics of health care and the grim realities of today's economy. Health care is an increasingly expensive proposition. Here in Ontario, health care expenditures already make up 46 per cent of total program spending, and if current trends prevail, this number will continue to grow at the expense of all other programs, such as education.<sup>22</sup> Little wonder that governments everywhere are looking for demonstrable returns on the health care investments that make up so much of their operating budgets.

And yet there is a growing body of research that suggests that a focus on prevention is a necessary component of any strategy to restrain the growth in health care spending that is widely seen to threaten this country's fiscal stability. There are several recent reports that frame this argument perfectly.

In May 2009, the Public Health Agency of Canada (PHAC) released a report entitled *Investing in Prevention: The Economic Perspective*. The rationale for the report was explained as follows:

“Understanding the economic benefits and costs of preventive health interventions enables policymakers and program managers to make better-informed decisions about where and how best to invest in order to improve the health of the population. While the economic dimension is only one of many inputs to consider when considering the merit of an intervention, having such knowledge on hand allows for a more rigorous, systematic, and transparent decision-making process in a world of limited resources.”<sup>23</sup>

The PHAC report concluded that there are indeed many public health interventions, from immunization programs to tobacco control to colorectal cancer screening, that can be considered cost-effective.

In March 2010, Senior Vice President and Chief Economist of the TD Bank Financial Group Don Drummond released a report entitled *Charting a Path to Sustainable Health Care in Ontario: 10 Proposals to Restrain Cost Growth without Compromising Quality of Care*. Drummond writes that sustainability in health care boils down to achieving success in three key areas: quality and accessibility, efficiency and prevention.

On prevention, he argues that Ontario should be doing more, calling on the province to think more broadly about health care reform and its potential contributions to Ontario’s social and economic fabric. The goal should be maximizing the “quality of life” of the residents. Such an approach would broaden the focus of public policy to include making an “extraordinary effort to improve its citizens’ health and health behaviours.”<sup>24</sup>

In September 2010, British Columbia’s Provincial Health Officer Dr. Perry Kendall released a special report about prevention, called *Investing in Prevention – Improving Health and Creating Sustainability*. The report takes a comprehensive look at prevention, from the impacts of public health interventions to the different investment strategies that are available. It argues for a Healthy Living Strategy for BC that would include tobacco control, healthy eating, physical activity, injury prevention, early childhood development programs, actions on the social determinants of health and reduction of inequities in health.

Kendall also makes five recommendations to the BC government:

1. Build on the whole-of-government approach and commit to ensuring that the healthiest choice is the easiest choice.
2. Recommit to early childhood development.
3. Look at other jurisdictions that have committed to poverty reduction and create a “Made in BC” program.
4. Further strengthen the public health services provided by BC’s health authorities.
5. Build a primary care system that will effectively deliver evidence-based lifetime preventive services and integrate prevention into chronic disease management.<sup>25</sup>

A 2010 report by the Organisation for Economic Co-operation and Development on obesity and the economics of prevention, entitled *Obesity and the Economics of Prevention: Fit not Fat*, examined the potential benefits of what are known as interventions (such as media campaigns, price adjustments for healthy food, physician counselling, etc.) in five countries – Canada, England, Italy, Japan and Mexico. The results were startling.

“Most of the interventions examined have the potential to generate gains of 40,000 to 140,000 years of life free of disability in the five countries together, with one intervention, intensive counselling of individuals at risk in primary care, leading to a gain of up to half million life years free of disability.”<sup>26</sup>

What is interesting about all of these reports, and it is true of much of the research in this area, is that it is increasingly accepted as a fact that prevention can be a cost-effective tool in improving population health. That cost effectiveness is never presented as an end in itself, but it is increasingly clear that there is no longer any valid economic argument against prevention and the promotion of good health. We know it’s the right thing to do – the question now remains, what is the best way to do it?

## A Healthier Society

*“There also is a growing understanding that broader determinants of health such as lifestyle factors, adequate housing, a clean environment and good nutrition have an important impact on the health of individuals and communities, and also hold tremendous potential for improving health and preventing illnesses. Primary health care organizations and providers need to pay more attention to the impact these broader determinants of health can have both on individuals and communities.”<sup>9</sup>*

Romanow Report

Romanow’s “broader determinants of health” are also often referred to as “social determinants of health,” and they are at the heart of why public health must be everyone’s business. If, for example, you live in a community where almost everyone smokes and where there is limited, affordable access to fresh fruits and vegetables, you will more than likely end up being a smoker with poor eating habits. The solution – ensuring that there is better access to healthy food as well as tobacco control programs in place in that community – cannot be implemented by public health officials on their own. Until different levels of government, as well as the business and social sectors, start working together to begin addressing what we call the social determinants of health, there are areas in which we will simply not make progress, and there will be a huge number of people whose interests we will not be serving well.

Until recently, what we refer to as the social determinants of health have been a subject of real interest only to academics. Canadians in general have paid little attention to the fact that their health status, and that of their children, is being affected to the point of being controlled by the environment in which they live.

In *Social Determinants of Health: The Canadian Facts*, Juha Mikkonen and Dennis Raphael summarize it this way:

“Canadians are largely unaware that our health is shaped by how income and wealth is distributed, whether or not we are employed and, if so, the working conditions we experience. Our health is also determined by the health and social services we receive, and our ability to obtain quality education, food and housing, among other factors. And contrary to the assumption that Canadians have personal control over these factors, in most cases these living conditions are – for better or worse – imposed upon us by the quality of the communities, housing situations, work settings, health and social service agencies, and educational institutions with which we interact. Improving the health of Canadians requires that we think about health and its determinants in a more sophisticated manner than has been the case to date.”<sup>27</sup>

When viewed in that context, prevention suddenly becomes less of a specifically public health concern and more of a challenge to other sectors – it becomes everyone’s business. The Public Health Agency of Canada report cited above identifies four “faces” of prevention that are useful in illustrating how much of a system-based approach is required if we are going to prevent disease and injury and promote better health in our population and a stronger health care system all around. The four faces are:

1. Clinical prevention – includes “one-on-one” activities involving a health care provider and a recipient of care (patient or client), who may accept or decline the service or recommended health action. Examples would include individual counselling on smoking cessation or colorectal cancer screening.

## Social Determinants of Health

Social determinants of health are economic and social conditions that are known to greatly influence health. The following are some of the most commonly recognized factors that can shape a person’s health:

- Income and Income Distribution
- Education
- Unemployment and Job Security
- Employment and Working Conditions
- Early Childhood Development
- Food Insecurity
- Housing
- Social Exclusion
- Social Safety Network
- Health Services
- Aboriginal Status
- Gender
- Race
- Disability



2. Health promotion – includes interventions aimed at populations in communities, the province or the country, that encourage individual behaviours which produce positive health effects and which discourage those that produce negative health effects. Examples would include the promotion of healthy eating and physical activity, and the less regulatory elements of the war on tobacco.
3. Health protection – includes interventions delivered at the organizational, local, provincial, national or international level that reduce health risks, such that the role of individual beneficiaries of health protection interventions is either passive or limited to compliance with laws or regulations. Examples include seat belt, bicycle helmet or hands-free cell phone use and tobacco control legislation.
4. Healthy public policy – includes interventions that act on the broader determinants of health. These are interventions outside the health sector that generate positive health benefits. An example would be early childhood development initiatives.

If we are to do our job properly from a public health point of view, the last “face” – healthy public policy – must inform everything we do. Every policy we implement, every service we deliver, and every program we design should be assessed with an eye to maximizing potential health benefits. That will require buy-in right across the spectrum, from all three levels of government, from the health, education, financial and social sectors, and also from the people of Ontario.

Ontario’s public health to-do list is huge, and always will be. At the very top, however, are a number of things that we simply cannot afford not to do. Every year in Canada, more than two-thirds of all deaths result from chronic diseases – cardiovascular, cancer, type 2 diabetes and respiratory.<sup>29</sup> The total cost of illness, disability and death attributable to chronic diseases is estimated to be more than \$80 billion annually.<sup>29</sup> From a public health standpoint, the most frustrating thing about these diseases is that they are so often preventable. They all share the same common preventable risk factors – physical inactivity, unhealthy diet and tobacco use. According to the World Health Organization, over 90 per cent of type 2 diabetes and 80 per cent of coronary heart disease could be avoided or postponed with good nutrition, regular physical activity, the elimination of smoking and effective stress management.<sup>30</sup>

## The Peel Healthy Development Index

An initiative in Peel Region demonstrates the importance of considering health impacts in our everyday environment, and engaging multiple sectors in an attempt to mitigate those impacts.

Recognizing that traditional suburban sprawl along with automobile-oriented development is associated with low levels of physical activity and high rates of obesity and chronic disease conditions among residents, Peel Public Health has spent the past five years developing initiatives to increase the health-promoting potential of the built environment. Peel is one of the first jurisdictions in North America to do this.

Peel's work on mitigating health impacts of the built environment, through initiatives including the Healthy Development Index (HDI), is being used to influence policy change at all levels of government and across multiple sectors. Specifically, the following policy changes towards health promoting communities have already been achieved:

- An amendment to the Region of Peel Official Plan stating that Public Health Impact Studies may now be required as part of a complete development application (passed in February 2010);
- An amendment to the Region of Peel Official Plan to develop health indicators to analyze the effectiveness of the Official Plan's Policies and to serve as a basis for policy adjustments (passed in Feb. 2010);
- Amendments to the Region of Peel Official Plan encouraging public health awareness through public and private partnerships (passed in April 2010);
- Amendments to Municipal Official Plans to strategically align with direction set by Region of Peel Official Plan;
- Proposed amendments to engineering standards such as road and median width that increases the walkability of a community;
- Proposed amendments to engineering standards to include multi-use pathways off roads instead of on road bike lanes to increase active transportation;
- A detailed submission for proposed changes to the Provincial Policy Statement, with recommendations including the need for health assessments to be part of the municipal development application process (submitted to the Ministry of Municipal Affairs and Housing Sept. 2010);
- Development of the Terms of Reference (i.e., template) for a Health Background Study that would be part of a complete development application.<sup>28</sup>

**With that in mind, here are just a few of the things that we simply cannot afford not to do:**



## **We simply cannot afford not to reduce obesity and physical inactivity**

*“As a society we have lost the balance between the energy we take in and the energy we expend, which is key to a healthy weight. Just when Ontarians are faced with more food choices, more processed foods, and larger food portions, we have engineered physical activity out of our lives, replacing it with remote controls, computers and video games. We have made our generation the most sedentary in history.”<sup>31</sup>*

Dr. Sheela Basrur – Ontario Chief Medical Officer of Health 2004-2006

The above alarm was sounded by then-Chief Medical Officer of Health Dr. Sheela Basrur in her 2004 report *Healthy Weights, Healthy Lives*. It remains as true today as it was then. It is a sad fact that as a population, we do not do enough of the things that could keep us healthier, and we tend to do more of the things that can make us sick. The number of Canadians who are overweight or obese has steadily increased over the last 25 years. Today, almost 60 per cent of Ontario adults are overweight or obese.<sup>32</sup> In 2008, only half of Ontarians reported that they were physically active or moderately active in their leisure time.<sup>33</sup> Of even greater concern is the fact that 26 per cent of Canadian children and adolescents aged two to 17 are overweight or obese, and that figure is expected to keep rising given current patterns of television, computer and video game usage.<sup>34</sup>

Here in Ontario, in 2001, the direct and indirect costs of obesity were estimated at \$1.6 billion.<sup>35</sup> The Ministry of Health Promotion and Sport is tackling this problem in a number of ways – including through its pilot Northern Fruit and Vegetable Program, EatRight Ontario, and the Healthy Eating and Active Living (HEAL) Action Plan. These are good and important initiatives, but much more needs to be done.

### **Fact**

If current trends continue, the children of the next generation will have a lower life expectancy than their parents.<sup>36</sup> That has not been the case in Canada for many generations.<sup>37</sup>



## We simply cannot afford not to invest in healthy child development

*“The smartest thing we can do right now – to make a major contribution to Ontario’s future – is to ensure that all Ontario children have an even-handed opportunity to succeed in school, become lifelong learners, and pursue their dreams. Our best future depends on it!”<sup>4</sup>*

Charles E. Pascal

We know that the earliest indicators of the kind of health a human being will enjoy can be found at the very beginning of his or her life. Early childhood experiences do an extraordinary amount to shape the future health of children and the adults they will become. Some of these are within the control of parents, but many are not. Good schools, safe communities, clean water – these and many other factors are critical to healthy human development, and governments must be aware that they have a role to play in ensuring that children start their lives in the right kind of environment.

The quote above was taken from a report written by Charles Pascal entitled *With Our Best Future In Mind*. In addition to recommending all-day learning for four- and five-year-olds, Pascal recommends a series of measures designed to promote healthy child development. Time will tell whether the additional recommendations – which are interdependent and of importance – will be implemented.

### Fact

Approximately 25 per cent of Ontario children are entering school “vulnerable,” with physical, emotional, cognitive or speech/language issues.<sup>38</sup> About 65 per cent of this vulnerability could be prevented through quality early childhood opportunities and experiences.<sup>39</sup>



## We simply cannot afford not to prevent injuries

Injuries are the leading cause of death for Canadians under the age of 45, and they are the 4th leading cause of death for Canadians of all ages.<sup>40</sup> The most frustrating thing about injuries, from a public health point of view, is that the vast majority of them are predictable and preventable.

If we are to reduce the number and severity of injuries suffered in this province, we are going to have to address the wide range of personal, social, economic and environmental factors that influence injury rates.

In 2007, the Ministry of Health Promotion and Sport (MHPS) launched Ontario's Injury Prevention Strategy,

which is a comprehensive plan to reduce the frequency, severity and impact of preventable injuries in Ontario. Based on an understanding of the determinants of health, the strategy provides a framework outlining the principles, approaches, settings, levers and strategic directions to effectively prevent injury.

In addition, Ontario's 36 public health units support injury prevention through Ontario's Prevention of Injury and Substance Misuse Public Health Standard. The goal of this public health standard is to reduce the frequency, severity and impact of preventable injury and substance misuse with a focus on alcohol and other substances, falls across the lifespan, road and off-road safety, and other areas of local need.

Although these and other initiatives are contributing to the avoidance of preventable injury, year after year far too many people are injured or killed. Injury prevention must remain a priority, and not just for public health. It must be everyone's business.

### Preventing Injuries

The economic argument for prevention is extremely compelling when it comes to injuries:

- Injuries cost Canada \$19.8 billion, and 13,667 lives in 2004.<sup>41</sup>
- Injuries cost Ontario \$6.8 billion and 4,643 lives in 2004.<sup>41</sup>





Aboriginal photographer: cattroll.com

## We simply cannot afford not to reduce health inequities

A huge concern in the early days of H1N1 was the vulnerability of remote and northern communities. Indeed, the public health situation in those communities is of serious concern in this office. That is because remote and isolated First Nations communities often bring together, contain, and compress all of the various determinants of poor health.

The effect of the social determinants of health can, of course, be seen and felt in many parts of this province. With respect to Aboriginal communities, determinants of health contribute to compromised health status, on and off reserve, in the north of the province and in the south. But it is in many remote

northern Aboriginal communities where poverty, isolation and jurisdictional issues have come together to create what is, from a public health point of view, a perfect storm.

These are communities where there is extraordinary will and determination to create a healthy environment for residents, particularly young people, but too often the resources just aren't there. If you live in a community where milk costs almost \$10 for a 2L carton, isn't it likely that you will choose a can of cola for one dollar? If there are no fresh fruits or vegetables available, or they are unaffordable, how surprising is it going to be that your kids develop poor eating habits? If your community is isolated enough and there is nothing for your kids to do, it is tougher to prevent them from turning to tobacco, alcohol and drugs.

Earlier this year, I travelled to Northern Ontario and visited several Aboriginal communities. The following are excerpts from a letter presented to me by the physicians of the Weneebayko Area Health Authority in Moose Factory. As an illustration of the social determinants

### Health Inequities

- Aboriginal people experience the lowest health status of any identifiable population in Ontario.
- Aboriginal people experience shorter life expectancy, higher rates of infant mortality, elevated rates of overweight and obesity, elevated rates of chronic diseases, and higher rates of injuries, including self-harm.
- Aboriginal men and women living both on- and off-reserve, in Ontario's North and South, experience poorer outcomes on most health indicators, compared to their non-Aboriginal counterparts.<sup>42</sup>



of health, and an argument for working together to address them, it is more powerful than anything I could have written for this report.

*Dear Dr. King:*

*Thank you for visiting Moose Factory and taking a direct interest in the public health of our area.*

*Few individuals have good insight into the plight of native people in this province. As physicians we are privileged in this respect. We work with First Nations communities at every level. We are there when their children are born. We are with them in sickness and health. We witness their deaths, too many of which are premature. We see their endless suffering....*

*We can no longer tolerate the role of passive detachment. As patient advocates, we see a need for serious and prompt change. It is not acceptable to have two sets of public service standards in Ontario, one set of... standards for First Nations and a superior set of Provincial standards for the rest of Ontarians....*

*Many native people living on reserves in Northern Ontario are functionally illiterate. Unemployment rates in some communities are 90-95 per cent, the highest in the country. 70 per cent of native children in Canada do not complete high school. 20-25 per cent of children have fetal alcohol spectrum disorder and have special needs. The level of education is deteriorating at a rapid rate with many native children not attending school. In Kashechewan, one school was contaminated with mould, abandoned and subsequently burned. The children from the public and high schools are now using one school and attending in shifts. In addition, with the serious overcrowding, homework is not possible in most homes....*

*Most native children do not attend post-secondary educational institutions. Those that do have the opportunity often cannot gain admittance because of stringent admission requirements and the challenges faced because of the poor quality of the education afforded them by the current system....*

*When I asked a young native woman why there were so many suicides amongst young people on her reserve, she said, "It is simple, no jobs, no future and no hope." Until we address education adequately, there will be no jobs, no future and no hope and this tragic saga will continue. Suicide and self-injury are the leading causes of death for native youth and adults. In 2000, suicide accounted for 22 per cent of all deaths in native youth (aged 10 to 19 years)....*

*Unlike most Ontario communities, reserves have no property tax base. The reason is simple. In general, people do not own property. In addition, they are severely impoverished. Thus there are few funds available for roads, drainage systems, walkways, recreational areas, garbage disposal and recycling programs. The result in Ontario is dusty, potholed roads in the summer and mud during the spring and fall. This has a major negative impact on asthma rates, sinusitis, pulmonary fibrosis and COPD. In addition, it makes it extremely difficult to walk around the community resulting in a more sedentary lifestyle and higher rates of obesity and diabetes.*

*Mushkegowuk Territory means “swamp land.” We live in a maritime climate along the coast of James and Hudson Bay. In addition to an overabundance of ground water, the coastal conditions also provide high levels of humidity and rainfall. Despite this formidable water challenge, housing has been built and continues to be built with plywood basements with no ventilation. Within months of construction, these homes become infiltrated with moisture and contaminated by mould. According to the Assembly of First Nations website, 50 per cent of on-reserve housing is contaminated with mould. These conditions are associated with a higher incidence of reactive airway disease and tuberculosis.*

*Indian Affairs and Northern Development itself reports that 44.2 per cent of on-reserve housing is inadequate, 15.7 per cent is in need of major repairs and 5.3 per cent is no longer habitable or has been declared unsafe or unfit for human habitation....*

*In October, 2005, the Canadian public was made aware of the terrible water problems plaguing native people living on reserves. One hundred reserves were under boil water advisories and fifty of those communities were in the Province of Ontario. Kashechewan is an example of how the current system has failed people living on reserves, as provincial water treatment standards do not apply to them. Again native people are the only civilian group to whom this exception applies....*

*This is not an issue of jurisdiction, this is an issue of rights as citizens of Canada and permanent residents of the Province of Ontario. We all have a right to equitable treatment including aboriginal men, women and children living on reserves. Most of these people have little political voice. **Almost fifty per cent of them are children.***



## We simply cannot afford not to invest in the war on tobacco

*“Cigarettes are killers that travel in packs.”*

Author Unknown



Tobacco use is, for public health officials, the ultimate vexation. It has been for a great many years. The World Health Organization estimates that tobacco use killed one hundred million people in the 20th century.<sup>43</sup> Furthermore, if trends continue, tobacco will kill another billion people this century. Here in Ontario, more than two million people smoke.<sup>44</sup> Tobacco use is the number one cause of preventable disease and death, killing some 13,000

Ontarians every year.<sup>45</sup> Every 40 minutes, on average, someone in this province dies because of tobacco.<sup>46</sup>

We have known for at least a half-century that smoking causes lung cancer, a lethal disease with a five-year survival rate of only about 15 per cent.<sup>48</sup> When it isn't causing lung cancer, smoking is contributing to 18 other types of cancer, including pancreatic cancer, stomach cancer, cervical cancer and leukemia and breast cancer.<sup>49</sup> In addition to cancer, smoking contributes to the development of cardiovascular disease and causes chronic obstructive pulmonary disease, which includes emphysema and chronic bronchitis. It also harms many aspects and every phase of reproduction, such as the growth and development of unborn babies.

The economic case for tobacco control is in its own way as compelling, if not as dramatic, as the human one. In Ontario, tobacco-related diseases cost the provincial economy \$1.9 billion in direct health care costs annually, and result in \$5.8 billion in productivity losses.<sup>45</sup> They also account for 500,000 hospital days every year.<sup>50</sup> Two years ago, a study found that tobacco control in California had saved that state \$86 billion in personal health care costs over the first 15 years of the program. The study showed that between 1989 and 2004, every dollar that the state had spent on tobacco control provided a 50-1 return on investment in saved health care expenditures.<sup>50</sup>

The facts about tobacco really are beyond dispute. It kills, it sickens, it burdens health

### Fact

Approximately 13,000 Ontarians died from tobacco use in 2002 (184,304 potential years of life lost). Secondhand smoke contributes to anywhere from 1,100 to 7,800 deaths in Canada annually (one-third of these in Ontario).<sup>47</sup>

care systems, and it costs all of us money. Ontario has acknowledged this reality and has been fighting to reduce tobacco consumption for many years. There is much to be proud of in what we have accomplished, but we have not accomplished nearly enough. It is time to take the next step in tobacco control in Ontario.

To that end, the Ontario government is currently considering two excellent reports on the subject – one by the Scientific Advisory Committee (SAC) convened by the Ontario Agency for Health Protection and Promotion, and the other by the Tobacco Strategy Advisory Group (TSAG) established by the Ministry of Health Promotion and Sport.

These are extremely thoughtful and provocative reports, containing in them recommendations and targets both sensible and bold, from decreasing by five per cent over five years the number of Ontarians who use tobacco to taking action against the tobacco industry to setting a goal of a tobacco-free Ontario by 2030.

This office will not presume to comment further on the recommendations contained in these reports. The government is considering them, and they are available to any Ontarian who wants to read them. I see my role as Chief Medical Officer of Health as throwing my support and whatever influence I have behind the notion that we must continue to fight, because to back away from the war on tobacco is to lose ground in that war, and eventually to lose it entirely. What recommendations I want to make are of an extremely “high-level” nature, and they break down into three basic imperatives:

## 1. We cannot win a war we don't invest in

Very few anti-tobacco measures that have ever been known to work have come without an up-front cost. The costs of not funding them, however, are unimaginably greater. Tobacco is costing this province nearly \$8 billion per year in health care and lost productivity,<sup>45</sup> and for every Ontarian who smokes for the first time or tries and fails to quit for the 20th time, that cost keeps climbing. And yet we seem to be backing away from making the investments we need to make. At \$3.28, Ontario's per capita funding commitment to anti-tobacco measures is \$0.26 lower than the average per capita commitment of other provinces and territories.<sup>51</sup>

It is easy, and in tough economic times very understandable, that governments would choose to cut program funding, particularly the funding of a program that might be seen to have run its course and is no longer getting

### Facts

In 2009-2010, Ontario's total funding commitment for tobacco control was \$42.8 million, compared to \$52.6 million in 2008-2009 and \$56.7 million in 2007-2008.<sup>51</sup>

The Ontario Tobacco Research Unit estimates that for every dollar invested in addressing tobacco use, the government saves three dollars in health care spending.<sup>52</sup>

the results it should. In the case of tobacco control in Ontario, that is the wrong answer. We need to increase funding and renew the program, redoubling our efforts to reduce the prevalence of tobacco by lowering the number of new smokers and increasing the number of people who quit. Down the road we will see that investment rewarded in lower health care costs, increased productivity and fewer Ontarians dying of preventable diseases on our watch.

## **2. We need a cross-sectoral, cross-government, and pan-Ontario approach**

Clearly, if we are to enjoy increased success in reducing the uptake of smoking and encouraging people to quit, we have to take an all-hands-on-deck attitude. We need to see a partnership between public health and primary care providers because they are the people on the ground, talking to Ontarians, in the best position to influence, help and support them.

In addition to the Ministry of Health Promotion and Sport, there are many other ministries with a role to play in the war on tobacco. Consider these “obvious fits” right across the provincial government:

Ministry of Health and Long-Term Care – Tobacco cessation strategies

Ministry of the Attorney General – Litigation

Ministries of Revenue, Finance – Contraband strategy, taxation issues

Ministry of Agriculture, Food and Rural Affairs – Conversion of tobacco growers

Ministry of Labour – Workplace issues

Ministry of Education – Youth prevention

Ministry of Aboriginal Affairs – Helping reduce high smoking rates in the Aboriginal population

Ministry of Government Services – Services available to Ontario Public Service employees

When we look at the number of people smoking, and the groups that are most vulnerable, it is clear that we all can contribute to creating a supportive environment to prevent tobacco use and cessation. Individuals, families, communities, workplaces, schools, boards of health and health providers all have a role to play. Tobacco control, like other public health issues, is everyone’s business.

### 3. We must do better on cessation

Clearly, we need a comprehensive tobacco control program that encompasses measures for uptake prevention, enforcement of rules, better education and cessation programs. This last point, in my mind, is critical. We must do better on cessation. When we think about the war on tobacco, it seems easier to convince people not to start smoking than to convince and help them to stop. The fact is, though, we need to fight on both fronts and it is the successes we enjoy on cessation that will yield the biggest benefit in terms of health care dollars saved.

#### Fact

Fewer than 4 per cent of Ontario smokers engage in Ontario cessation efforts.<sup>53</sup>

This won't be easy. "Between 2003 and 2007, there was no significant change in the proportion of current smokers who made a serious quit attempt in the past 12 months."<sup>53</sup>

The difficulties notwithstanding, improved cessation programs are critical. Within 48 hours of quitting, a smoker's chances of having a heart attack start to go down. Within a year, the risk of a smoking-related heart attack has been cut in half. Within 15 years, the risk of dying from a heart attack is the same for that former smoker as it is for someone who has never smoked.<sup>54</sup> Clearly then, we need to help people quit and we need to help them quit as early as possible.

That will require what we call a "no wrong door" attitude, which gets back to the cross-sectoral approach mentioned earlier. There should be support for smokers trying to quit wherever they go.



## Conclusion

We live in a society where the circumstances – economic, geographic and educational – into which a child is born affect not only how much money he or she will have, but how healthy he or she will be. That isn't right. We have the knowledge and understanding to change this and, if further incentive is needed, we have it in the form of research that suggests it is the economically sensible thing to do.

Ontario needs a comprehensive public health strategy that looks beyond the programs and services that are in place for the coming year, as important as those are, and instead sees the direction we should be taking in this province over the next five years. I am planning to release my recommendations for this strategy later in 2011. It will be informed by the themes outlined in this report – in particular by the clear understanding that any successful public health strategy depends on a system-wide approach.

James S. Marks is the Senior Vice-President and Director of the Robert Wood Foundation Health Group, USA. In a recent presentation about the future of public health, he said that “no area of human endeavour has come closer to achieving what were once Utopian goals than has public health.”<sup>55</sup> That is high praise and a great responsibility. If we are to keep on fulfilling it, there is work to be done. And that work is everyone's business.

## Appendix

Ontario Health Units with Vacant Medical Officer of Health (MOH) Positions  
Filled by Acting MOHs as of September 1, 2010.

Chatham-Kent Health Unit
Elgin-St. Thomas Health Unit
Haldimand-Norfolk Health Unit
Lambton Health Unit
Northwestern Health Unit
Oxford County Public Health and Emergency Services Department
Perth District Health Unit
Thunder Bay District Health Unit
Timiskaming Health Unit
Wellington-Dufferin-Guelph Health Unit
<b>Total = 10</b>

*NB: Vacancies do not reflect positions filled by qualified physicians awaiting appointment by boards of health and ministerial approval.*

Ontario Health Units with Vacant Associate Medical Officer of Health (AMOH)\* Positions  
as of September 1, 2010.

Durham Regional Health Unit
Kingston Frontenac Lennox and Addington Health Unit
Niagara Region Public Health Department
Windsor-Essex County Health Unit
<b>Total = 4 Health Units with AMOH Vacancies**</b>

*\*Under 62. (1)(b) of the Health Protection and Promotion Act, every board of health may appoint one or more associate medical officers of health.*

*\*\*NB: Vacancies may include less than or more than one FTE position per health unit and do not reflect positions filled by qualified physicians awaiting appointment by boards of health and ministerial approval.*

## References

- <sup>1</sup> Douglas T. The future of Medicare [speech]. Available from: <http://www.healthcoalition.ca/archive/tommy.html>
- <sup>2</sup> Ontario. Ministry of Health and Long-Term Care, Public Health Division. Ontario public health standards. Toronto: Queen's Printer for Ontario; 2008. Available from: [http://www.health.gov.on.ca/english/providers/program/pubhealth/oph\\_standards/ophs/progstds/pdfs/ophs\\_2008.pdf](http://www.health.gov.on.ca/english/providers/program/pubhealth/oph_standards/ophs/progstds/pdfs/ophs_2008.pdf)
- <sup>3</sup> Ontario. McGuinty government implementing poverty reduction strategy. Toronto: Queen's Printer for Ontario; 2010 Dec 18. Available from: <http://www.news.ontario.ca/mhp/en/2008/12/expanding-dental-services-for-low-income-children.html>
- <sup>4</sup> Pascal CE. With our best future in mind: implementing early learning in Ontario. Toronto: Queen's Printer for Ontario; 2009. Available from: [http://www.ontario.ca/ontprodconsume/groups/content/@onca/@initiatives/documents/document/ont06\\_018899.pdf](http://www.ontario.ca/ontprodconsume/groups/content/@onca/@initiatives/documents/document/ont06_018899.pdf)
- <sup>5</sup> Ontario. Ministry of Health and Long-Term Care. Initial report on public health. Toronto: Queen's Printer for Ontario; 2009 Aug. Available from: [http://www.health.gov.on.ca/english/public/pub/pubhealth/init\\_report/pdfs/initial\\_rep\\_on\\_public\\_health\\_rep\\_20090821.pdf](http://www.health.gov.on.ca/english/public/pub/pubhealth/init_report/pdfs/initial_rep_on_public_health_rep_20090821.pdf)
- <sup>6</sup> King A. The H1N1 pandemic – how Ontario fared: a report by Ontario's Chief Medical Officer of Health. Toronto: Queen's Printer for Ontario; 2010 Jun. Available from: [http://www.health.gov.on.ca/en/public/publications/ministry\\_reports/cmoh\\_h1n1/cmoh\\_h1n1\\_20100602.pdf](http://www.health.gov.on.ca/en/public/publications/ministry_reports/cmoh_h1n1/cmoh_h1n1_20100602.pdf)
- <sup>7</sup> Ontario. Ministry of Health and Long-Term Care. Operation health protection: an action plan to prevent threats to our health and to promote a healthy Ontario. Toronto: Queen's Printer for Ontario; 2004. Available from: [http://www.health.gov.on.ca/english/public/pub/ministry\\_reports/consumer\\_04/oper\\_healthprotection04.pdf](http://www.health.gov.on.ca/english/public/pub/ministry_reports/consumer_04/oper_healthprotection04.pdf)
- <sup>8</sup> Bennett S. Breaking the cycle through a poverty reduction strategy in Ontario: Implications for oral health inequities. Canadian Public Health Association Conference; 2010 Jun 15; Toronto, Ontario. Available from: <http://resources.cpha.ca/CPHA/Conf/Data/A10-888e.pdf>
- <sup>9</sup> Agency Implementation Task Force. Building an innovative foundation: a plan for Ontario's new public health agency. Toronto: Queen's Printer for Ontario; 2005. Available from: [http://www.health.gov.on.ca/english/public/pub/ministry\\_reports/agency\\_05/agency\\_05.pdf](http://www.health.gov.on.ca/english/public/pub/ministry_reports/agency_05/agency_05.pdf)
- <sup>10</sup> Agency Implementation Task Force. From vision to action: a plan for the Ontario Agency for Health Protection and Promotion. Toronto: Queen's Printer for Ontario; 2006. Available from: [http://www.health.gov.on.ca/english/public/pub/ministry\\_reports/agency\\_06/agency\\_06.pdf](http://www.health.gov.on.ca/english/public/pub/ministry_reports/agency_06/agency_06.pdf)
- <sup>11</sup> Canadian Public Health Association. 10 great achievements. In: Celebrating a century of public health leadership. Ottawa: CPHA; 2010. Available from: <http://cpha100.ca/12-great-achievements>
- <sup>12</sup> Public Health Agency of Canada. The federal strategy: a new approach to public health in Canada. Ottawa: Her Majesty the Queen in Right of Canada; 2004. Available from: [http://www.phac-aspc.gc.ca/about\\_apropos/federal\\_strategy-eng.php](http://www.phac-aspc.gc.ca/about_apropos/federal_strategy-eng.php)
- <sup>13</sup> Ontario. Ministry of Health and Long-Term Care, Public Health Division. Pandemic H1N1 influenza virus surveillance report, Ontario. Toronto: Queen's Printer for Ontario; 2010 Nov 18. Forthcoming 2011.

- <sup>14</sup> Helferty M, Vachon J, Tarasuk J, Rodin R, Spika J, Pelletier L. Incidence of hospital admissions and severe outcomes during the first and second waves of pandemic (H1N1) 2009. *CMAJ*. 2010 Nov 8. [Epub ahead of print]
- <sup>15</sup> Rosella L, Foisy J, Crowcroft N. Risk factors for severe H1N1 illness: a case control study (interim report). Toronto, ON: Ontario Agency for Health Protection and Promotion; 2010. Unpublished.
- <sup>16</sup> Lalonde M. A new perspective on the health of Canadians: a working document. Ottawa: Her Majesty the Queen in Right of Canada; 1974. Available from: <http://www.hc-sc.gc.ca/hcs-sss/com/fed/lalonde-eng.php>
- <sup>17</sup> Hancock T. Lalonde and beyond: looking back at “A New Perspective on the Health of Canadians.” *Health Promot.* 1986 May;1(1):93-100.
- <sup>18</sup> Healthy Public Policy Committee. Nurturing health: a framework on the determinants of health. Toronto: Premier’s Council on Health Strategy; 1991.
- <sup>19</sup> Romanow RJ; Commission on the Future of Health Care in Canada. Building on values: the future of health care in Canada. Ottawa: Her Majesty the Queen in Right of Canada; 2002. Available from: <http://dsp-psd.pwgsc.gc.ca/Collection/CP32-85-2002E.pdf>
- <sup>20</sup> Creating a healthier Canada: making prevention a priority. A declaration on prevention and promotion from Canada’s Ministers of Health and Health Promotion/Healthy Living. Ottawa: Her Majesty the Queen in Right of Canada; 2010. Available from: <http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/declaration/pdf/dpp-eng.pdf>
- <sup>21</sup> International Monetary Fund. Canada – 2010 Article IV Mission Concluding Statement. Washington: IMF; 2010. Available from: <http://www.imf.org/external/np/ms/2010/102710.htm>
- <sup>22</sup> Ontario. Chapter I: Ontario’s plan for prosperity. In: 2010 Ontario budget. Toronto: Queen’s Printer for Ontario; 2010. Available from: [http://www.fin.gov.on.ca/en/budget/ontariobudgets/2010/ch1b.html#c1\\_secB\\_transformingHealthcare](http://www.fin.gov.on.ca/en/budget/ontariobudgets/2010/ch1b.html#c1_secB_transformingHealthcare)
- <sup>23</sup> Public Health Agency of Canada. Investing in prevention: the economic perspective. Key findings from a survey of the recent evidence. Ottawa: Her Majesty the Queen in Right of Canada; 2009. Available from: <http://www.phac-aspc.gc.ca/ph-sp/pdf/preveco-eng.pdf>
- <sup>24</sup> Drummond D, Burleton D. Charting a path to sustainable health care in Ontario: 10 proposals to restrain cost growth without compromising quality of care. Toronto: TD Bank Financial Group; 2010. Available from: [http://www.td.com/economics/special/db0510\\_health\\_care.pdf](http://www.td.com/economics/special/db0510_health_care.pdf)
- <sup>25</sup> Kendall PRW. Investing in prevention: improving health and creating sustainability: the provincial health officer’s special report. Victoria, BC: British Columbia Ministry of Health Services; 2010 Sep.
- <sup>26</sup> Sassi F. Obesity and the economics of prevention: fit not fat. Paris: Organisation for Economic Co-operation and Development; 2010.
- <sup>27</sup> Mikkonen J, Raphael D. Social determinants of health: the Canadian facts. Toronto: The Canadian Facts; 2010. Available from: [http://www.thecanadianfacts.org/The\\_Canadian\\_Facts.pdf](http://www.thecanadianfacts.org/The_Canadian_Facts.pdf)

- <sup>28</sup> Dunn J (McMaster University), Creatore M (St. Michael's Hospital), Peterson E (St. Michael's Hospital), Weyman J (St. Michael's Hospital), Glazier R (St. Michael's Hospital). Final report: Peel healthy development index. Toronto: Peel Public Health; 2009. Available from: <http://www.peelregion.ca/health/urban/pdf/HDI-report.pdf>
- <sup>29</sup> Public Health Agency of Canada. The integrated pan-Canadian healthy living strategy. Ottawa: Her Majesty the Queen in Right of Canada; 2005. Available from: <http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/ipchls-spimmvs/pdf/ipchls-spimmvs-eng.pdf>
- <sup>30</sup> World Health Organization. The world health report 2002. Geneva: WHO; 2002. Available from: [http://www.who.int/whr/2002/en/whr02\\_en.pdf](http://www.who.int/whr/2002/en/whr02_en.pdf)
- <sup>31</sup> Basrur S. Healthy weights, healthy lives: 2004 Chief Medical Officer of Health report. Toronto: Queen's Printer for Ontario; 2005. Available from: [http://www.mhp.gov.on.ca/en/heal/healthy\\_weights.pdf](http://www.mhp.gov.on.ca/en/heal/healthy_weights.pdf)
- <sup>32</sup> Vogt J, Tarasuk V. Analysis of Ontario sample in Cycle 2.2 of the Canadian Community Health Survey (2004). Toronto: University of Toronto; 2007 Dec 18. Available from: [http://www.phred-redsp.on.ca/Docs/Reports/CCHSReport/CCHS%20Cycle%202%202%20Ontario%20Nutrition%20Data%20Analysis%20Project\\_Full%20Report.pdf](http://www.phred-redsp.on.ca/Docs/Reports/CCHSReport/CCHS%20Cycle%202%202%20Ontario%20Nutrition%20Data%20Analysis%20Project_Full%20Report.pdf)
- <sup>33</sup> Statistics Canada. Leisure time physical activity. In: Healthy people, healthy places. Ottawa: Her Majesty the Queen in Right of Canada; 2010 Jan 11. Available from: <http://www.statcan.gc.ca/pub/82-229-x/2009001/deter/lpa-eng.htm>
- <sup>34</sup> Shields M. Overweight and obesity among children and youth. Health Reports. 2006;17(3):27-42. Available from: <http://www.statcan.gc.ca/studies-etudes/82-003/archive/2006/9277-eng.pdf>
- <sup>35</sup> Katzmarzyk PT, Janssen I (Queen's University, School of Physical and Health Education). The economic costs associated with physical inactivity and obesity in Ontario. Toronto: Queen's Printer for Ontario; 2003. Commissioned by the Ministry of Tourism and Recreation.
- <sup>36</sup> Stewart ST, Cutler DM, Rosen AB. Forecasting the effects of obesity and smoking on U.S. life expectancy. N Engl J Med. 2009 Dec 3;361(23):2252-60.
- <sup>37</sup> Statistics Canada. Population projections for Canada, provinces and territories 2009 to 2036. Ottawa: Her Majesty the Queen in Right of Canada; 2010 May 26. Available from: <http://www.statcan.gc.ca/pub/91-520-x/91-520-x2010001-eng.pdf>
- <sup>38</sup> Butler-Jones, D. The Chief Public Health Officer's report on the state of public health in Canada, 2009. Growing up well: priorities for a healthy future. Ottawa: Her Majesty the Queen in Right of Canada; 2009. Available from: <http://www.phac-aspc.gc.ca/cphorsphc-respcacsp/2009/fr-rc/pdf/cphorsphc-respcacsp-eng.pdf>
- <sup>39</sup> Hertzman C. Social geography of developmental health in the early years. Health Q. 2010 Oct;14 Spec No:32-40. Available from: <http://www.longwoods.com/content/21981>
- <sup>40</sup> Public Health Agency of Canada. Facts on injury. Ottawa: Her Majesty the Queen in Right of Canada; 2006. Available from: <http://www.phac-aspc.gc.ca/injury-bles/facts-eng.php>
- <sup>41</sup> SMARTRISK. The economic burden of injury in Canada. Toronto: SMARTRISK; 2009. Available from: <http://www.smartrisk.ca/downloads/burden/Canada2009/EBI-Eng-Final.pdf>
- <sup>42</sup> Statistics Canada. Canadian community health survey (cycle 4.1). Ottawa: Her Majesty the Queen in Right of Canada; 2007.

- <sup>43</sup> World Health Organization. WHO report on the global tobacco epidemic, 2008. Geneva: WHO; 2008. Available from: [http://whqlibdoc.who.int/publications/2008/9789241596282\\_eng.pdf](http://whqlibdoc.who.int/publications/2008/9789241596282_eng.pdf)
- <sup>44</sup> Ontario Tobacco Research Unit. Indicators of Smoke-Free Ontario progress. Toronto; OTRU; 2010. Available from: [http://www.otru.org/pdf/15mr/15mr\\_no2.pdf](http://www.otru.org/pdf/15mr/15mr_no2.pdf)
- <sup>45</sup> Smoke Free Ontario Scientific Advisory Committee. Evidence to guide action: comprehensive tobacco control in Ontario. Toronto: Ontario Agency for Health Protection and Promotion; 2010. Available from: <http://www.oahpp.ca/services/documents/evidence-to-guide-action/Evidence%20to%20Guide%20Action%20-%20CTC%20in%20Ontario%20SFO-SAC%202010E.pdf>
- <sup>46</sup> Tobacco Strategy Advisory Group. Building on our gains, taking action now: Ontario's tobacco control strategy for 2011-2016. Toronto: Queen's Printer for Ontario; 2010 Oct 20. Available from: <http://www.mhp.gov.on.ca/en/smoke-free/TSAG%20Report.pdf>
- <sup>47</sup> Schwartz R, O'Connor S, Minian N, Borland T, Babayan A, Ferrence R, Cohen J, Dubray J. Evidence to inform smoking cessation policymaking in Ontario. Toronto: Ontario Tobacco Research Unit; 2010 Aug.
- <sup>48</sup> Canadian Cancer Society; Statistics Canada; Provincial/Territorial Cancer Registries; Public Health Agency of Canada. Canadian cancer statistics 2009. Toronto: Canadian Cancer Society; 2009. p. 59. Available from: <http://www.cancer.ca/~media/CCS/Canada%20wide/Files%20List/English%20files%20heading/pdf%20not%20in%20publications%20section/Stats%202009E%20Cdn%20Cancer.aspx>
- <sup>49</sup> Canadian Cancer Society. Why should I quit? Toronto: Canadian Cancer Society; 2010. Available from: [http://www.cancer.ca/Saskatchewan/Prevention/Quit%20smoking/Why%20should%20I%20quit.aspx?sc\\_lang=en](http://www.cancer.ca/Saskatchewan/Prevention/Quit%20smoking/Why%20should%20I%20quit.aspx?sc_lang=en)
- <sup>50</sup> Lightwood JM, Dinno A, Glantz SA. Effect of the California tobacco control program on personal health care expenditures. *PLoS Medicine*, 2008; 5 (8): e178 DOI: 10.1371/journal.pmed.0050178. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2522256/pdf/pmed.0050178.pdf>
- <sup>51</sup> Ontario Tobacco Research Unit. Tobacco control funding commitments: monitoring update. Toronto: OTRU; 2010. Available from: [http://www.otru.org/pdf/16mr/16mr\\_funding.pdf](http://www.otru.org/pdf/16mr/16mr_funding.pdf)
- <sup>52</sup> Ontario Tobacco Research Unit. The fiscal impact of a comprehensive tobacco control program in Ontario. Toronto: University of Toronto; 2003. Available from: [http://www.otru.org/pdf/special/special\\_fiscal\\_impact.pdf](http://www.otru.org/pdf/special/special_fiscal_impact.pdf)
- <sup>53</sup> Schwartz R, O'Connor S, Minian N, Borland T, Babayan A, Ferrence R, Cohen J, Dubray J. Evidence to inform smoking cessation policymaking in Ontario. Toronto: Ontario Tobacco Research Unit; 2010 Aug. Available from: [http://www.otru.org/pdf/special/special\\_CAP\\_august2010.pdf](http://www.otru.org/pdf/special/special_CAP_august2010.pdf)
- <sup>54</sup> Heart and Stroke Foundation of Ontario. Smoking, heart disease and stroke. Toronto: Heart and Stroke Foundation; 2009. Available from: [http://www.heartandstroke.on.ca/site/c.pv13IeNWJwE/b.3581753/k.41F4/Smoking\\_heart\\_disease\\_and\\_stroke.htm](http://www.heartandstroke.on.ca/site/c.pv13IeNWJwE/b.3581753/k.41F4/Smoking_heart_disease_and_stroke.htm)
- <sup>55</sup> Marks JS. Wayne Gretzky and the future of public health leadership. National Network of Public Health Institutes Annual Conference; 2010 Jun 7-9; New Orleans, Louisiana. Available from: <http://nnphi.org/CMSuploads/Jim%20Marks%20NNPHI%20Final-10922.pdf>



