



THE WINNING LEGACY

A Plan for Improving the Health
of British Columbians by 2010

FEBRUARY 2005

ACKNOWLEDGEMENTS

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Collectively, we capture the attention and contribution of over 40,000 volunteers, 4,300 members, and 184 local governments across this province.

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BC HEALTHY LIVING ALLIANCE
THE WINNING LEGACY

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EXECUTIVE SUMMARY

The government's Speech from the Throne on February 8, 2005, presented five "great goals for a golden decade" for British Columbia. One of these five goals is to "lead the way in North America in healthy living and physical fitness" by implementing the "most comprehensive health promotion program of its kind," intended to:

- increase physical activity by 20%
- reduce obesity and overweight by 20%
- reduce tobacco prevalence by 10%
- increase the proportion of British Columbians who eat the recommended daily levels of vegetables and fruit by 20%

Why are such targets important?

The scourge of tobacco use is well-known. More than 80% of lung cancers and almost 90% of chronic bronchitis and emphysema are caused by smoking. Despite the lowest rates of smoking in Canada, each year about 5,600 British Columbians die as a result of their smoking.

What is less well known is that:

- 20% or more of the cases of type 2 diabetes, stroke, coronary heart disease and colon cancer result simply from a sedentary lifestyle;
- eating recommended levels of vegetables and fruit reduces an individual's risk of cardiovascular disease by 28%; and
- being obese more than doubles an individual's risk of dying early—or losing, on average, seven years of life.

Much of the chronic disease burden in the province is preventable by addressing the four risk factors of tobacco use, physical inactivity, unhealthy eating and overweight / obesity.

The chronic disease associated with smoking, an inactive lifestyle, unhealthy eating and being obese are significant. About 1.2 million people in British Columbia suffer from one or more chronic conditions, which are prolonged, disabling and rarely curable.

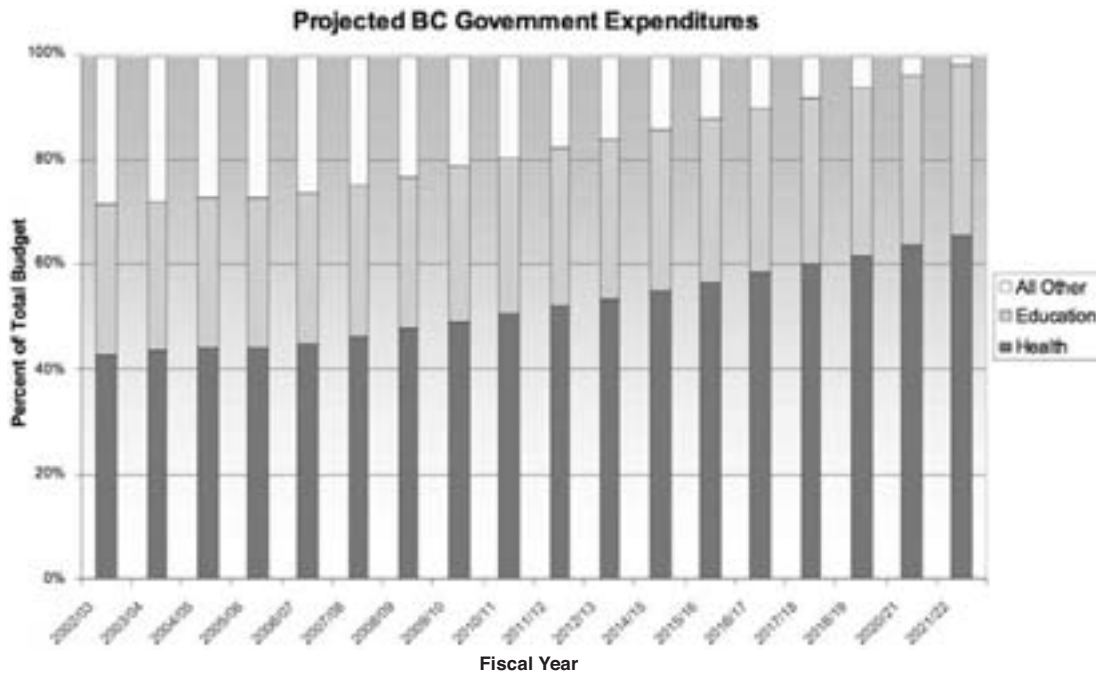
The "winning" message of the BC Risk Factor Intervention Plan is simply this:

Much of the chronic disease burden in the province is preventable through addressing the four risk factors of tobacco use, physical inactivity, unhealthy eating and overweight / obesity.

The targets are also important from a financial perspective

The BC Healthy Living Alliance (BCHLA) has estimated that these risk factors cost the BC economy approximately \$3.8 billion annually.

An increasing proportion of government expenditures are being used to care for British Columbians with acute and chronic health conditions. In 2002/03 this proportion reached 43% of total operating expenditures. If one assumes that overall costs will increase by 2%, costs in healthcare by 5%, and education by 3% per year, then, in the next 17 years, the entire budget would be consumed by health and education, as indicated on the following chart.



Addressing this looming financial challenge is urgent. One way to do so is to work hard to prevent chronic conditions, as suggested in the Speech from the Throne.

While considerable progress has been made in reducing the prevalence of tobacco use, BC must join the rest of the developed world in aggressively tackling the epidemic of obesity. The ongoing health and economic consequences of unhealthy eating, physical inactivity and overweight are simply too great to permit a policy of inaction.

Improvements in these four risk factors simultaneously will yield remarkably positive effects for the health of British Columbians, for healthcare spending, and for productivity. With this prize in mind, the BCHLA has established serious targets to be achieved by 2010, complementary to those suggested in the Speech from the Throne. The BCHLA and other coalitions are committed to seeing chronic disease rates reduced. They know that paying attention to risk factors is a significant key to the task that lies ahead.

Reducing risk factors avoids costs

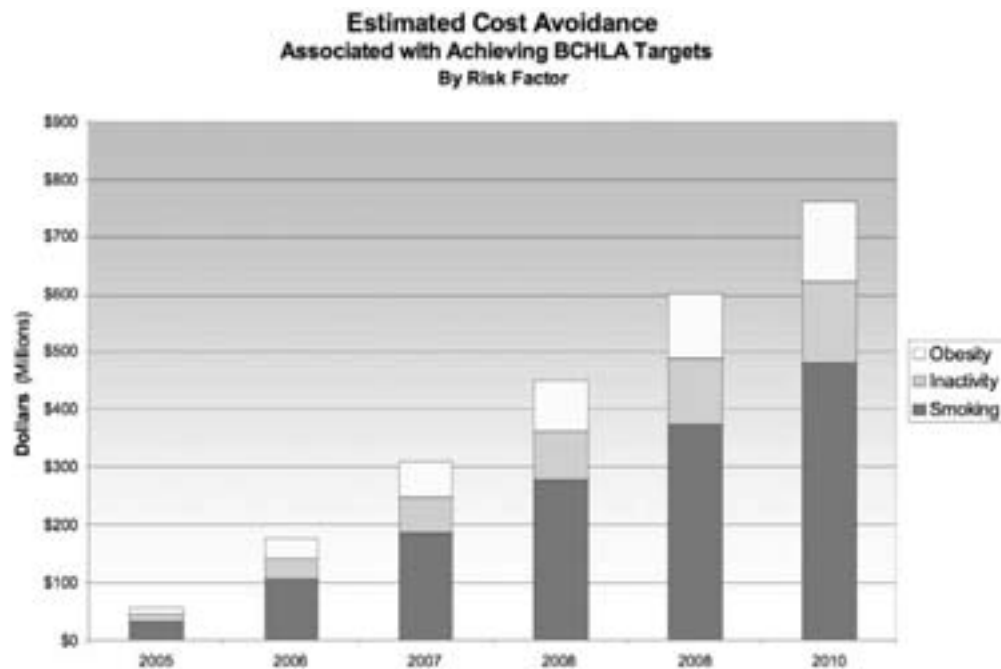
If the public investment is made to ultimately reach the risk factor targets suggested by the BCHLA, then:

- 225,000 fewer British Columbians would smoke
- an additional 948,000 British Columbians would eat five or more servings of vegetables and fruit per day
- an additional 351,000 British Columbians would become physically active
- a total of 349,000 more British Columbians would achieve a healthy weight

The BCHLA has established serious targets to be achieved by 2010, complementary to those suggested in the Speech from the Throne.

A key result of these improvements is avoided costs to the provincial economy

While it is not yet possible to track the cost avoidance related to eating a healthy diet, the costs that can be avoided in British Columbia for the other three risk factors combined are certainly compelling, as indicated on the following chart.



The cumulative *\$2.4 billion in potential costs avoided* is in addition to the almost \$1 billion that would remain in former smokers' pockets due to not buying cigarettes.

What will it take to make the targets?

In addition to *full funding*, progress on the task will require *full commitment* to...

- employing proven, cost-effective interventions
- learning continuously while using promising, cutting-edge solutions
- addressing *behavioural* factors in the context of vital *environmental* changes.

In the absence of changes to the 'obesogenic' environment, encouraging individual choice and goal-setting will not get you very far.

The BCHLA has worked during the last eight months to arrive at a Plan which incorporates these commitments. This Plan, if followed, will provide a significant and sustained push to "lead the way in North America in healthy living and physical fitness."

The BC Risk Factor Intervention Plan, which we have called The Winning Legacy, consists of 27 recommended strategies. Many of them have been proven over 40 years of global implementation and evaluation, especially in reference to tobacco use. While evidence continues to accumulate for effective obesity control, there are already many tobacco control lessons to apply; e.g., this reality requires attention: *In the absence of changes to the determinants of the 'obesogenic' environment, encouraging individual choice and goal-setting will not get you very far.*

The interventions comprising the Plan (summarized below) incorporate this reality.

Regulatory and Economic Interventions

- Consider incentives and taxation to encourage greater involvement of children in physical activities
- Advocate for the federal implementation of a standardized system of nutrition information for products that includes all foods (not just packaged), including at point-of-purchase. This could include a provincial program of certification of restaurant menu items and portion control.
- Implement consistent, comprehensive smoke-free legislation in the province, including 100% workplace bans in the hospitality industry. Lobby pharmacies to stop selling cigarettes.
- Increase the price of cigarettes by \$2.00 per carton per year
- Consider restrictions on food advertising aimed at children
- Consider a focused trial of taxation measures for specific unhealthy foods
- Continue to protect against creative attempts by the tobacco industry to market their product, e.g., retail “power walls,” product placements, smoking in movies and magazines
- Improve compliance with restrictions on tobacco sales to minors

Community-Based Interventions

- Establish Community Action Coordinators (two per electoral riding) to mobilize strategies for risk factor reduction
- Provide modest funding for up to 1,200 community groups throughout the province with ideas on how to address risk factors
- Develop a strategic media plan with clear, common messages for different at-risk populations with well-conceived short and long-term advocacy goals
- Consider subsidizing pedometers as a source of instant feedback to individuals who are attempting to become more physically active
- Implement “point-of-decision” prompts to encourage healthy behaviours
- Encourage and support walking groups and physical activity events
- Enhance access to places of physical activity; both indoor and outdoor

School-Based Interventions

- Expand Action Schools! BC program and encourage a more rapid implementation of some of its recommendations, plus coordination with anti-smoking resources, to move towards significant levels of primordial prevention among young people
- Focus on environmental approaches to risk factor interventions, including options for promoting healthy foods, curtailing access to unhealthy foods, creating opportunities for physical activity and tobacco-free sites.

Workplace-Based Interventions

- In partnership with WCB, unions, business and others, offer funding to assist employers and employees to create a healthier work environment, from stairway walking campaigns to exercise facilities and healthy food choices

Clinical Interventions and Management

- Implement a program of 'prevention detailing' to provide education and feedback to enable primary healthcare providers to more fully address risk factors
- Cover out-of-pocket expenses for nicotine replacement therapy initiated within a recognized clinical program
- Provide reimbursement for lifestyle counselling around physical activity, healthy eating and living smoke-free
- Provide compensation to primary healthcare providers for lifestyle counselling around physical activity, healthy eating and living smoke-free

Specific Populations

- Support health promotion programs for specific populations, including low income populations, pregnant/breastfeeding women, the mentally ill, First Nations People, new Canadians.

Surveillance, Evaluation and Other Administrative Costs

- Provide adequate resources for appropriate surveillance and timely community-level feedback
- Provide adequate resources for the evaluation of new interventions and the dissemination of findings, particularly in those areas where the effectiveness information is promising, but limited
- Provide adequate resources to administer the overall plan to ensure a coordinated, comprehensive approach
- Encourage behaviour change research that focuses on the application of what we already know and considers the individual in the context of a population health approach

Estimated costs for implementing these strategies are found on the following table.

	Summary						5 Year Total
	Estimated Cost (in Million\$)						
	Fiscal Year						
	2005/06	2006/07	2007/08	2008/09	2009/2010	2010/11	
Regulatory and Economic Interventions							
Net Taxation of Cigarettes	\$ (7.37)	\$ (12.16)	\$ (14.20)	\$ (13.03)	\$ (8.65)	\$ (0.95)	\$ (56.37)
Tax Incentives - Physical Activity	\$ 4.42	\$ 4.38	\$ 4.34	\$ 4.30	\$ 4.27	\$ 4.24	\$ 25.95
Community-based Interventions							
Mass Media Campaign	\$ 26.81	\$ 27.61	\$ 28.44	\$ 29.30	\$ 30.17	\$ 31.08	\$ 173.42
Community Action Coordinators	\$ 6.93	\$ 13.63	\$ 14.04	\$ 14.46	\$ 14.89	\$ 15.34	\$ 79.28
Community-Based Funding	\$ 4.50	\$ 9.27	\$ 9.55	\$ 9.83	\$ 10.13	\$ 10.43	\$ 53.72
Pedometers	\$ 0.81	\$ 0.87	\$ 0.92	\$ 0.97	\$ 1.03	\$ 1.08	\$ 5.69
School-based Interventions							
Allocation to Schools	\$ 33.86	\$ 34.53	\$ 35.18	\$ 35.82	\$ 36.53	\$ 37.31	\$ 213.25
Clinical Intervention & Management							
Prevention Detailing	\$ 2.35	\$ 2.50	\$ 2.66	\$ 2.83	\$ 3.02	\$ 3.14	\$ 16.49
Primary Care Based Smoking	\$ 6.41	\$ 9.66	\$ 13.13	\$ 15.40	\$ 16.25	\$ 17.16	\$ 78.00
Cost of NRT	\$ 6.51	\$ 9.51	\$ 12.56	\$ 14.30	\$ 14.65	\$ 15.02	\$ 72.54
Lifestyle Counselling	\$ 8.42	\$ 13.49	\$ 19.04	\$ 25.12	\$ 26.50	\$ 27.95	\$ 120.52
Special Populations	\$ 20.00	\$ 20.60	\$ 21.22	\$ 21.85	\$ 22.51	\$ 23.19	\$ 129.37
Miscellaneous Costs	\$ 10.00	\$ 10.30	\$ 10.61	\$ 10.93	\$ 11.26	\$ 11.59	\$ 64.68
Administration, Surveillance, Evaluation	\$ 12.37	\$ 14.42	\$ 15.75	\$ 17.21	\$ 18.25	\$ 19.66	\$ 97.65
Total Cost	\$ 136.03	\$ 158.61	\$ 173.22	\$ 189.27	\$ 200.80	\$ 216.24	\$ 1,074.18

The Winning Legacy will cost \$1.1 billion over 6 years, or \$41 annually for each British Columbian.

The health and economic benefits of this investment will be enjoyed for generations to come. And it will be a model for the rest of the world, which will be on our doorstep in 2010. We will get to the ultimate “finish line” of reduced chronic disease if we are guided by 2 inspiring “flags” or reminders:

- *We do not know everything, but we know enough to act.*
- *Setting targets is one thing; achieving them is another.*

WHAT THE WINNING LEGACY PROVIDES

By the end of this report, the reader should have a clear understanding of:

- The relationship between the risk factors of smoking, obesity, unhealthy eating and physical inactivity and chronic diseases;
- The process followed by the BC Healthy Living Alliance (BCHLA) in setting targets for reducing these risk factors;
- The economic costs of the key risk factors;
- The economic benefits of achieving the BCHLA indicator targets related to the risk factors;
- The most effective and cost-effective interventions to achieve the prevention targets by 2010; and
- The investment needed if we are serious as a province about becoming the healthiest hosts ever of an Olympic and Paralympic Games.

CHRONIC DISEASE AND RISK BEHAVIOURS IN BC

CHRONIC DISEASE IS A BURDEN FOR BRITISH COLUMBIANS

Too many British Columbians are still smoking, eating and "sitting" themselves to death. The result is unacceptable levels of disease.

Even in an era when we celebrate the success of achieving the longest life expectancy in the history of BC, approximately 1.2 million (36% of adults) in the population still suffer from one or more chronic conditions. Some of the most common chronic conditions are cancers, cardiovascular disease, chronic respiratory disease and diabetes.

Risk factors play an enormous role in the development of chronic disease.

About 5,600 people in the province will die this year of smoking-related chronic diseases. As well, 20% or more of the cases of chronic disease such as type 2 diabetes, stroke, coronary heart disease and colon cancer still result simply from sedentary lifestyles. Obesity "weighs heavily" on the health of many British Columbians, contributing, for example, to the diabetes crisis. In turn, the epidemic of overweight is mainly due to the twin risk factors of inactivity and unhealthy eating.

The really promising fact is that a large proportion of the chronic disease burden in BC is *preventable*.

Chronic diseases are prolonged conditions that are rarely cured completely. They have a debilitating effect on physical, emotional and mental well-being. When afflicted, it is often profoundly difficult for a person to maintain normal routines and relationships. Fortunately, good disease management is sometimes able to minimize the physical and mental deterioration and allow for better functioning in daily life.

But the really promising fact is that a large proportion of the chronic disease burden in BC is *preventable*.

PREVENTION EXTENDS BEYOND THE PERSONAL

Managing a disease after it has emerged and / or become established involves healthcare approaches that are sometimes known as secondary or tertiary prevention. Much more preferable in terms of health benefits is primary prevention, or intervening to stop disease from developing in the first place.

As suggested above, a large proportion of the chronic disease burden can be attributed to lifestyle choices, including risk behaviours such as smoking, unhealthy diet and physical inactivity. The association with personal behaviour is so strong that conditions such as cardiovascular disease and diabetes are sometimes known as lifestyle diseases. They have been especially prevalent in the developed world (accounting for almost half of premature deaths), but the developing world is, tragically, quickly catching up. However, great care needs to be taken with any emphasis on choice. A large volume of research reveals the vital role that socioeconomic and environmental determinants play in influencing the development of risk factors in a population. Ignoring systemic factors will severely reduce the degree that personal behaviour change will occur in British Columbia.

Reducing behavioural risk factors for chronic disease by addressing ALL relevant health determinants should be a cornerstone of preventive care in BC

RISKY BUSINESS

BEHAVIORAL RISK FACTORS AND CHRONIC DISEASE

The association between behavioral risk factors and chronic diseases is clear.

For example, smoking causes 82% of deaths from lung cancers and 86% of deaths from bronchitis/emphysema. The list of diseases to which smoking contributes is extensive, as seen on the following table.

Percent of Deaths Attributable to Smoking	
Cancers	
Trachea, Lung, Bronchus	82%
Larynx	82%
Esophagus	69%
Lip, Oral Cavity, Pharynx	67%
Urinary Bladder	41%
Kidney, Other Urinary	26%
Pancreas	23%
Stomach	22%
Acute Myeloid Leukemia	19%
Cervix Uteri	12%
Circulatory Diseases	
Aortic Aneurysm	59%
Ischemic Heart Disease	17%
Other Arterial Diseases	15%
Other Heart Diseases	14%
Atherosclerosis	13%
Cerebrovascular Disease	11%
Respiratory Disease	
Chronic Bronchitis, Emphysema	86%
Chronic Airway Obstruction	78%
Pneumonia, Influenza	18%
Perinatal Conditions (< 1 Year Old)	
Sudden Infant Death Syndrome	15%
Short Gestation, Low Birth Weight	10%
Other Respiratory Conditions of Newborn	5%
Respiratory Distress Syndrome	4%

Being significantly overweight also contributes to a variety of chronic conditions. For example, almost 30% of diabetes is directly attributable to obesity, as indicated on the following table.

Percent of Diseases Attributable to Obesity	
Hypertension	34.0%
Type 2 diabetes	28.6%
Gall bladder disease	25.5%
Coronary heart disease	15.4%
Osteoarthritis	12.7%
Stroke	6.8%
Postmenopausal breast cancer	6.5%
Colon Cancer	6.2%

Finally, a sedentary lifestyle also contributes significantly to a variety of chronic conditions. For example, almost a quarter of strokes are directly attributable to a sedentary lifestyle, as indicated on the following table.

Percent of Diseases Attributable to Physical Inactivity	
Stroke	24.3%
Osteoporosis	24.0%
Coronary heart disease	21.1%
Type 2 diabetes	19.4%
Colon Cancer	18.0%
Breast Cancer	14.2%
Hypertension	13.8%

On the other hand, long-term physical activity is related to postponed disability and independent living in elderly individuals.

The cumulative impact is clear: these major risk factors account for an overwhelming proportion of very serious chronic diseases.

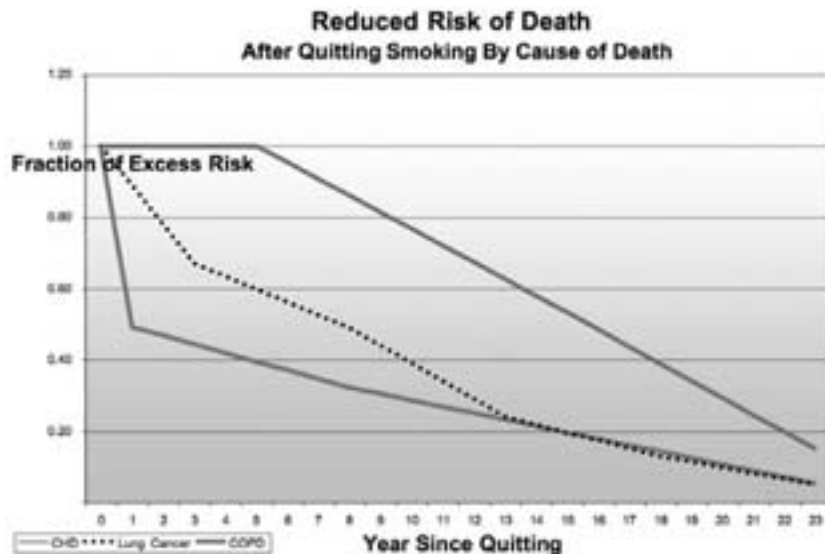
POWERFUL BENEFITS FROM REDUCING RISK FACTORS

Although the economic benefits of tackling the risk factors are considerable, it is first important to emphasize the primary motivation in any healthcare system, namely, the reduction of disease burden.

Smoking provides the best-researched example of what can be achieved.

Lung cancers account for 34% of years of potential life lost (YPLL) due to smoking, coronary heart disease (CHD) for 28%, and chronic obstructive pulmonary disease (COPD) for 13%. That is, these three conditions together account for 75% of total YPLL attributable to smoking.

Upon smoking cessation, major and immediate health benefits begin to accrue, including steady declines in risk for lung cancer, CHD and COPD, as indicated on the following chart.



It is important to note from the previous chart that former smokers continue to have a higher risk of these diseases, even after 20 years of not smoking, than do individuals who have never smoked. This stresses the fact that while smoking cessation is critical; prevention of smoking uptake in the first place is still the best approach.

The declining impact of diseases after smoking cessation has a dramatic impact on mortality. On average, life-long smokers die approximately 10 years earlier than non-smokers. Smoking cessation, on the other hand, results in gains of about 3, 6, 9 and 10 years of life expectancy if the cessation began at age 60, 50, 40 or 30, respectively. That is, quitting by middle-age reverses almost all of the excess mortality associated with smoking.

Of course, there are always sceptics who point to research which suggests that stopping smoking is associated with an increased risk of death shortly after smoking. Indeed, the research does indicate this trend, but this is due to the fact that many people stop smoking only after they receive news of a serious smoking-related illness. Stopping smoking at this point is often too late, and the person dies from the smoking-related illness. This again suggests that individuals should be encouraged to stop smoking before it is too late.

Weight loss in overweight individuals is associated with a 24% lower mortality rate when compared to overweight individuals who are not trying to lose weight. The best consequence (a 30% reduction in mortality) is observed in those individuals with a modest intentional weight loss of 1-9 kg, which coincides favourably with the fact that most weight loss efforts tend to produce modest results. In fact, positive results are seen even if the individual

The health benefits of a concerted campaign to reduce risk factors will be seen across a whole range of potentially debilitating chronic diseases. This vision should inspire a coordinated, well-funded disease prevention effort across the province.

who is trying to lose weight is unsuccessful, likely as a result of changes in other health related behaviours while trying to lose weight, e.g. increased physical activity and a healthier diet.

Physical inactivity, apart from its contributing role in the development of obesity, has independent health consequences in terms of,

for example, coronary heart disease, stroke, osteoarthritis, depression and certain cancers. It is encouraging to note that long-term physical activity is related to postponed disability and independent living in elderly individuals.

The protective role of vegetable and fruit consumption is important with respect to the risk of cardiovascular disease. Individuals who eat at least five or more servings of vegetables and fruit per day have a 28% lower risk of cardiovascular disease than those who consumed fewer than 1.5 servings daily.

The overall picture is thus a very compelling one: the health benefits of a concerted campaign to reduce risk factors will be seen across a whole range of potentially debilitating chronic diseases. This vision should inspire a coordinated, well-funded disease prevention effort across the province.

There is too much at stake to ignore the opportunity.

NEW PERSPECTIVES ON PREVENTION

Our understanding of prevention in public health as well as clinical care continues to evolve. There are at least five areas which are particularly relevant to a risk factor plan in BC

ENVIRONMENTAL AWARENESS

Increasingly, healthcare professionals and policy-makers are paying attention to the environmental (sometimes called ecological) contributors to personal health risks. Increasingly it is being recognized that behavioral risk factors involve more than individual decisions. For example, with advancing technology and certain urban built forms, there is less demand for physical activity; unhealthy meals are often faster and less expensive than healthier meals; and there is still relatively easy access to, and extensive promotion of, an abundance of tobacco products.

The population-health approach to reducing risk factors thus needs to take into consideration environmental forces and the differential reaction to those forces among various at-risk groups (e.g., those of lower socioeconomic means). Many health promotion experts believe that the greatest advances in the cause of enhanced quality of life are going to come with changing environmental supports. The aim is to make "the healthy choice the easy choice."

PRIMORDIAL PREVENTION

Primordial prevention involves the adoption of strategies to enable people to avoid getting risk factors in the first place. It is seen to be superior to primary forms of prevention because it is often easier, for example, to never gain a kilogram of weight than it is to lose that same kilogram after it has been gained. A significant instance of primordial prevention is reducing the uptake of smoking by adolescents. This example underscores the clear strategic value of targeting prevention efforts early in life before risk factors develop.

MULTIPLE RISK FACTORS

Most risk factors do not exist in isolation in an individual. This is particularly true with smoking, unhealthy weight, unhealthy eating, and physical inactivity, which may exist in combination in the same individual. As well, it is demonstrable that the risk factors have a significant independent effect on mortality and morbidity; thus to make the most population health gains, sometimes the factors need to be addressed in combination. The synergistic benefits of reducing multiple risk factors are potentially enormous. For example, focusing on both exercise and diet control often provides better weight loss or weight maintenance than either intervention in isolation.

Tobacco use also needs to be considered in conjunction with other factors. Most importantly, smoking exacerbates the negative health impacts of being obese. Smoking also demonstrates that risk factors are sometimes negatively correlated; the weight gain that can accompany smoking cessation, for example, must be addressed in any integrated risk factor policy.

THE SOCIAL CONTEXT OF HUMAN HEALTH

It has been very common in the past to treat risk factor control as a matter of individual behavioural choices and change. While this remains an important dimension of health promotion and disease prevention, increasing attention is being paid to the social dimensions of human life which may either support or impede healthy lifestyle decisions and impact the associated prevalence of disease. Three aspects of human existence which transcend individual behaviour are:

- the socio-economic context
- the socio-environmental context
- the socio-cultural context

The socio-economic context in which an individual lives can have a number of consequences:

- disadvantaged people are deprived of the material necessities for health; most of the research so far has focused on income inequalities, rather than, for example, access to education or employment;
- psychological stress and limited social support can limit the ability to avoid behavioural risks; and
- systemic forces, including international, national and regional policies, can increase poverty and unequal access to health resources.

The socio-environmental context suggests that simply living in a deprived area may have an impact on behaviour not just because of the example and influence of more risky behaviour in the neighbourhood, but because of the unpleasant, unsafe environment where there are fewer opportunities for making healthy choices.

The socio-cultural context reflects the idea that cultural norms and expectations in a community or in society as a whole can exert a powerful influence on behaviour. This is the foundation of efforts to 'denormalize' smoking, the tobacco industry, and other influences harmful to health.

PARTNERSHIPS

Partnerships increase both the opportunity for collaboration between different stakeholders in the world of prevention and health promotion, and the possibility of focusing limited resources to achieve the greatest benefit. The fact that a remarkably short list of major risk factors relates to an array of serious chronic diseases multiplies the potential for such initiatives.

The advantages of partnerships are manifold. For example, experts in tobacco control can share their learning with leaders in prevention arenas that are still emerging, such as physical activity and healthy diet. The influence of decades of research and practice around effective interventions in the "tobacco wars" needs to be understood by those concerned with other aspects of a healthy lifestyle.

WORKING TOGETHER FOR HEALTH

The BC Healthy Living Alliance (BCHLA) is a coalition of organizations seeking "to improve the health of British Columbians through leadership that enhances collaborative action to promote physical activity, healthy eating and living smoke-free."

BCHLA AIM

The specific aim of the BCHLA is to reduce the burden of chronic disease by:

- enhancing collaboration among government, non-government and private sector organizations,
- advocating for health promoting policies, environments, programs and services, and
- increasing the capacity of communities to create and sustain health promoting policies, environments, programs and services.

BCHLA PRINCIPLES

The Alliance and its activities are guided by a commitment to:

- a population health approach, recognizing that many factors influence health, e.g., income, social status, education, social support networks, employment and working conditions, physical environments, personal health practices, biology and genetic endowment, health services, healthy child development;
- fostering vertical and horizontal integration across risk factors, the prevention-management continuum and jurisdictions;
- building upon existing programs and experiences, where possible;
- basing decisions and actions on the best available evidence;
- respecting the unique strengths, experience and expertise of all organizations and individuals that participate in the Alliance;
- participation of member organizations and individuals, recognizing that each will contribute various resources to the Alliance, depending on their capacity to do so.

BACKGROUND WORK

With support from the Ministry of Health Services, the BCHLA launched a consultation process in 2004 to establish targets and interventions to reduce chronic disease risk factors. The current report represents a précis of four reports produced by the Alliance and is designed to communicate a clear and compelling message about what it is going to take to move British Columbians to a significantly new level of healthy living and disease reduction.

These four reports are available at www.bchealthyliving.ca in the Resources section:

- *2010 Target Setting For Risk Factors for Chronic Disease Project: Background Document for Consultation*
- *Healthy Living: Targets for 2010*
- *Risk Factor Interventions: An Overview of their Effectiveness*
- *Resources for Health: A Cost Effective Risk Factor Plan for British Columbia*

PROCESS

Over a 6-month period, the BCHLA developed a consensus on provincial targets in the four risk factor categories: smoking, unhealthy eating, physical inactivity and overweight. This process included:

- a literature review to establish a link between the risk factors and chronic disease;
- selecting the most useful indicators to track each risk factor;
- assembling data on risk behaviour at the Health Authority (HA) and health service delivery area (HSDA) levels;
- detailing targets set in other Canadian and international jurisdictions, and potential benefits;
- involving HA representatives and members of regional healthy living alliances in a discussion about risk behaviour and appropriate targets; and
- holding a consensus workshop to finalize the targets.

TARGETS

The regional consultation process included 11 meetings across the province involving more than 200 participants. Most participants felt that the targets should be ambitious, as they would be used for advocacy purposes. The groups also proposed that the targets be set as positive goals, e.g., increase the prevalence of healthy activity rather than reduce the number of people who are physically inactive.

In the end, the BCHLA consultation resulted in the following targets:

BCHLA Targets for 2010

- 9 out of 10 British Columbians will not smoke
- 7 out of 10 British Columbians will eat at least 5 servings of vegetables and fruit a day
- 7 out of 10 British Columbians will be physically active
- 7 out of 10 British Columbians will be at a healthy weight

BENEFITS OF ACHIEVING THE TARGETS

Although a primary motivation in a caring and just healthcare policy is to maximize health and minimize suffering and disability in the population, the prevailing fact of limited economic resources will never go away. Therefore it is important to know how much the disease burden attributed to the risk factors actually costs the province of BC, and how many of these costs might be avoided if the targets are achieved.

ANNUAL COST OF THE RISK FACTORS

In 2004, smoking is estimated to cost the BC economy \$2.7 billion, physical inactivity \$621 million, and obesity \$489 million, for a total of \$3.8 billion, as indicated on the following table. To put this number in context, in 2003/04, the provincial government budgeted \$4.9 billion for all primary and secondary education in the province.

Estimated Cost of Risk Factors In British Columbia, 2004	
	Totals: \$M
Smoking	
Direct Costs	\$ 679
Indirect Costs – Productivity	\$ 856
Indirect Costs – Premature Mortality	\$ 1,170
Total Smoking	\$ 2,705
Physical Inactivity	
Direct Costs	\$ 189
Indirect Costs	\$ 432
Total Physical Inactivity	\$ 621
Obesity	
Direct Costs	\$ 180
Indirect Costs	\$ 309
Total Obesity	\$ 489
Total	\$ 3,816

REDUCING POPULATION RISK

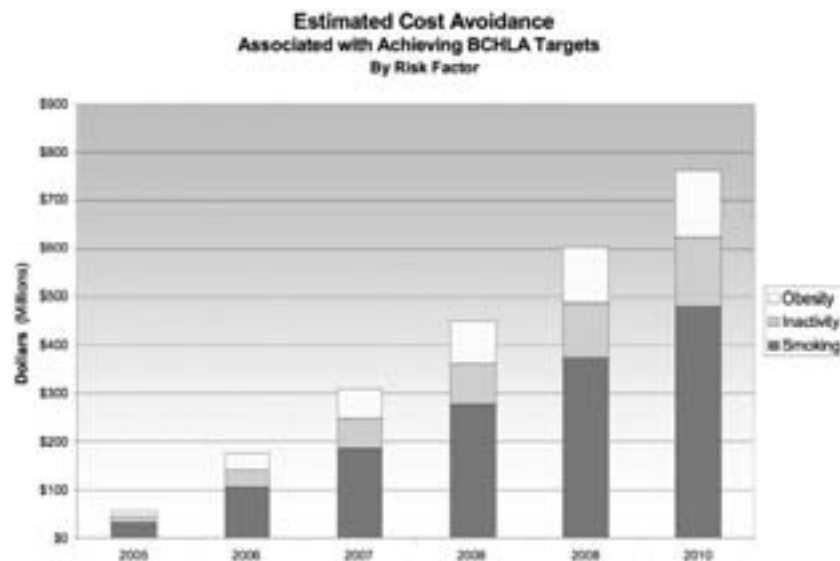
If the targets for risk factor reductions are achieved by 2010, then:

- 225,000 fewer British Columbians would smoke
- An additional 948,000 British Columbians would eat five or more servings of vegetables and fruit per day
- An additional 351,000 British Columbians would become physically active
- A total of 349,000 British Columbians would achieve a healthy weight

COST AVOIDANCE

How many of the estimated annual costs of \$3.8 billion could be avoided if the risk factor targets were achieved on an annual basis?

Costs avoided would begin slowly but then would accumulate quickly as more individuals moved into a healthy lifestyle and the risks of diseases associated with smoking would decline with the years since the smoking cessation began. This trend is shown on the following chart.



Costs avoided would increase from \$57 million in 2005 to \$764 million in 2010. This cumulative \$2.4 billion in costs avoided is in addition to the almost \$1 billion that would remain in former smokers' pockets due to decreased personal expenditures on cigarettes.

CONCLUSION

The combination of health benefits and economic savings described above provides a powerful incentive to set targets for risk factor reduction, all aimed towards the end of an improved chronic disease profile in the province. But, as always, focused implementation is the key to success.

Setting targets is one thing; achieving them is another.

WHAT IT WILL TAKE

OVERCOMING OBSTACLES

As with any athletic competition, there will be “walls” to push through in order to achieve the desired goals of a healthier population.

Complacency

In ancient Rome and Greece, a wreath of bay laurel leaves was used as a high honour for heroes, top scholars and victorious athletes, whence comes the phrase “resting on one’s laurels.” When it comes to public health, it would be easy to “rest on our laurels,” to simply savour a race well run. The fact is that, compared against the average Canadian in 2003, British Columbians are less likely to smoke, more likely to eat five or more servings of vegetables and fruit per day, less likely to be physically inactive, and less likely to be overweight. Our public policies have sometimes led the way. For instance, Victoria was the first Canadian city to go smoke-free. A more recent example has been the full adoption of Action Schools!BC

Compared against the average Canadian in 2003, British Columbians are less likely to smoke, more likely to eat five or more servings of vegetables and fruit per day, less likely to be physically inactive, and less likely to be overweight.

As a result of such efforts, data show an encouraging downward trend in the number of British Columbians who smoke and an increase in the number of British Columbians who eat five or more servings of vegetables and fruit per day.

In spite of this positive trend, there are still too many people suffering disability and dying prematurely from chronic illnesses in BC. While the number of smokers has declined in recent years there are still 674,000 smokers in the province—too many by any standard, and still the most significant contributor to disease development among British Columbians. Perhaps more alarmingly, there actually has been a modest increase since the year 2000 in the proportion of the population that is inactive and / or overweight, especially among men.

Inequities also need to be addressed. For example, comparing the five health regions in BC reveals that the Northern Health Authority has a particular challenge on its hands, as the population is consistently at higher risk compared with other areas of the province.

To sum up, while it is clear that, by many measures, BC is the healthiest province in the country, and excels in comparison with many jurisdictions in the developed world, complacency is not an option. We need to continue to be vigilant and dedicated to making the risk factor story in BC even better.

Inaction Based on Selective Information or Misinformation

A focus on selected pieces of information can distract individuals and policy-makers from “doing the right thing” in prevention and health promotion.

As noted earlier, one such piece of information is that smoking cessation leads to increased mortality. Although there is evidence that could support this counterintuitive conclusion, a much more likely explanation is that smoking cessation preferentially occurs near an adverse health event, thus skewing mortality results (i.e., people extremely sick from smoking decide to quit, but too late to avoid premature death).

Another such piece of information also noted earlier is that losing weight leads to increased mortality. Again, studies could be produced that seem to support this contention. However, once one controls for unintentional weight loss due to illness, the health results for the remaining, intentional weight loss cases are very favorable.

There is also a legitimate concern that a focus on obesity control increases the tendency towards disordered eating, particularly among adolescent girls. We do need to be cautious about obesity messages and interventions, especially with cohorts such as teenage girls who are at-risk for anorexia nervosa and other conditions.

Quitting smoking leads to a weight gain. This is true, but the health benefits of smoking cessation far exceed any risks from the average 2 kg-weight gain, as well as any adverse psychological effects that may follow quitting. Indeed, the weight gain seen after smoking cessation usually tends to decline over time.

Some believe that the early death experienced by many smokers is sort of a mitigating factor, sparing them from later experiences of morbidity. Unfortunately, the data simply does not bear this out: smokers in fact suffer through years of reduced quality of life before they die.

The Idea That Interventions Don't Work

Perhaps the greatest myth of all which needs to be overcome is the opinion that there are no clearly powerful interventions available to achieve risk factor targets, or that the interventions will be too expensive to pursue vigorously. While it is true that research and development of obesity-related interventions are at an early stage, there are plenty of motivators and transferable concepts available from the highly successful arena of tobacco control.

But are interventions too expensive? Although demonstrably cost-effective, some people have still been concerned that smoking bans in businesses such as restaurants will hurt their bottom line, public bans will hurt tourism, or even that reduced cigarette sales will affect government coffers. These sorts of economic arguments, however, have been consistently discredited.

EFFECTIVE INTERVENTIONS FOR TOBACCO CONTROL

No jurisdiction, including BC, is immune from the well-known and inevitable limitations on healthcare spending. In this light, choosing the most effective and efficient interventions to reduce risk factors becomes a high priority. Sometimes the orientation towards using the best approaches to achieve results is referred to as evidence-based healthcare.

A very extensive literature review uncovered a wealth of effectiveness data from the last few decades of the "tobacco wars." The following five categories succinctly capture the tobacco control interventions which emerged as the most powerful in our review of the literature.

Increasing the Price of Tobacco Products

This is generally reported to be the single most effective weapon in the tobacco control arsenal. The means by which product price is increased is often taxation. In terms of increasing cessation or preventing uptake, price increases works for all segments of the population, including important at-risk subgroups such as teens and pregnant women. Generally, a 10% price increase leads to a 3 to 5% reduction in demand, with adolescents being even more price sensitive (where a 10% price increase may produce a 6 to 10% reduction in demand).

Reducing Opportunities to Promote Tobacco Products

Controlling corporate activities that promote tobacco consumption, as a further step towards "denormalizing" both smoking and the image of the tobacco industry, is all part of the environmental changes needed to produce a

sustained shift in population health behaviour. Part of the mandate is being on guard for the ever-creative attempts of the industry to get their message out. The latest frontline is product placements in television programs and movies, which are aimed at attaching "glamour" or "coolness" to the image of smoking. There is evidence that these messages have been very effective in influencing the attitudes of young people.

Creating Smoke-free Public Places

Increased efforts to enforce smoke-free public places are vital both to protect non-smokers from dangerous second-hand smoke and also to continue the process of "denormalizing" smoking, i.e., developing a social stigma around the habit. While the focus of these policies is on harm reduction for innocent second parties, there is another spin-off. Smoking bans lead to a reduction in the number of cigarettes smoked and possibly increase cessation attempts.

Counter-advertising

High-impact media advocacy works best when counter-advertising is part of a comprehensive strategy which includes the best community, school and workplace-based programs, plus initiatives tailored for special populations. Research indicates that young people, a primary audience for this counter-advertising, do not place a high value on learning about the future health consequences of smoking. A more effective approach is to focus on the complicity and manipulation of the tobacco industry.

Primary Care Based Cessation Programs

In order to "catch" those who are motivated by the preceding interventions to actually make a quit attempt, it is important to see increased involvement of all primary care providers in clinical cessation efforts for all smokers, and especially for at-risk target groups (e.g., the mentally ill, pregnant women, those recovering from illness or preparing for surgery).

Although the "reach" of clinical interventions into the population is currently low, they still represent some of the most effective approaches to achieve smoking cessation. For instance, it is known that unsupported quit attempts work just 5-10% of the time, whereas four to eight counselling sessions combined with nicotine replacement therapy can increase the quit rate to 20% or more. The psychological impact of this increased success rate is the difference between trying four to five times per successful cessation and trying 10 to 20 times.

Summary

Forty years of experience fighting in the 'Tobacco Wars' has taught us some valuable lessons.

1. No single intervention can account for all of the successes since the 1960s.
2. Each intervention is enhanced synergistically by other components in the plan.
3. Systemic changes were required, including bans on advertising, price increases, legislated smoke-free places, all of which contributed to the social 'denormalization' of smoking. *In the absence of these changes, encouraging individual choice and goal-setting will not get you very far.*
4. Governments and communities must work together with adequate financial and organizational resources over the long haul.
5. Interventions must be available for individuals who seek to make a lifestyle change.

While there have been remarkable reductions in tobacco consumption in developed countries in recent decades, much still needs to be done.

ARE THE TOBACCO CONTROL INTERVENTIONS COST-EFFECTIVE?

While there clearly are a number of effective interventions for tobacco control, the question still remains: are they also cost-effective?

In healthcare, the average cost per life year saved is approximately \$25,000US. That is, for every \$25,000 spent in healthcare, we increase someone’s life expectancy by one year.

How do tobacco control interventions compare with this average expenditure of \$25,000 per year of life saved? An extensive review by the World Health Organization found that when all five of the most effective tobacco control interventions are combined, the cost per life year saved was only \$274 (as indicated on the following table).

Intervention(s)	Cost / DALY (US\$)
A. Tax increase	\$13
B. Clean indoor air enforcement	\$358
C. Comprehensive advertising ban	\$189
D. Information dissemination	\$337
E. NRT / counselling	\$2,164
A plus D	\$45
A plus B plus D	\$79
A plus C plus D	\$58
A plus C	\$28
A plus B plus C	\$63
A plus B plus C plus D	\$90
A plus B plus C plus D plus E	\$274

The cost-effectiveness ratio of US\$274 per year of life saved for comprehensive tobacco control represents about 1% of the average \$25,000 in cost-effectiveness for medical interventions across the whole healthcare system.

The conclusion can only be that it would be prudent as a society to aggressively pursue smoking cessation by all these means in order to achieve superior chronic disease control.

LESSONS FROM TOBACCO CONTROL FOR THE OBESITY EPIDEMIC

Nutrition and physical activity authorities are alarmed that obesity represents a growing "epidemic" that is fast replacing smoking as the top public health concern in terms of chronic disease development and lowered quality of life. The resulting call for action is understandable.

As this new front-line in healthcare is engaged, it is important to recognize that there are major differences between obesity and smoking. First, food and activity are essential to life; tobacco is not. Second, there are possible negative consequences of a focus on obesity, such as disordered eating, that should be taken into account. Third, there are underlying genetic / disease conditions that contribute to obesity. And fourth, research on the impacts and interventions related to obesity, diet and physical activity is still in its infancy.

In spite of these conceptual and practical differences, there are important overlaps between tobacco use and obesity, including the fact that social influences and advertising pressures affect what we eat and how active we are. Furthermore, some have suggested that we currently live in an 'obesogenic' environment where people struggle against urban forms, transportation policy and economic factors which promote high energy intake and sedentary behaviours.

These parallel health crises and overlapping influences naturally raise the question as to whether some or all of the lessons in the "tobacco wars" can be transferred to the obesity problem. The following are key elements for any successful prevention program, whether it is tobacco control or obesity control.

- Interventions must address the fundamental behavioural and social causes of disease, illness and disability.
- Multiple approaches must be used simultaneously – education, social and community support, laws, economic incentives and disincentives. The financial levers have consistently been shown to be most crucial at the level of population health.
- Multiple levels of influence must be accessed: individuals, families, schools, workplaces, communities, entire provinces and nations.
- Interventions must recognize the special needs of strategic groups such as teens and at-risk communities, e.g. First Nations.
- Interventions must have long durations because change takes time and needs to be constantly reinforced in each subsequent generation.
- Interventions need to involve a variety of sectors that are not traditionally associated with "health," such as business, engineering, law, and the media.

With this set of principles in mind, the report will now turn to the other major risk factor challenge in BC, and indeed in the whole developed world. The desire, indeed, the necessity, is to see the same progress with the obesity epidemic as has been achieved in the area of tobacco use.

APPLYING THE LESSONS

While it is true that successful anti-tobacco campaigns have been comprehensive, involving multiple types of interventions and multiple settings, it also must be recognized that the vanguard in the war was clearly environmental in nature. The "back was broken" with respect to tobacco through large-scale socioeconomic interventions. Many authorities believe that paying similar attention to the 'obesogenic' environment, i.e., the social and physical factors which currently make weight-producing behaviour the easiest choice, will be critical to future public health advances.

In particular, macro-systemic changes to cigarette taxation and tobacco advertising regulations have been policy levers without parallel in effectiveness, though they are almost matched by the socio-cultural shifts in attitude brought about by counter-marketing and well-executed school and workplace interventions. The "re-norming" that has stigmatized smoking and the tobacco industry, and, to a lesser extent, teen smoking uptake, smoking while pregnant, and environmental tobacco smoke, has been an important public health success. When society as a whole is mostly convinced and on board, the momentum for change can both build and be sustained.

Alongside these public policies and changes in social norms was the wide range of community programs in neighbourhoods, workplaces and schools aimed at smoking prevention, smoking cessation or reducing the harm of environmental tobacco smoke. Finally, supported by both the policy and program pillars, was the platform of face-to-face clinical interventions.

EFFECTIVE INTERVENTIONS FOR OBESITY CONTROL

Unhealthy eating, physical inactivity and overweight are three highly interrelated topics. A large percentage of overweight and obese individuals can trace their excess weight directly to a persistent imbalance between energy intake (i.e., food calories) and energy expenditure (i.e., physical activity).

What are the most effective approaches to maintaining or regaining "energy balance" and / or dealing with the consequences of prolonged imbalance, i.e., obesity? The following proven or promising interventions were identified for consideration in our obesity control plan.

- Increased use of financial levers such as positioning healthy food to be the "low price" choice in the marketplace or in certain 'high-leverage' settings such as schools.
- Increased attention to the environmental signals concerning diet and activity, from the nutrition labelling of products and menu items to the accessibility of good food and attractive exercise options. Controlling the marketing of unhealthy foods to children is an important component of this approach.
- Increased involvement of parents in influencing children and modelling healthy diet and activity levels. One particular obesity-prevention measure to stress is breastfeeding.
- Increased advertising and media advocacy, combined with school physical education, workplace health promotion, and community-wide programs that focus on both healthy eating and exercise. The latter focus on physical activity can be enhanced by social support such as walking clubs and personal feedback through technology such as pedometers; the telephone can also be a simple and inexpensive tool to use in follow-up reinforcement, and the Internet may prove to be even more effective in this regard.
- Increased clinical counselling programs for diet and exercise modification (preferably combined), with drug therapy and surgery being considered for severely obese individuals.

PLAN OF ACTION AND REQUIRED RESOURCES

SUMMARY OF THE BC RISK FACTOR INTERVENTION PLAN

The most effective and efficient strategies need to be adopted in BC to achieve the 2010 risk factor targets. We have noted more than once that the most powerful measures for tobacco control have been identified through 40 years of global research and implementation. Although the data concerning obesity control, healthy eating and physical activity are still emerging, it is likely that the lessons from smoking will very much apply. Tackling obesity is going to require a comprehensive approach ranging from systemic / environmental levers through social marketing and community programs to intensive clinical treatment and prevention. It is possible that many scenarios will need to be tried and evaluated before the optimum plan for responding to the obesity epidemic is realized. In the meantime, the crisis is too urgent to allow a policy of inaction.

The interventions suggested in the Plan are highlighted below.

Regulatory and Economic Interventions

- Consider incentives and taxation to encourage greater involvement of children in physical activities
- Advocate for the federal implementation of a standardized system of nutrition information for products that includes all foods (not just packaged), including at point-of-purchase. This could include a provincial program of certification of restaurant menu items and portion control.
- Implement consistent, comprehensive smoke-free legislation in the province, including 100% workplace bans in the hospitality industry. Lobby pharmacies to stop selling cigarettes.
- Increase the price of cigarettes by \$2.00 per carton per year
- Consider restrictions on food advertising aimed at children
- Consider a focused trial of taxation measures for specific unhealthy foods
- Continue to protect against creative attempts by the tobacco industry to market their product, e.g., retail "power walls," product placements, smoking in movies and magazines
- Improve compliance with restrictions on tobacco sales to minors

Community-Based Interventions

- Establish Community Action Coordinators (two per electoral riding) to mobilize strategies for risk factor reduction
- Provide modest funding for up to 1,200 community groups throughout the province with ideas on how to address risk factors
- Develop a strategic media plan with clear, common messages for different at-risk populations with well-conceived short and long-term advocacy goals
- Consider subsidizing pedometers as a source of instant feedback to individuals who are attempting to become more physically active
- Implement "point-of-decision" prompts to encourage healthy behaviours
- Encourage and support walking groups and physical activity events
- Enhance access to places of physical activity; both indoor and outdoor

School-Based Interventions

- Expand Action Schools! BC program and encourage a more rapid implementation of some of its recommendations, plus coordination with anti-smoking resources, to move towards significant levels of primordial prevention among young people
- Focus on environmental approaches to risk factor interventions, including options for promoting healthy foods, curtailing access to unhealthy foods, creating opportunities for physical activity and tobacco-free sites.

Workplace-Based Interventions

- In partnership with WCB, unions, business and others, offer funding to assist employers and employees to create a healthier work environment, from stairway walking campaigns to exercise facilities and healthy food choices

Clinical Interventions and Management

- Implement a program of 'prevention detailing' to provide education and feedback to enable primary healthcare providers to more fully address risk factors
- Cover out-of-pocket expenses for nicotine replacement therapy initiated within a recognized clinical program
- Provide reimbursement for lifestyle counselling around physical activity, healthy eating and living smoke-free
- Provide compensation to primary healthcare providers for lifestyle counselling around physical activity, healthy eating and living smoke-free

Special Populations

- Support health promotion programs for special populations, including low income populations, pregnant/breastfeeding women, the mentally ill, First Nations People and new Canadians.

Surveillance, Evaluation and Other Administrative Costs

- Provide adequate resources for appropriate surveillance and timely community-level feedback
- Provide adequate resources for the evaluation of new interventions and the dissemination of findings, particularly in those areas where the effectiveness information is promising, but limited
- Provide adequate resources to administer the overall plan to ensure a coordinated, comprehensive approach
- Encourage behaviour change research that focuses on the application of what we already know and considers the individual in the context of a population health approach

RESOURCES FOR THE PLAN

Much of the BC Risk Factor Intervention Plan has been costed out in a detailed manner. This is especially true for community programs and the clinical arena.

At this high level of planning, it has not been possible to provide detailed budgeting for major sub-populations, so total expenses have only been estimated (\$5 million per group per year). The school initiatives have been resourced in terms of average spending per student, and community initiative grants capped at \$10,000 per group.

Investment in personnel to act as facilitators and animators of the plan is substantial, but it is clear from many different jurisdictions that such on-the-ground leadership and change agency is vital for success.

Some policy interventions do not attract significant costs, apart from administrative support. The budget provides for this explicitly. The first policy intervention, staged adjustments to cigarette taxation, will actually produce net revenue to the plan, over \$50 million in six years.

In summary, the Plan is projected to cost \$136 million in the first year, increasing to \$216 million in 2010/11, for a total of \$1.1 billion over the first six years.

Combining the various intervention settings, the estimated costs over the six years are summarized on the following table.

	Summary						6 Year Total
	Estimated Cost (in Million\$)						
	Fiscal Year						
	2005/06	2006/07	2007/08	2008/09	2009/2010	2010/11	
Regulatory and Economic Interventions							
Net Taxation of Cigarettes	\$ (7.37)	\$ (12.16)	\$ (14.20)	\$ (13.03)	\$ (8.65)	\$ (0.95)	\$ (56.37)
Tax Incentives - Physical Activity	\$ 4.42	\$ 4.38	\$ 4.34	\$ 4.30	\$ 4.27	\$ 4.24	\$ 25.95
Community-based Interventions							
Mass Media Campaign	\$ 26.81	\$ 27.61	\$ 28.44	\$ 29.30	\$ 30.17	\$ 31.08	\$ 173.42
Community Action Coordinators	\$ 6.93	\$ 13.63	\$ 14.04	\$ 14.46	\$ 14.89	\$ 15.34	\$ 79.28
Community-Based Funding	\$ 4.50	\$ 9.27	\$ 9.55	\$ 9.83	\$ 10.13	\$ 10.43	\$ 53.72
Pedometers	\$ 0.81	\$ 0.87	\$ 0.92	\$ 0.97	\$ 1.03	\$ 1.08	\$ 5.69
School-based Interventions							
Allocation to Schools	\$ 33.86	\$ 34.53	\$ 35.18	\$ 35.82	\$ 36.53	\$ 37.31	\$ 213.25
Clinical Intervention & Management							
Prevention Detailing	\$ 2.35	\$ 2.50	\$ 2.66	\$ 2.83	\$ 3.02	\$ 3.14	\$ 16.49
Primary Care Based Smoking	\$ 6.41	\$ 9.66	\$ 13.13	\$ 15.40	\$ 16.25	\$ 17.16	\$ 78.00
Cost of NRT	\$ 6.51	\$ 9.51	\$ 12.56	\$ 14.30	\$ 14.65	\$ 15.02	\$ 72.54
Lifestyle Counselling	\$ 8.42	\$ 13.49	\$ 19.04	\$ 25.12	\$ 26.50	\$ 27.95	\$ 120.52
Special Populations	\$ 20.00	\$ 20.60	\$ 21.22	\$ 21.85	\$ 22.51	\$ 23.19	\$ 129.37
Miscellaneous Costs	\$ 10.00	\$ 10.30	\$ 10.61	\$ 10.93	\$ 11.26	\$ 11.59	\$ 64.68
Administration, Surveillance, Evaluation	\$ 12.37	\$ 14.42	\$ 15.75	\$ 17.21	\$ 18.25	\$ 19.66	\$ 97.65
Total Cost	\$ 136.03	\$ 158.61	\$ 173.22	\$ 189.27	\$ 200.80	\$ 216.24	\$ 1,074.18

This expenditure equates to \$41 per British Columbian per year.

CONCLUSION

The conclusion of this report is clear: Preventing or reversing behavioral risk factors would avoid a considerable amount of the disability and premature death arising from chronic disease. This would be a major benefit to the health and quality of life of many British Columbians, as well as a source of significant cost avoidance to the healthcare system and the provincial economy.

Like all analogies, the athletic analogy which has flavoured this project has its limitations. Unlike a race, with an end-point to all of the intense training and a conclusion to the event itself (namely, crossing the finish line), the plan to reduce risk factors requires a public commitment over a very long, and even indefinite, timeframe. In a sense, the 2010 horizon represents only the “first” finish line.

There are three overarching principles that are vital to success in creating a healthy British Columbia *for many decades to come*.

ONGOING EVALUATION AND FLEXIBILITY IN IMPLEMENTATION

Interventions designed to enhance healthy behaviours will need to be carefully developed and implemented over the long-term. As noted above, there are a number of possible risk factor interventions for which the accumulation of evidence is still in its infancy. Furthermore, few successful population-wide strategies exist in the areas of unhealthy diet, physical inactivity and overweight.

Given this situation, there will be an ongoing need for evaluation of the effectiveness of interventions taken in the British Columbia environment. ***Taking a leadership role will require risks in implementing interventions before others have shown them to be effective.*** “In-process” evaluation of these interventions will allow for the continual reassessment of the plan with appropriate changes based on new evidence.

SUSTAINED INVESTMENT

One of the greatest tragedies in public health has been the reversal of gains in tobacco control when resources were reduced. For example, hard-won reductions in smoking prevalence in several US jurisdictions have been eroded as budget cuts were imposed and tobacco control measures attenuated. This is a tragic cautionary tale.

Both public and advocacy resources must be focused on risk factor and chronic disease reduction, and the resources need to be sufficient, sustained and strategically applied. The best evidence from jurisdictions which have taken this seriously in terms of tobacco control underlines the fact that increased funding consistently yields greater reduction in smoking.

THE FINISH LINE IN VIEW

Just as top athletes will visualize the finish line, so we must not lose sight of the ultimate goal, i.e., reduced chronic disease burden in BC. The intermediate objectives, namely, the risk factor indicator targets, are vital to this ultimate success. ***We cannot be distracted by or settle for other, subordinate goals.*** It is not enough that a certain proportion of the population gets more information, feels differently about their environment or formulates an intention to change. We must look beyond such “soft” targets and aim for *actual changes in behaviour*. This will be the true test of progress, and our best hope for getting to the “first” finish line and becoming the healthiest jurisdiction ever to host an Olympic and Paralympic Games.

THE WINNING LEGACY

A Plan for Improving the Health of British Columbians by 2010

FEBRUARY 2005

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