

# NATIONAL LUNG HEALTH FRAMEWORK

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Leading. Acting. Together.

THE NATIONAL LUNG HEALTH FRAMEWORK:

PLAN FOR ACTION

## Workshop Discussion Document

April 26 & 27, 2007  
Ottawa, Ontario

**The National Lung Health Framework vision**

“to **advance respiratory health** and health care of Canadians through public engagement in collaborative policy development, leadership, research, innovation and education”.

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# 1. Acknowledgements

Members of the following groups and organizations have each invested hundreds of hours of volunteer time in the belief that by working collectively on this initiative, we can make a significant difference in the respiratory health of all Canadians. Without their personal dedication and commitment, our early but important first steps towards a National Lung Health Framework for Canada would not have been possible:

- The National Lung Health Interim Steering Committee (see list, attached)
- The National Lung Health Framework Working Groups: Chronic Disease, Infectious Disease, the Environment and Tobacco Control (see list, attached)
- The Canadian Thoracic Society
- The Canadian Respiratory Health Professionals
- The Lung Association Board and Partnership Council

Thanks as well to those that have contributed funding/financial support to this initiative:

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## 2. Introduction

### 2.1 About this document

This Discussion Document is the result of a multi-stage process involving extensive review, collaboration and input by stakeholders and key informants engaged in the field of respiratory health. It represents a consolidated outline for discussion, summarizing key points from the four Working Group reports and an Asset Map & Gap Analysis report that will be launched at the April 2007 Workshop. This working session will review the key elements of the outline – including expectations, outcomes, objectives and strategies – then confirm the priority areas for action and add detail to the implementation steps. From there, additional research and stakeholder engagement will add to the final development of the Framework action plan.

This is a work in progress, still in its beginning stages and which will continue to be informed by additional research and stakeholder engagement in the months ahead.

### 2.2 Genesis of the National Lung Health Framework

#### Vision statement

*To advance respiratory health and health care of Canadians through public engagement in collaborative policy development, leadership, research, innovation and education.*

#### **An urgent need**

The National Lung Health Framework discussion was born from the need for urgent action. Patients and community stakeholders sent a strong message that the growing burden of poor lung health, if left unchecked, would create its own health care crisis in Canada.

The human and economic costs of lung disease are staggering. For those suffering from lung disease, the picture is clear:

- Lung disease affects 6 million Canadians and costs over 15 billion dollars in direct and indirect costs;
- Rates of respiratory disease are rising at an alarming rate, especially in children;
- Canada has one of the highest rates of Asthma in the world; the condition continues to be a major cause of hospitalization for children in Canada;
- Lung cancer is by far the leading cause of premature death due to cancer in Canada (2006);
- COPD is the fourth leading cause of death in Canada, and rising;
- Access to treatment for diseases like sleep apnea is uneven and, in many cases, inaccessible in many parts of the country;
- Over half of Canadians (57%) are current or former smokers and at risk for chronic respiratory disease;

- Only a small handful of Canadian jurisdictions monitor air quality for health impacts;
- One third of the world's population is infected with the microorganism causing TB, and the highest incidence of TB in Canada continues to be in the North and among First Nations, Inuit and Metis;
- Chronic and infectious respiratory diseases disproportionately affect First Nations, Inuit and Metis Peoples, and many of the causes include environmental and air quality factors.

For all Canadians, the potential impacts of poor air quality have been well documented. Recent studies indicate that the effect of poor air quality can create a greater disease burden than the fallout from a nuclear explosion.

The respiratory health community has made important strides in preventing lung disease, in helping patients to live well, in working to improve air quality, and in fighting the burden of lung disease for Canadians. However, taken together, the risk factors described above create an impossible scenario for any stakeholder working alone. Our ability to move the national yardsticks forward depends on the collective knowledge, strength and wisdom of a respiratory health community taking comprehensive, coordinated action.

### ***Why a Lung Health Framework Now?***

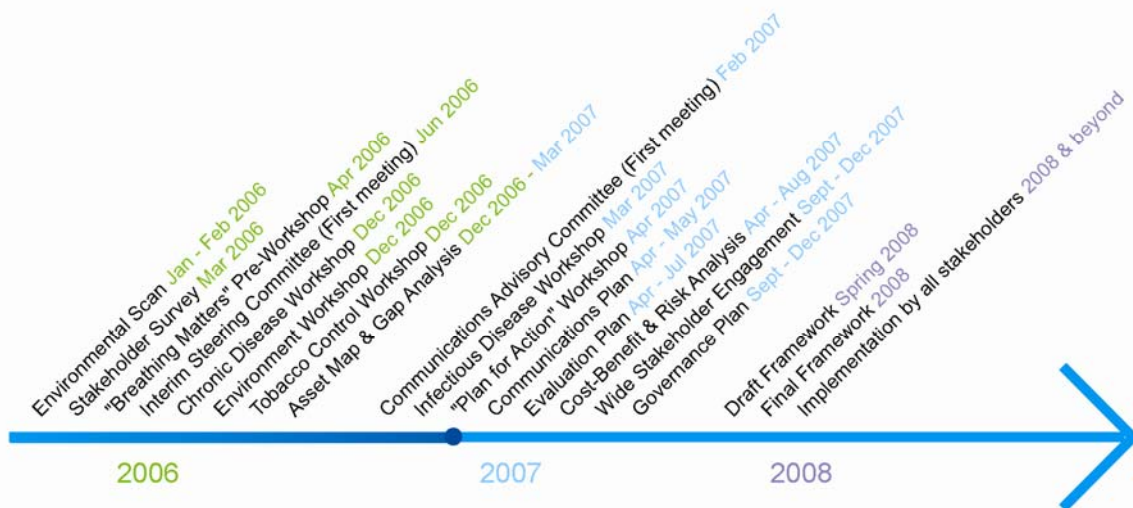
- Respiratory disease costs the Canadian economy an estimated \$15 billion per year;
- Today, one in five Canadians (six million) has lung disease;
- Lung disease is responsible for the majority of emergency room visits and causes one Canadian to die every 20 minutes;
- According to the World Health Organization, lung disease will be the third leading cause of death in the world by 2020.

*The situation is urgent and there is overwhelming consensus among stakeholders that the time is right!*

### ***Framework milestones***

The process began in 2006, when The Lung Association led the planning of a stakeholder working session to bring together parties interested in collaborating on the development of a National Lung Health Framework. At the "Breathing Matters" Pre-Workshop in April 2006, some 47 participants affirmed the need to take action towards a "made in Canada" framework for respiratory health and provided suggestions for strategic directions. Participants proposed a multi-sector Interim Steering Committee, nominating The Lung Association to serve as its Chair, with the mandate to seek seed funding and to identify a work plan and process to build a collective, national action plan. The development of this plan is expected to span a two-to-three year timeframe.

Based on the Pre-Workshop recommendations, the Steering Committee identified a series of research and stakeholder engagement initiatives to build the base of the action plan. They created four multi-stakeholder Working Groups (Chronic Disease, Infectious Disease, Tobacco Control, and the Environment) to identify priority issues and target goals, and commissioned an Asset Map & Gap Analysis to shed light on the current state of respiratory health in Canada. With financial support from the Public Health Agency of Canada and The Lung Association to implement this workplan, great progress has been made towards the creation of a National Lung Health Framework.



This discussion document highlights the key findings from the Asset Map and Gap Analysis, and outlines the priority areas identified by each of the four Working Groups. It is the next step in a process designed to maximize opportunities for collaboration and consultation. Results to date reflect the contributions of all those who have shared their expertise, practical experience, academic training, policy and programming perspectives, knowledge of research issues and frontline experience from a wide range of professions, occupations and sectors, including:

- Federal/territorial/provincial governments
- Healthcare and environment representatives
- Patient and consumer groups
- Voluntary sector representatives
- Industry and private sector stakeholders
- Practicing clinicians and physicians
- Researchers and academics
- Aboriginal (Inuit/First Nations/Métis) groups

We are moving quickly because the situation is urgent and there is overwhelming consensus among stakeholders that the time is right.

## 2.3 What this Framework will achieve

The National Lung Health Framework intends to address fundamental gaps that exist between the current and desired state of respiratory health in Canada. Taking advantage of the many significant “pockets” of excellence that dot the landscape, our goal is to convert these gaps into timely opportunities. By developing coordinating mechanisms and protocols that function at a pan-Canadian level, we can ensure that these pockets of excellence do not become “silos” where exchange of information, knowledge and resources is stifled.

The authors of the Asset Map concluded that there is nothing as comprehensive in approach as the emerging National Lung Health Framework anywhere in the world. We have embarked on a first-of-kind initiative, unique in the sense that it covers the whole of respiratory disease, cuts across jurisdictional and organizational boundaries, and involves a wide variety of stakeholders from practitioners, to researchers, patient groups, government and industry, medical policy writers, and others. This is an opportunity for Canada to show leadership both domestically and internationally.

A national action plan increases the possibilities for support at all levels and across all sectors, enables better planning and use of resources for enhanced effectiveness, and establishes a common frame of reference.

On all aspects of respiratory health, the eventual Framework will serve to generate dialogue across jurisdictions, sectors and functions and to promote understanding of these issues by:

- Articulating a vision, principles and goals for national action;
- Setting out strategic priorities and directions that allow coherent planning, delivery and evaluation of activities;
- Providing the umbrella under which strategies and policies to address specific issues can be developed;
- Defining and clarifying the roles, responsibilities and accountabilities of the different jurisdictions and stakeholders;
- Providing mechanisms to ensure coordination and facilitate collaboration and partnerships among jurisdictions and sectors;
- Creating an environment within which funding can be leveraged;
- Collaborating with other national health frameworks that have been developed or are under development, to ensure coordinated efforts at improving health in Canada.

We will seize the opportunity to further establish Canada as world leader in respiratory health, to the long-term benefit of all Canadians.

### ***Anticipated impacts of the Framework***

Stakeholders frequently ask the question, “what difference will this framework make?” We responded with a question of our own: “what difference would you like it to make?” Stakeholders described for us the future as they would like it to be with the initiative fully implemented. This is what we intend to strive for:

1. Better respiratory health and quality of life for all Canadians;
2. A community environment that is supportive of the prevention and management of respiratory disease;
3. Health care practitioners have access to best evidence, training and information, and the resources/support to effectively implement this into all areas of practice;
4. Quality data (focused, relevant) is used to guide policy, program and service delivery and research on an ongoing basis;
5. Timely access to integrated, coordinated and interdisciplinary respiratory health services focused on best practices standards for chronic and infectious respiratory care;
6. A more sustainable, lower cost health care system with adequate funding and resources directed at programs to address prevention and management of respiratory disease;
7. Reduced burden of respiratory disease, reduced morbidity and mortality, with early prevention, diagnosis and detection, and effective disease management;

8. Work, school, home and social environments (outdoor and indoor) will support optimal respiratory health;
9. There is a unified voice advocating for lung health through research and knowledge translation, raising awareness with practitioners and public, and more effective representation to politicians, health agencies and various governance mechanisms (social marketing);
10. Strategies to respond to the needs of vulnerable populations – including First Nations, Inuit and Metis Peoples, new immigrants, inner city and low income populations – are more effective (from prevention/education and care delivery to research/surveillance);
11. Tobacco dependency is widely recognized as a public health priority and smoking prevalence is reduced significantly within the general Canadian population and at-risk groups;
12. Measurable outcomes – demonstrable reductions in mortalities, hospital stays, emergency room visits, medication use, loss of work and school days and community care visits related to lung disease; number of years saved, and others.

## 2.4 Framework process and approach

The Lung Health Framework initiative is being created by all respiratory health stakeholders through a collective approach, and not “top down” from government or any one organization. This genesis also guides the ongoing consultation process for its development. Visualize a series of ever-expanding concentric circles – at every stage, we expand the number of people that are involved...more voices are engaged, greater detail and focus is added, while the scope becomes more comprehensive and ambitious.

The Framework is being created with implementation in mind, not just as a goal setting or “visioning” exercise.

Members of the Working Groups devoted valuable efforts to identifying stakeholder expectations and desired outcomes for the Framework process itself. In consolidated form, these are:

1. For the initiative to be successful, stakeholders must be fully engaged in the Framework, its process, and its implementation, and clear about their role.
2. The Framework should allow for respiratory health advocacy to be expressed with a single, unified voice, i.e. the “big tent” approach versus the current fragmentation of advocacy efforts;
3. The Framework should be credible, progressive, non-governmental, and politically non-partisan in nature; its agenda driven by its stakeholders.
4. The Framework development process should be fair, transparent and inclusive of (and culturally relevant to) all communities, especially First Nations, Inuit and Metis,

*“The Framework initiative must forge formal working relationships across government portfolios and departments. Collaboration is required between stakeholders outside of their traditional “lines of business” on all elements of the Framework including research, prevention, education and advocacy.”*

– Environment Working  
Group Report

5. The Framework process should provide a level-playing field, be respectful of competing interests, and allow all participants to be heard and willingly cooperate.
6. The Framework should play a central role for coordination and/or production of targeted, tailored, and timely information. This should be evidence-based best practices information and support the exchange of information between jurisdictions and on the international stage.
7. The Framework should work in conjunction with other diseases that have an impact on respiratory health, and encompass other health agendas and strategies to eliminate duplication.
8. Adequate and timely funding for all aspects of the National Lung Health Framework, from research to implementation; adequate and sustained funding for framework program activities beyond launch.

## 3. Situation analysis

### 3.1 About respiratory health in Canada

#### ***Defining respiratory health***

Many key informants point out the term “respiratory health” is not universally defined or recognized and indeed suffers from low public awareness. Most countries recognize that respiratory diseases threaten the lives and well-being of a significant number of individuals both at home and abroad. On the international scene, respiratory diseases are classified as: asthma, chronic obstructive pulmonary disease (COPD), lung cancer, pneumonia, tuberculosis, cystic fibrosis or mucoviscidosis, sleep apnea and interstitial lung diseases including sarcoidosis, among others. Tobacco and the environment are regarded as the two most common risk factors associated with respiratory disease.

There is broad international consensus that respiratory diseases:

- Result in high rates of morbidity and mortality;
- Generate substantial costs to society through diminished productivity, absenteeism, poor quality of life for individuals living with these diseases and their families;
- Exert significant pressure on health care infrastructure, systems and services.

International initiatives feature prevention, promotion of self-care and the allocation of appropriate treatments; and finally, they all stress the importance of research, as it constitutes the intellectual foundation of all intervention frameworks.

#### ***Current costs***

There is an urgent need to stem the swelling economic, social and healthcare costs associated with respiratory diseases. Today, respiratory disease costs the Canadian economy an estimated \$15 billion per year. And its negative effects are increasing worldwide.

Right now, the impact of lung disease is significant – one in five Canadians (six million) has lung disease; lung disease is responsible for the majority of emergency room visits; and causes one Canadian to die every 20 minutes. According to the World Health Organization, COPD will be the third leading cause of death in the world by 2020.

If Canada is to stem this impending crisis, we need to develop a comprehensive and coordinated national plan to manage the social, economic and health implications of these deadly and crippling ailments.

#### ***Vulnerable populations***

Certain segments of the Canadian population are considered to be at heightened risk from the effects of respiratory illnesses. These “at-risk” or “vulnerable” populations can include youth, immigrants, Aboriginal Peoples (First Nations, Métis, and Inuit), aging populations, women, people living in poverty, and the homeless, among others.

Both the Asset Map and Gap Analysis research and the Working Group reports reflect the importance of focusing special efforts and resources on protecting these demographic groups. Recommendations and action items developed in the context of the National Lung Health Framework must take into account:

- The patchwork of existing community-based prevention initiatives across Canada targeting vulnerable populations;

- The fact that messages crafted for the general population may not work as well for vulnerable segments;
- The need for tailored approaches that are sensitive to multicultural realities and more effective than mass campaigns at addressing their needs;
- The need to address social determinants of health as a key component to the effective prevention of respiratory diseases.

Persons already living with respiratory health issues constitute a segment sometimes overlooked as a vulnerable population – for example, individuals suffering from chronic respiratory disease are among the most susceptible to infectious diseases and environmental risk factors.

One could argue that our ultimate ability to protect and improve health outcomes for our most vulnerable populations should serve as the true litmus test for a successful National Lung Health Framework.

### **3.2 Strengths, weaknesses, opportunities and threats**

The Asset Map and Gap Analysis developed for this project is a knowledge management tool designed to answer the question of “*who is doing what and where*” on the respiratory health front in Canada and to a limited degree, internationally. It consists of two components: (1) a report which provides background, orientation and analysis; and (2) a populated, web-based, searchable database.

In the course of developing the Lung Health Asset Map, stakeholders offered their perceptions of the current strengths, weaknesses (gaps), opportunities and challenges (threats) defining the status of respiratory health in Canada. The following table summarizes the results of this “SWOT” analysis.

Stakeholders cite tobacco programs as a core strength and success story. They are concerned, however, that complacency is setting in. Much more work is required on the tobacco front, especially with regard to vulnerable populations.

A second notable strength is the many excellent partnerships and collaborations forged by stakeholders. Fostering these should be considered a priority, especially since informants also identified the flip side of this coin – self-interest and competition for attention and funding – as major systemic weaknesses.

Other weak elements include:

- Lack of public awareness of respiratory health in general, as well as specific disease conditions;
- Poor integration of respiratory health education within school curricula (also: educators poorly equipped to teach the subject and lack of provincial support);
- Insufficient use of spirometry as a routine standard of care;
- Limited access to sleep labs for diagnosing sleep apnea and support for Continuous Positive Airway Pressure (C.P.A.P.) therapy;
- Lack of disease management resources (need for more certified respiratory educators/CAEs);
- Insufficient and uneven access to pulmonary rehabilitation;
- A disconnect between environmental contaminants and air pollutants with health policy.

On the “opportunity” front, many stakeholders cite linking respiratory health to the environment. They believe that the timing is ideal for a National Lung Health Framework in light of the growing focus on environmental issues (climate change, global warming, air quality). Because everyone has a stake in the environment, this has the potential to engage all Canadians in respiratory health awareness.

The comparative rarity of Tuberculosis in Canada is a significant accomplishment and a tribute to the excellence of our health system. That being said, some informants express concern that continued prevalence of TB in the developing world and in some of our own communities signals the onset of complacency. The fallout? Shortfalls in funding, program support, proper diagnosis and treatment.

As for challenges, stakeholders cite consistency of interpretation and application of the many standards and guidelines that exist across Canada – especially with the National Lung Health Framework cutting across so many jurisdictions and disease categories.

Other notable challenges include:

- A lack of overall strategic level planning for respiratory health in Canada at several levels (research, medical education, monitoring and surveillance, care delivery);
- Reaching key populations (e.g. children, First Nation, Inuit, and Metis Peoples, seniors, new immigrants);
- Overcoming systemic complacency (e.g. TB, tobacco);
- Achieving coordinated and sustainable funding for research and education initiatives.

Several resources exist to respond to these challenges, but many more are needed and current ones need to be strengthened.

### SWOT Analysis Summary

Strengths	Weakness (Gaps)
<ul style="list-style-type: none"> <li>• Collaboration and exchange among national and regional committees, working groups</li> <li>• Tobacco programs are making a difference; many tobacco assets in place and working</li> <li>• Willingness and ability to work together</li> <li>• Pockets of excellence (e.g. youth tobacco, air quality, sleep apnea, Stop TB etc.)</li> <li>• Many drivers of excellence – including local champions or experts, program needs, regional prevalence of disease</li> <li>• Strong partnerships and relationships</li> <li>• Existing and emerging networks for information sharing and practice</li> <li>• Proven Non-Governmental Organization (NGO) capability and track record for delivery</li>   <li>• Growing support for focus on environment and tobacco</li> <li>• Growing emphasis on health promotion and prevention</li> <li>• Improved pandemic preparedness</li> <li>• Public willingness to take more active role in their own health care</li> <li>• Increasing prevalence of interdisciplinary / integrated care model</li> </ul>	<ul style="list-style-type: none"> <li>• Inconsistencies in interpretation and application of guidelines</li> <li>• Lack of respiratory health (RH) awareness and promotion</li> <li>• Lack of pulmonary rehabilitation and respiratory therapy</li> <li>• Shift to prevention not yet a reality</li> <li>• Lack of respiratory health information services in communities</li> <li>• Insufficient support of spirometry, sleep apnea diagnostics/treatments, and sputum tests</li> <li>• Lack of funding and resources</li> <li>• Lack of national research policy for RH</li> <li>• Medication gaps – lack of support for formulary</li> <li>• Lack of coordination – need to work together at an F/T/P level to make an impact</li> <li>• Problems with self interest and working against each other; competing for resources; fear of lessening the pie</li> <li>• Changing (aging) donor demographics</li> <li>• Lack of a (sustainable) strategy for respiratory health</li> <li>• Missing an RH plan for the environment; current approach is piecemeal</li> <li>• Disconnect between environmental contaminants</li> </ul>

	<p>and air pollutants with health policy</p> <ul style="list-style-type: none"> <li>• Insufficient RH public education</li> <li>• Lack of understanding of the danger/risk of small airborne particulates</li> <li>• Lack of disease self-management</li> <li>• Uncertain surge capacity with respect to infectious disease outbreaks</li> <li>• Uncertainty as to whether we have the systemic capacity to respond to respiratory health care needs</li> </ul>
Opportunities	Threats (Challenges)
<ul style="list-style-type: none"> <li>• Environmental awareness is timely opportunity</li> <li>• Timing may be good to talk about a lung health approach</li> <li>• The lung framework can give us the big umbrella we've been needing</li> <li>• Traditionally targeted people who already have disease; opportunity now to target prevention</li> <li>• Engage 100% of the population through respiratory health messages and not just those with specific disease conditions</li> <li>• Establish clear goals on the environment linked to health outcomes</li> <li>• Focus on the cause not the effect of the disease</li> <li>• Greater focus on corporate donors</li> <li>• Engage the private sector in new, creative ways</li> <li>• More and better promotional events (marathon runs etc.) to reach new donors and demographics</li> </ul>	<ul style="list-style-type: none"> <li>• Systemic complacency (perception that the war against Tobacco and TB have been won)</li> <li>• Overall low level of awareness for respiratory health issues in general, as well as specific disease conditions/risks</li> <li>• Changing demographics; old approaches no longer work</li> <li>• How to reach at-risk or vulnerable populations (youth, Aboriginal Peoples, immigrants)</li> <li>• Environment issue requires a different set of messages and approaches</li> <li>• Preparedness for infectious outbreaks (pandemic etc.)</li> <li>• Media distortion of risk factors and impact on health priorities</li> <li>• Unstable or lack of long-term funding</li> <li>• Fragmentation and self-interest; risk of mixed or confusing messages</li> </ul>

## 4. Strategic Areas for action

The strength of a comprehensive, integrated Framework lies in its ability to identify common themes and issues across disease categories (such as infectious and chronic disease) and risk factors (such as environmental pollutants and tobacco). Based on the discussions of each working group and on issues emerging from the Asset Map and Gap Analysis, four key themes or strategic areas emerged:

1. Prevention and awareness
2. Disease detection and management
3. Infrastructure
4. Research, surveillance and knowledge translation

By organizing issues and strategies under these themes, relationships and commonalities are visible, and lay the groundwork for coordinated action.

### 4.1 Prevention and awareness

*Aim: To prevent, and moderate the impact of, respiratory illnesses through the development and implementation of novel, coordinated awareness, public communication, education, health promotion, exposure reduction, and tobacco industry “denormalization” activities.*

With increasing attention being paid to healthy living and healthy environments as a means of addressing chronic disease and reducing the burden on health care systems, it is no surprise that the disease prevention end of the care continuum is receiving greater interest.

Primary target audiences for prevention activities include: the general public, health care providers, public officials and vulnerable populations.

Beyond vaccination and pandemic preparedness, primary prevention involves steps to prevent exposures or behaviours that can lead to disease. Smoking and exposure to environmental pollutants are examples of risk factors associated with primary prevention. Secondary prevention is generally aimed at preventing a re-occurrence or flare-up – a problem with infectious conditions such as pneumonia and chronic conditions such as Asthma and COPD – and plays an important role in disease management.

Many respiratory disease prevention resources can be linked to health promotion, disease management, community care models and healthy living policies and programs now emerging. Ontario is a case in point. In addition to its Ministry of Health and Long Term care, Ontario has a Ministry of Health Promotion and the province has also developed a comprehensive Chronic Disease Prevention and Management Framework.

When designing prevention approaches, it is crucial to consider that the demographics of respiratory health audiences are changing. Prevention messages developed 30 years ago do not work as well today, and campaigns crafted for seniors do not work as well for youth. Similarly, messages crafted for the general population may not work as well for First Nations, Inuit or Metis Peoples or immigrants. Prevention campaigns that appeal to today’s youth are especially important, since the behaviours that affect youth now can potentially last a lifetime.

Note that while the concept of public “awareness” is a crucial part of the prevention equation, it also carries a dimension that goes beyond prevention. For example, awareness plays a crucial part of the fundraising initiatives of respiratory health organizations.

### ***Public communication, education, and health promotion***

Awareness and health promotion efforts serve as important front line steps in informing and educating publics, health care providers and other stakeholders about ways to prevent or avoid illness and maintain wellness. This is consistent with a “wellness” paradigm (prevention) versus an “illness” paradigm (treatment) or a focus on cause versus effect. This approach involves efforts to influence behavioural change.

Evidence suggests that awareness of “respiratory health/disease” as broad terms, and of many disease specific conditions, is low. However, several disease-specific events generate significant publicity worldwide and are important assets for Non-Governmental Organizations (NGOs) and other stakeholders in Canada, who build many of their own programs around them. These include:

- World Asthma Day;
- World COPD Day;
- World TB Day;
- World No Tobacco Day;
- National Non-smoking Week;
- National Clean Air Day.

It should be noted that, while all Aboriginal peoples support smoking cessation efforts, many First Nations and some Métis persons have great respect for the tobacco plant itself. This stems from a belief that tobacco is a sacred medicine that is meant only to be used for traditionally condoned spiritual, ceremonial and medicinal purposes.

With both tobacco and environmental issues, legislative, regulatory and policy-making processes tend to generate a great deal of awareness by getting onto the political agenda (Tobacco Control Act, Provincial Smoke Free Acts, Clean Air Act, Environmental Protection Act, etc.). Various Acts and regulations governing both these spheres might be considered important awareness building tools and often lead to or fuel strategies of NGOs and other stakeholders.

Other significant communications/awareness activities include:

- National, regional and local media coverage is vital to the success of all campaigns;
- Print materials, including mailings, posters, newsletters, brochures etc. distributed to health practitioners;
- Events such as runs, walks, bowlathons, skipforheart, International Walk to School Week, etc.;
- Meetings with public officials and decision-makers;
- Major research initiatives, conferences and studies conducted globally, nationally or regionally (i.e. The Lung Association’s National COPD Report Card).

Education resources highlighted by the Asset Map include:

- RESPTrec and Clean Air Online;
- Environment Canada’s Air Quality Services helps many Canadians make day-to-day decisions about outdoor activities.

Currently, the majority of activities used for awareness and promotion are disease specific. While this is important for precise messaging, these do little to establish respiratory health as a broad disease category. This is an important gap that the National Lung Health Framework will seek to address.

Also, the association between the environment and respiratory health represents a largely untapped communications opportunity. Concern over the environment is growing, but with the exception of Pollution Probe, Environmental Defense, and Lung Association provincial environment programs, there are few resources that make a strong connection between the two. This is an important opportunity. According to some NGOs, concern over the environment is an issue that can help give respiratory disease the attention it deserves because like breathing, the environment affects everyone. New awareness, education and promotion messages will need to be developed and targeted to appropriate demographic segments.

### ***Exposure reduction***

Reducing and in some cases eliminating exposure to indoor and outdoor environmental stressors and environmental triggers could reduce the exacerbations of asthma and COPD, and possibly prevent the development of asthma in childhood. Since preventive exposure reduction is also linked to certain behaviours, initiatives here would be closely tied with Public communication, education, and health promotion.

Exposure reduction can be achieved either by influencing people to avoid exposures and/or to reduce or manage pollutants. Therefore, apart from communications/education/promotion, the following will also play a crucial role:

- Policy making or improving permitting regulations;
- Identifying and developing new tools for monitoring and surveillance;
- Improving existing tools (such as air quality monitoring stations and degree and number of contaminants reported).

On the tobacco front, the issue of second hand smoke is receiving increased attention. The nationally televised Heather Crowe campaign put a human face to the problem. There is growing interest in providing a continuum of care within the health system with more jurisdictions implementing smoke-free policies in public places and moves to ban smoking in environments where children, employees, multi-unit apartment dwellers and others may be at risk of exposure.

Stakeholders believe that, collectively, all of this focus, combined with targeted measures, will help to reduce exposure, ultimately leading to improved health outcomes.

### ***Smoking cessation and tobacco Industry “denormalization”***

Tobacco is by far the biggest known risk factor associated with respiratory disease. Tobacco control resources are achieving results that can serve as encouragement for efforts on other fronts. But with success comes concern about complacency.

While many resources exist to manage and treat the chronic disease conditions brought on by smoking, the ideal goal is not to manage the smoking habit but prevent the take up of the habit to begin with. This involves helping people quit and to counter or “denormalize” tobacco industry promotional efforts. Some combination of smoking cessation programming, help/quit lines, nicotine replacement therapy (NRT), anti-smoking campaigns and other assets exist in virtually all Canadian jurisdictions.

Comparatively, and in keeping with the seriousness of the risk, much of the primary prevention effort surrounding respiratory disease involves smoking prevention and cessation. Tobacco-related efforts are often targeted at specific populations, for example, youth at the secondary school and college/university level:

- The youth oriented Quit 4 Life program;
- BLAST – Building Leaders for Action in Schools Today;
- Leave the Pack Behind.

Some provinces are supporting an activist youth agenda that includes advocacy. Ontario, for example, has a provincially funded youth institute that trains youth advocates for tobacco control as part of the health system. Manitoba has a smoking prevention in schools program for K to 12 focused on the Winnipeg and Brandon regions; it is also currently running an Aboriginal pilot project. Saskatchewan is also doing in-school primary prevention. What these programs have in common is the desire to reach youth either before they become habituated to smoking or to get them to quit before the onset of disease.

Youth are not the only target demographic. Quit/Smokers help lines are important assets on the smoking cessation front. The Canadian Network of Smokers Help Lines (CNSH) is an example of a Health Canada funded initiative that aims to maximize the effectiveness of telephone counseling services.

Prevention efforts directed at tobacco appear to be working. However, much more still needs to be done to reach vulnerable populations and to counteract tobacco industry promotional campaigns. Increased efforts need to focus on youth, Aboriginal communities (which have recently seen cuts to a variety of tobacco awareness and control programs), cessation, child protection, second-hand smoke, industry denormalization, and regulation.

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### ***Consolidated guidance from the Working Group (WG) reports:***

The public's comparatively low awareness of both chronic and infectious respiratory disease (with the exception of pandemic diseases on the infectious disease front) can result in many adverse consequences. These include unnecessary exposure to risk, under-reporting by patients, under-diagnosis, misdiagnosis and treatment. While the threat of pandemic diseases is quick to create media interest, there is a generalized complacency around TB and desensitization around most forms of RSV, colds and influenza as pressing issues.

The messages surrounding the association between environment and health, mitigating factors and lifestyle changes are inconsistent, frequently unqualified and sometimes contradictory. Stakeholders are uncertain about what kind of messages to give to the public, and how the information should be communicated to the patient. Even when cause and effect studies are definitive, family physicians and nurses do not always feel comfortable transmitting this kind of information to their patients.

Tobacco denormalization efforts serve to educate and inform both smokers and non-smokers about the motives and tactics of the tobacco industry. Campaigns exposing the industry's practices help to counter ongoing claims by the industry that it operates like any other normal, legitimate business.

*Consolidating between all the WGs, the following key **objectives** can be applied specifically to the Prevention action area:*

1. We develop and implement new, empowering information/education tools to raise awareness, inform, educate and train as needed (e.g. general public, patients, educators, practitioners, employers and employees, communities, etc.);
2. Canadians and their communities are aware of and participate in actions to promote, maintain, protect and optimize respiratory health;
3. Improved awareness of risk factors associated with respiratory disease leads to improved quality of life;
4. Monitoring of lung function (i.e. spirometry) is routinely conducted according to established guidelines leading to improved respiratory health (i.e. reduced mortality and morbidity);
5. Canadians benefit from smoke free settings – at home, school, work, and other public settings, especially health facilities;
6. Health care providers/GPs receive smoking cessation training; this becomes a consistent component of regular patient check-ups; we ensure that all health care providers have the help they need to quit smoking.

*The WGs proposed the following key **strategies** to guide achievement of the objectives:*

- 1. Increase awareness, knowledge, understanding, and buy-in by the public and other stakeholders;**
- 2. Strengthen health promotion and advocacy;**
- 3. Step up chronic and infectious respiratory disease prevention efforts;**
- 4. Make Health the policy driver for Environment (link lung health to “hot ticket” environmental issues);**
- 5. Achieve targeted outreach, incentives and linkages;**
- 6. Achieve targeted, effective messaging;**
- 7. Empower the patient community (develop and provide information tools that allow individuals to manage/control their own health care);**
- 8. Empower the health care community (develop and provide information tools that allow them to improve awareness, education, and diagnosis of their patients);**
- 9. Empower employers and employees (develop and provide information tools that allow employers and employees to manage workplace environmental exposures);**

*With regard to Exposure reduction:*

- 10. Reduce personal exposures;**
- 11. Improve regulations regarding indoor and outdoor air quality;**
- 12. Promote the broader perspective that all determinants of health affect respiratory health;**
- 13. Reduce/eliminate exposure to secondhand smoke.**

*With regard to Smoking cessation and tobacco industry “denormalization”:*

- 14. Focus on smoking cessation and harm reduction initiatives<sup>1</sup>**
- 15. Educate the public regarding tobacco industry tactics;**

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<sup>1</sup> The term “harm reduction” has different connotations among stakeholders. One of these is “ensuring that tobacco is available in its least toxic form”. *A Reflection on Alternative Nicotine Delivery Systems*, Physicians for a Smoke Free Canada, 1997.

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## 4.2 Disease detection and management

*Aim: Improve the health outcomes and quality of life for all Canadians through early detection and better management of respiratory disease.*

Disease detection and management strategies are critical to ensuring appropriate care and treatment and to relieving the overall pressure on the health care system. Early detection and management of diseases improves outcomes, saves lives, costs less and reduces the overall burden on the system. Left undetected or untreated, disease conditions worsen and can have a cascading effect leading to other illnesses. The problem is magnified in the cases of particularly deadly respiratory diseases (pandemic) where surge capacity (the ability to respond to a sudden, dramatic increase in demand for health services) is tested. For most diseases, poorly managed conditions mean greater frequency of visits to the doctor or more hospital re-admittances.

Many respiratory diseases are thought to be under-reported. One reason for this is low public awareness of respiratory disease conditions. However, there are other factors as well, including the stigma associated with these diseases (perhaps leading to reduced employability, for example). Informants believe that prevalence of Asthma is much higher than reported because many people with Asthma simply modify their lifestyle to accommodate the disease. Similarly, people suffering from respiratory impairment due to environmental factors may not associate the environmental triggers with their condition and, therefore, adverse events go unreported or undocumented. These are important gaps and more research is needed to understand the impact of under-reporting and ways in which more accurate data can be obtained.

In general, there appears to be little evidence that disease detection and management hold any significant place in the public consciousness.

### ***Chronic respiratory diseases***

Chronic respiratory disease (CRD) embodies a wide range of illnesses, including asthma; COPD; lung cancer; sleep apnea, cystic fibrosis or mucoviscidosis and interstitial lung diseases including sarcoidosis.

The chronic care model is a very different paradigm than the acute care model where, for simple infectious respiratory diseases, a single intervention may be all that's required to treat the patient. With respect to respiratory health, the focus often tends to be on chronic disease. However, serious infectious disease generally requires acute care and thus the detection and management protocols and paradigms necessarily differ.

According to the Asset Map and Gap Analysis research, a considerable (and growing) number of resources exist for chronic disease detection and management.

Important models for disease detection and management are integrative and systemic in nature; the focus is as much or more on wellness than on illness, with the individual, families and communities playing important roles. Examples include:

- The Chronic Care Model (developed by Dr. Ed Wagner and staff at the MacColl Institute for Healthcare Innovation);
- Ontario's Chronic Disease Prevention and Management Framework;

- The COPD & Asthma Network of Alberta (CANA)'s System Map.

These models of care identify the essential elements of a health system that encourages high-quality chronic disease care. For Wagner, these elements are: the community, the health system, self-management and support, delivery system and design, decision support and clinical information systems. These elements work together with an informed and activated patient and a prepared, proactive practice team, to produce functional and clinical outcomes.

Closer to home, CANA's care model for asthma includes the following elements: specialty care, community, primary health care, healthlink, acute care and disease education. A "System Map" depicts the health provider linkages with primary care as a hub, disease education as essential, patient flow as circular and the ideal care being team-based and patient-centric. The role of each element in the model is defined and needs, barriers and sample solutions are mapped out for each element. In this context, certified asthma educators have the potential to play a key role in disease management and care.

The Asset Map highlights four detection and disease management protocols at the level of primary health care:

- Home oxygen programs: provide access to oxygen for those with breathing difficulties and are available in most jurisdictions;
- COPD action plans, for example the Breathworks program of the Lung Association and Living Well with COPD;
- Asthma action plans, for example: the Asthma Society of Canada, the Family Physicians Airways Group of Canada (FPAGC), and (iCan) produced by the Calgary Health Region;
- Healthy lifestyle: includes diet, exercise and stress management; community care models are increasingly incorporating lifestyle modalities into disease management approaches;
- Access to spirometry: a quick and simple breathing test for testing breathing capacity, its use in Canada is at best sporadic and not generally supported by the health care system. Wider use could result in earlier treatment and better disease management.

There is currently no standard test conducted as part of a general medical exam to determine lung function despite the critical nature of the respiratory system to overall health. Informants have suggested that spirometry should be routinely administered as part of general medical practice.

There is a similar need to address access to sleep labs for diagnosing sleep apnea and support for Continuous Positive Airway Pressure (C.P.A.P.) therapy – especially given the scale of the problem. The Lung Association estimates that Obstructive Sleep Apnea affects over 1 million Canadians. Most cases go undiagnosed.

Another area of concern is the issue of palliative care and the increased resources needed to support patients in advanced stages of respiratory disease. This stage of disease management is frequently ignored and/or receives a lower priority than it should.

Although both can cause acute conditions, tobacco and the environment are major contributors to chronic respiratory disease. Respiratory problems due to environmental hazards correlate positively with levels of smog, air pollution and chemical contamination. While detection of the environmental associations to respiratory disease is an evolving science, various indices can now measure potentially problematic levels of atmospheric particulates.

More difficult to detect are environmental contaminants and toxins that accumulate in the body over time as a result of both indoor and outdoor exposures. Bio-monitoring – the measurement of a chemical substance, the products it makes after it breaks down, or the products that might result from interactions in the body, is a growing science but still in its infancy. Bio-monitoring resources can be found along with other environmental and workplace health assets within Health Canada. The department's Environmental and Workplace Health section includes information on air quality, climate change, environmental contaminants, occupational health and safety, radiation and water quality.

Despite signs of progress, more research is needed to understand the interplay of the multitude of environmental factors that lead to respiratory disease.

### ***Infectious respiratory diseases***

Beyond the numerous flu programs, available resources surrounding infectious respiratory disease relate mainly to TB and Influenza. Many of these deal with pandemic preparedness. It is unclear at this point whether infectious disease resources are as numerous, or growing as steadily, as for chronic diseases. Nevertheless the following are important examples:

- PHAC's Fluwatch and the Respiratory Virus Detection and Surveillance System: reports on respiratory viruses in Canada based on weekly test data selected from lab reports;
- Influenza (the flu shot) receives plenty of attention as does the possibility of an influenza pandemic;
- The WHO, federal/provincial/territorial, and public health agencies (e.g. PHAC, CDC) are playing an important role to detect, respond to and manage infectious disease among individuals and populations.

Effectiveness of these resources is difficult to assess and has been called into question by the SARS crisis and the still enduring concern for H5N1. Should a flu pandemic break out, neither Canada nor the U.S. would have enough vaccine stockpiled to treat the entire population, a situation that will require difficult decisions. The situation is made more complicated by the fact that effectiveness and desirability of the vaccination will take some time to establish. With the constantly evolving nature of infections, some informants believe that the best a pandemic preparedness program can do is to develop surge capacity and the ability to quickly develop the necessary vaccines. At this time and beyond vaccination, there is little evidence of full spectrum planning. Public awareness messages from health agencies are currently based mainly on ways to halt the spread of influenza (e.g. frequent hand washing, avoiding handshakes, staying at home etc.).

A key issue surrounding infectious diseases in general and flu pandemic in particular, is the extent to which there may be gaps or "disconnects" between science and policy, between research and the health care community, and between Public Health and health care delivery. Given the media potential to distort perceptions of risk, there are concerns that the public agenda is sometimes driven more by emotion than by evidence. As a result, the question of whether resources are being channeled to the right areas is one that requires serious informed debate.

### ***Guidelines and best practices***

The health professions have been actively engaged in developing practice and treatment guidelines for their respective fields, in Canada and internationally. Standards and guidelines typically flow from the authorities conferred to the professions, by the regulatory bodies and legislative Acts. These exist at all levels of government – international, federal, provincial/territorial and municipal. While the Canadian Thoracic Society guidelines are those most often cited, with so many parties involved in the development

and publication of guidelines, the potential for inconsistencies in their content and application is an ongoing concern. Thus, the issue of quality monitoring is an important one.

The extent to which guidelines represent “best practices” is difficult to determine in the absence of systematic measurement and monitoring. With practices differing from one jurisdiction to another, the quality of outcomes is difficult to determine on a system wide basis. As well, the distinction between guidelines and best practices can be somewhat semantic, so much so that the term “best practice guidelines” is commonly used.

Little information could be found on oversight or measurement of the effectiveness of respiratory health guidelines. For guidelines to be effective, a number of key steps must take place:

- Guidelines must be developed in a coherent manner based on best available evidence;
- Guidelines must be endorsed by and communicated to key audiences;
- Training must take place to ensure guidelines can be properly applied by health professionals;
- Effectiveness monitoring must occur;
- A feedback mechanism must ensure that guidelines are revised in accordance with best practice and in response to monitoring data.

This is the basis of a systematic approach – one that would ideally be coordinated across jurisdictions.

Further to more effective application and monitoring of guidelines, there is clearly a strong case to be made for more extensive and standardized use of certain treatments. This includes for example, the use of pulmonary rehabilitation across Canada. Investment in rehabilitation, which includes exercise therapy, education and psycho-social support, are also likely to pay off because when respiratory conditions are poorly controlled, patients spend more time in hospital or visiting their doctors.

The Canadian Thoracic Society is currently investigating strategies to increase the coordination, dissemination and implementation of guidelines affecting the detection and management of respiratory conditions in Canada.

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### ***Consolidated guidance from the Working Group (WG) reports:***

Early detection and appropriate management of both chronic and infectious diseases can lead to significant improvement in quality of life for patients.

In the case of infectious diseases, early detection and appropriate management also help to contain their spread. Immigrants present a series of challenges in this regard, as medical assessments in country of origin are not always reliable. The 30-day period following arrival, and 90 days before access to health care, also present challenges.

Addressing the social determinants of health plays a central role in disease detection and management, as there is unequal access to care.

*Consolidating between all the WGs, the following key **objectives** can be applied specifically to the Disease detection and management action area:*

1. Early detection of risk factors and better management of respiratory disease lead to improved health outcomes and better quality of life;

2. Effective treatment modalities are identified and endorsed;
3. All provinces and territories implement respiratory disease recommendations and evidence-based guidelines/best practices;
4. Evidence-based best practices are identified or developed for tobacco dependence Rx by health care professionals. Such practices are framed, endorsed, disseminated and monitored as the standard of care for all.
5. Government agencies involved in immigration and refugee health have a well-coordinated plan, starting with more reliable medical assessments in the country of origin for prospective immigrants and extending to faster access to health insurance after arrival, subsequent monitoring and surveillance, and better enforcement of medical exam within 30 days for refugee claimants;
6. An appropriate strategy is deployed to engage key respiratory health community stakeholders (including business groups) in managing pandemics;
7. Strategies and plans (including Human Resources) are developed and communicated for TB and pandemic. Roles and responsibilities are clear for community MDs, hospitals, public health, Boards of Education. People with chronic lung disease and other chronic diseases have access to influenza pandemic information.

*The WGs proposed the following key **strategies** to guide achievement of the objectives:*

- 1. Improve health education and training;**
- 2. Implement earlier detection;**
- 3. Improve treatment, rehabilitation and supportive care (including palliative care);**
- 4. Implement, and increase use of, standards, guidelines, and best practices;**
- 5. Promote patient empowerment and self-management;**
- 6. Coordinate efforts with other disease strategies.**

## 4.3 Infrastructure

*Aim: Strengthen the support structures that are essential to an effective health management strategy for all sectors, including policy and legislation, partnerships, health system supports, as well as human and community supports.*

Infrastructure refers to support structures needed to underpin development and implementation of an effective Lung Health Framework for Canada (in some working group discussions this was referred to as “supportive environments”).

Two key Infrastructure components of respiratory health addressed by both the Working Groups and the Asset Map are:

- Supportive communities, where resources exist to support an engaged population at every stage of the care continuum but especially attuned to self-management;
- Supports within the health system itself, including system design, information technology and decision support systems.

In addition, policy and legislation issues, as well as the concept of partnerships, are important components of the infrastructure required to improve respiratory health.

## ***Policy and legislation***

Beyond broad parameters, there is no single policy or governance structure that can be said to apply exclusively to respiratory health. Policy and governance for respiratory health is rooted in legislation and regulation of the overall health system and the various jurisdictional roles played by key stakeholders. These, in turn, confer regulatory authority on the various governing bodies within the health professions.

Increasing demands on the health care system are resulting in new approaches. Health promotion, chronic disease prevention and management (healthy populations/population health) are being embraced as a means of reducing pressure on the system (e.g. wait times) and lowering health costs.

However, due to competing interests and other factors, policy and governance structures are subject to a number of challenges. For example, policy drivers for disease conditions tend to be medically focused (health system, research) while the drivers for tobacco control and the environment tend to be driven by advocacy and legislation. While advocacy is the key driver for legislative change, it is only one of many factors with respect to health system change.

The relationship between science and public policy raises another challenge. Government priorities are often set in response to the public's perception of risk. Increasingly, this perception is shaped by mass media where business realities often take precedence over evidence-based science. As a consequence, resources may sometimes be deployed at levels disproportionate to the actual risks posed by the latest focus of media attention.

A third policy and governance challenge results from competitive factors within the respiratory health community itself. With so many stakeholders competing for resources, self-interest can oftentimes trump cooperation with respect to policy formulation and execution. For example, with numerous stakeholder groups independently fundraising for disease conditions such as Asthma and COPD, confusion can result among donors with regard to who best speaks for the constituency.

The enthusiasm and cooperation that has been brought to bear by all respiratory health sectors with regard to the development of the National Lung Health Framework speaks well to our ability to eventually overcome this challenge.

The Asset Map and Gap Analysis research identifies various strategy documents, models of care, guidelines and legislative Acts that serve as important policy and governance resources, including:

- The Canadian Cancer Society's Overview Summary of F/P/T Tobacco Legislation in Canada (Cunningham, 2006);
- The Framework Convention on Tobacco Control (FCTC) Monitoring Report (2006);
- Moving Forward - Health Canada's 2006 Progress Report on Tobacco Control;
- For the environment, the web site [www.canadianenvironmental.com](http://www.canadianenvironmental.com) provides online access to summaries of Federal/Provincial/Territorial (F/P/T) legislation and related documents such as Environment Policy and Law.

Canada's Federal Tobacco Control Strategy (FTCS) was established in 2001 as a federal contribution to the national tobacco control plan endorsed by the Ministers of Health in 1999. The Strategy serves as both a framework and an action plan, and is sustained by federal funding over a period of 10 years. The Strategy focuses on four components: protection, prevention, cessation and harm reduction. An evolving legal framework bolstered the Strategy with the Tobacco Act (1999) and subsequent regulations (2000), governing the manufacture, sale, labeling and promotion of tobacco products.

The approach to tobacco control has been built around coordinated actions of federal, provincial, territorial, and municipal governments working together in collaboration with non-governmental organizations. While much more needs to be done, especially with regards to vulnerable populations such as Aboriginal Peoples, youth and immigrants, the approach has yielded results (reduced smoking rates, lower mortality and morbidity). The tobacco control strategy highlights the broader opportunity for a successful nationally coordinated respiratory health strategy.

### **Partnerships**

Effective partnerships are essential drivers of the new paradigm of cooperation and collaboration underpinning a national framework approach to respiratory health. This aspect of infrastructure was a core focus for the Environment Working Group in particular.

In Canada, the areas of Environment and Health still remain separate portfolios with little tendency for subject matter expertise to overlap. Effective exceptions include:

- The F/P/T committee on environment and health;
- The Air Quality Health Index (AQHI) process;
- The five (now defunct) Climate Change and Health Research Networks established by the Climate Change and Health Office.

The Framework initiative must forge formal working relationships across government portfolios and departments. Collaboration is required between stakeholders outside of their traditional “lines of business” on all elements of the Framework including research, prevention, education and advocacy.

### **Supportive communities**

Many jurisdictions in Canada have been moving towards integrated community care models that are accessible and interdisciplinary in scale and scope. These care models are supported by technologies that facilitate community care networks that serve to link people, information and resources.

Community care models are not new, although they are evolving. According to the Association of Ontario Health Centres (AOHC), as of early 2006 there were over 300 Community Health Centres (CHCs) across Canada, including 54 in Ontario. Between 2006 and 2008, Ontario will expand its provincial CHC network through the creation of 22 new centres and 17 smaller satellite facilities.

AOHC describes its vision as being “*rooted in a care model that provides primary care service delivered by interdisciplinary teams of professionals practicing within a health promotion framework.*” Member centres specialize in delivering primary care that is integrated with other social and health service partners.

This same approach can be found in other provinces. In Quebec, for example, a province-wide network of local community service centres – Centres locaux des services communautaires (CLSCs) – dates back to the ‘70s. Since that time services have evolved and have further integrated with the health and social services network (Centre de santé et des services sociaux).

While the community care model has been in place for some time, the notion of supportive communities for health promotion, disease prevention and management is finding new meaning in health and healthy living programs. Examples include:

- The recent revival (Feb. 2007) of Health Canada’s ParticipACTION program;
- Ontario now has a Minister responsible for Health Promotion;

- The BC Healthy Living Alliance has received \$25 million in funding for the Act Now Initiative. Act Now has four key pillars: 1) Healthy eating, 2) Physical activity, 3) Tobacco and alcohol and 4) Pregnancy. Pillars two and three directly relate to lung health;
- In PEI, the Pediatric Tobacco Control Alliance, Healthy Eating and Active Living programs are attempting to merge into the Healthy Living Alliance;
- In Newfoundland and Labrador, a government wellness plan is in the works for 2008;
- In Manitoba, the Chronic Disease Prevention Alliance serves as a clearinghouse of resources for community initiatives designed to address chronic disease prevention and management;
- Partners in Healthy Living, a project spearheaded by Cancer Care Manitoba with the Canadian Cancer Society and the Heart and Stroke Foundation, is now in place;
- The Cancer Society of Manitoba's Knowledge Exchange Network (KEN) actively supports research and promoting healthy living, chronic disease management, community capacity, and smoking prevention in schools as key initiatives.

The provinces, as well as cities and other communities in general, have been taking a more activist approach to health prevention, promotion and management. In addition to the programs already noted, anti-tobacco legislation and regulation at the provincial/territorial and municipal levels (smoking bans in public places, bars, restaurants etc.) have been put in place in many jurisdictions across the country.

On the environmental front, both the federal and provincial levels of government are making significant efforts to reduce air pollution and greenhouse gas emissions. This is having a cascading effect similar to what has been experienced with tobacco legislation. Many provinces and communities are looking at regulations or bylaws to improve air quality such as idle free zones for motor vehicles, especially school buses, and pesticide free zones.

### ***Health system supports***

The debate about the need for health system reform in Canada often hinges around ways to make the system more responsive to patient and population needs. Wait times and limited access to certain procedures (e.g. hip replacement surgery, MRI diagnostics) are symptoms of the wider issue of gaps between supply and demand. From a health system perspective, a supportive structure can be seen as one where resources are aligned with systemic needs and priorities.

Although not specific to respiratory health, several key reports have contributed to a better understanding of the issues surrounding the health care system. These include: the Report of the Federal, Provincial and Territorial Advisory Committee on Population Health (1999), the Romanow Report (2002), the Kirby Report (2002), and The Canadian Institute for Health Information (CIHI)'s Health Care in Canada (2006). The latter, part of an ongoing series of annual reports, deals specifically with the performance of the system.

Apart from funding, technology is at the heart of much of the discussion around how to create a more responsive and supportive (effective and efficient) health care system. The Canada Health Infoway initiative includes a broad Electronic Health Records (EHR) effort designed to improve access, quality and productivity of Canada's healthcare system. Infoway and its partners have over 100 projects (completed or underway) designed to deliver effective EHR solutions within a portfolio of nine investment programs: registries, laboratory information systems, interoperable EHR systems, diagnostic imaging, telehealth, innovation and adoption, drug information systems, public health surveillance and infostructure.

Performance feedback is critical in terms of improving responsiveness. In addition to CIHI's ongoing role in providing performance information, PHAC's Canadian Health Network provides a comprehensive portal to detailed information on the health system.

Finally, professional education and training within the health care system is a vital ingredient in the infrastructure equation particularly as it relates to the human dimension of health care. In this regard, the research, education, promotion, prevention and disease management initiatives of the Canadian Respiratory Health Professionals (CRHP), the Canadian Thoracic Society and other professional bodies are notable supportive resources.

Overall, however, progress regarding health system supports has not been as substantive as for other infrastructure areas. Many jurisdictions have complained about lack of funding and resources to upgrade information systems or to purchase the latest diagnostic equipment. Wait times for certain procedures continue to lag and are proving to be stubbornly resistant to change even when new investment is made. Physician shortages and access to specialist care are also significant systemic problems in many communities, particularly in remote regions. While there are signs of improvement, poor integration of health system technologies and inadequate and outdated health records systems continue to pose a barrier to research, monitoring, surveillance and treatment.

On the positive side, understanding of the issues appears to be improving. Armed with better information on system performance, there is considerable scope and opportunity to introduce new systems supports while building on those already in place.

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### ***Consolidated guidance from the Working Group (WG) reports:***

Strong support structures ("supportive environments") are essential to an effective health management strategy for all sectors. This includes health care information systems, health education as well as human and community supports. It also includes the ability of stakeholders and NGOs to participate in policy development and advocacy activities. Improvements in health human resources and community supports are particularly important for First Nations, Inuit and Métis communities. TB and Community Acquired Pneumonia (CAP) are "diseases of poverty" that merit special attention. Adequate housing is also seen as a health factor.

Instituting policies and legislation at all levels that reflect the serious respiratory health risks and consequences of tobacco use will serve as an important deterrent as will appropriate compliance and enforcement mechanisms. On the Environment front, voluntary reduction of indoor and outdoor pollutants and emissions is not producing the desired results. New or tighter regulations are required to address the lack of policy and regulations in most communities/provinces.

*Consolidating between all the WGs, the following key objectives can be applied specifically to the Infrastructure action area:*

*With regard to Policy and legislation:*

1. An evidence-based, cost benefit approach supports proposed changes in policies, legislation and/or regulations, with attributable and measurable linkages to decreases in health-related costs or increases in quality of life. For governments, this translates to overall reductions in health care costs, while employers benefit from reduced absenteeism and turnover;

2. Canada provides greater assistance to developing countries, through expertise and resources, in dealing with infectious lung disease – if only because of our country’s increasing rates of immigration;
3. Canada has comprehensive legislation in all provinces/territories that makes workplaces and public places 100% smoke-free with provisions that prohibit smoking in cars, on patios, in multi-unit dwellings and in homes where there are children;
4. A regulatory and legal environment is in place in Canada that is not conducive to the viability of the tobacco industry as a profitable business (for example: requiring cigarettes to be sold in plain packaging in special stores, and prohibiting their sale in pharmacies);
5. Comprehensive, forward-looking, practical and effective regulations govern emission and exposure sources such as sources of fossil fuel combustion (power plants and transportation), manufactured products, and workplace air quality;

*With regard to Partnerships:*

6. The Lung Health Framework process helps to define new partnerships, and contributes to overall and measurable improved health outcomes;
7. The Lung Health Framework process is driven by – and in turn, enhances – strategic partnerships in research, communication and education, prevention, surveillance and monitoring, compliance and enforcement of health-based pollution standards, advocacy, health care delivery, etc. These partnerships cut across:
  - a. Jurisdictions and borders, i.e. Aboriginal, federal, provincial, municipal levels, even international;
  - b. Disciplines, i.e. health, environment, transportation, labour (e.g. workplace safety), natural resources, etc.;
  - c. Sectors, i.e. public organizations, private sector, NGOs;
  - d. Communities, constituencies and special interest groups.

*The WGs proposed the following key **strategies** to guide achievement of the objectives:*

*With regard to Policy & legislation:*

- 1. Tighten tobacco control legislation regulation;**
- 2. Strengthen enforcement and compliance;**
- 3. Support control oriented programs;**
- 4. Make Health the policy driver for Environment;**
- 5. Meet International Conventions, Standards and Protocols;**
- 6. Develop evidence-based recommendations for:**
  - a. Regulating the reduction of exposures to all harmful air pollutants;**
  - b. Regulating workplace air quality;**
  - c. Stimulating social and economic changes;**

*With regard to Partnerships:*

- 7. Create a Stakeholder Map identifying the players and relationships between each group;**
- 8. Determine what types of partnerships, formal or informal, are required for the various stakeholders and the required funding formulas;**
- 9. Build on the relationships that currently exist; monitor and maintain the informal relationships and formal partnerships;**

*With regard to Supportive communities:*

10. **Develop community support structures and programs;**

*With regard to Health system supports:*

11. **Integrate processes and systems.**

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## 4.4 Research, surveillance and knowledge translation

*Aim: Support effective, evidence-based responses to respiratory disease and its risk factors, and to environmental factors, through enhanced, coordinated research and surveillance efforts that are then translated into both economic and health advantages.*

While respiratory research conducted in Canada is clearly of high quality, available funding is considerably below the commensurate cost of respiratory disease to the economy. In fact, it appears evident that researchers in the field have been doing more with less for quite some time. Funding for research on lung disease has lagged far behind commitments in other major disease areas. While Lung disease accounts for 5% of the total health costs to the economy (and growing), the current federal government investment is just 2% of total research dollars. In 2006, the Lung Association asked that the government make a relatively modest additional commitment of \$70 million over 5 years, or 14 million annually, just to match the relative burden to the investment.

There is also concern about the impact of specific demographics and vulnerable population segments on a number of fronts. For example, TB researchers note that while the disease has been largely controlled in Canada, it continues to grow elsewhere in the world. As a result, Canada is importing TB through immigration.

In addition to concerns about the amount of specialized research being conducted, a key concern is that knowledge transfer and succession planning are so far not being systematically addressed. In addition, respiratory health will have to compete with the emerging health sciences such as Genetics, Genomic and Proteomics for a limited pool of funds, both within Canada and internationally. Moreover, the growing pipeline supported by balanced private and public investments, requires specific issues to be resolved in order to move industry towards CIHR's vision for knowledge transfer, and to capitalizing on the new federal research programs, including infrastructure support. As Canada's population ages, effective management today will yield results tomorrow.

There is a need for increased funding towards a sustainable infrastructure that supports all aspects of applied health research and to attract new trainees or pulmonary specialist physician trainees. There are concerns about the need for mid-career support to develop highly innovative scientists. Chairs were also identified as critical to the development of senior scientific support, and as recruitment tools for international experts.

### **Research**

Three key structural components inform the current landscape for respiratory research in Canada:

- Distributed research programs: medical research closely tied to medical education/universities, augmented with centralized and specialized labs;
- Intricate and interdependent granting procedures: funding distributed from a network of federal and provincial government divisions and the private sector, NGOs and via a host of mechanisms including personnel awards, fellowships, operating grants and infrastructure awards; granting is a competitive, complex multi-stage process;
- Increased federal government involvement: greater responsibility for supporting the three key elements of public-sector research: people, ideas, and infrastructure; mandate delivered via CIHR, NSERC and SSHRC by supporting researchers (salaries, direct costs of research) and institutions (indirect costs of research, infrastructure).

According to the leaders of these granting agencies, governments have a critical role to play in supporting long-term, ‘up-stream’ fundamental research, and research for the public good (e.g. research on wait times, palliative care, the environment, and health). And there is growing recognition that “Government will have to play a larger role in transforming science into profitable companies,” a role once hoped would be taken on by the private sector. The recognition of the need to attract and retain top young talented researchers also appears to be stronger than ever.

There is, however, a sense among many stakeholders in the research community that funding priorities do not correspond to the actual research gaps and needs. While there is growing evidence to support the redirection of research dollars, funding agencies have not adequately responded.

The *Canada Research Chairs (CRC) program* contributes directly to Canada's overall respiratory research assets. Twelve Chairs and \$1.6 million of annual funding have been awarded to respiratory research, which is concentrated in the area of asthma. The Lung Association has also funded a number of Research Chairs through its research funding program.

Research is underway to determine whether genes may directly cause, or make someone more likely to develop, a respiratory disorder. For example, scientists are investigating several different genes as possible contributors to asthma. A specific defective pair of genes has been identified as responsible for cystic fibrosis. Genetic respiratory disorders research currently underway includes the use of gene therapy, monoclonal antibodies, interferons, and protein-based drugs and vaccines.

### ***Knowledge translation***

Sustained investments in research by the federal and provincial governments, the voluntary organizations and the private sector have gone a long way to creating an internationally recognized health research community. In turn, Canadian academic institutions increasingly recognize the opportunity and responsibility to translate research discovery into practice and, where possible, produce economic value.

This is required now more than ever. An aging population with a longer life expectancy will result in an increase in cancer, age related chronic diseases and viral respiratory infections. These will be the most important factors in the growing demand for drug therapies (unfortunately, the development of antiviral drugs against viral infections, particularly respiratory, has proved to be much more difficult than anticipated).

Translating research discovery into practice and producing economic value, commonly referred to as knowledge translation, requires infrastructure, talent and funding. CIHR's vision for knowledge translation, “the development of a systematic, integrated approach to accelerate optimal use of the best available research evidence in the interest of the health of Canadians,” includes information dissemination

and product commercialization. CIHR's strategy for the commercialization of health research also includes strengthening the linkages and engagement with research-based pharmaceutical companies, the relatively new biopharmaceuticals, and the biotechnology sector at large.

The process of translating knowledge into action is complex and rarely a straightforward chain of events. However, it is clear that when the research process is guided by the needs of the users of research, findings are more likely to be translated into new knowledge.

Effective translation of research also plays a role in transforming innovation into potential commercial applications – thus benefiting the Canadian economy. Ideal respiratory health research initiatives would help close the gap between a good idea and its exploitation for both economic and health advantage.

The mandate of the following three organizations focuses on promoting translation of research versus the production of knowledge/research. However, there is little evidence to suggest that research is being rapidly translated into commercially viable products.

- *The Networks of Centres of Excellence (NCE)*: Of the 23 networks established, one contributes directly to applied respiratory research. Allergen (2004-2009) is investigating the causes of – and therapies for – allergic/immune diseases that affect up to 40% of Canadians, including asthma. Research projects are grouped in five broad-based themes that reflect the network's "from cell to society" approach.
- *Genome Canada*: has established three research projects in the area of lung cancer and cystic fibrosis through GenomeBC and the Ontario Genomics Institute, respectively. Note that survey respondents identified "genetically 'customized' health care" as the second ranked emerging area where Canada is best positioned to develop future prominent strength. Additionally, the area of genetic, genomics, and proteomics research was rated near the top for gaining ground and having the highest growth prospects. Opportunities may exist for additional cross-discipline research projects.
- *NRC – IRAP and the NRC Institutes*: NRC's Industrial Research Assistance Program (IRAP) provides seed funding grants and contributions for innovative technology projects in regions across Canada. IRAP maintains a network of industrial technology advisors (ITAs) whose role it is to assess applications for eligibility – mostly from small and medium sized enterprises in the pre-commercialization or start-up stage. IRAP does not publish the names of recipient companies, so it is not possible to determine how many (if any) respiratory related projects are being funded. NRC does, however, currently support respiratory research within its Institute for Biological Sciences.

## **Surveillance and monitoring**

Understanding and tracking lung disease, its trends, issues, risk factors, impacts and outcomes in the population over time provides valuable information to decision-makers to guide strategies and resources for an optimal response. Ideally, surveillance is an iterative process that creates a "continuous improvement loop" by identifying future gaps and shedding light on the next steps and new priorities that need to be addressed.

National surveillance resources are few and rest mostly with the Public Health Agency of Canada (PHAC). Its Immunization and Respiratory Infections Division (IRID) manages the Respiratory Virus Detection Surveillance System and reports on respiratory viruses in Canada. PHAC's FluWatch program produces surveillance reports weekly during the influenza season (October-May) and biweekly during the off-season (June-September). Finally, the Chronic Respiratory Disease Surveillance Advisory Committee advises PHAC of planned or current activities in Canada on the development, use, and evaluation of high

quality, timely surveillance information that could be used by the Agency to guide and evaluate decisions about chronic respiratory disease policies, programs, services, education and research.

Currently, however, there is no national database allowing for a comprehensive view and trend analysis of respiratory diseases.

Immigration raises another major surveillance challenge. According to the latest PHAC data, about 1/3 of Canada's 225,000-250,000 annual immigrants have latent TB infection (LTBI) and 70% of new cases in Canada are from recent immigrants. There are reported problems with medical assessments in countries of origin and access to medical examinations for refugee claimants (within 30 days) and to insurable benefits for all new arrivals (3 months). With most immigrants settling in Canada's largest urban areas and with immigration increasingly contributing to Canada's population figures, the respiratory health of these new Canadians will continue to be a pressing issue given the prevalence of TB and Community Acquired Pneumonia (CAP) among this group. The surveillance challenge should not be underestimated however, as cultural and language barriers often make it very difficult to gain the trust of the patients in our health care system.

Informants also emphasize the need to do a better job at identifying "pockets of un-health" and to better understand and act on transmission patterns of respiratory disease within Aboriginal communities.

With regard to the Environment, the agencies involved in managing respiratory ailments need better tracking mechanisms to confirm the link to environmental factors and produce a conclusive evidence-based cause and effect relationship.

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### ***Consolidated guidance from the Working Group (WG) reports:***

Ethical and unbiased research reflecting the priorities of target populations is needed to address critical information gaps and support intelligent, evidence-based responses to chronic and infectious respiratory disease challenges. It is then vital to translate this research into meaningful action and results. A possible disconnect between public health and health care itself, may be leading to differing research priorities and poor research translation.

With regard to the Environment, specific information on the health effects of both long term and short-term exposure to environmental contaminants within the developed countries, including Canada, is sparse and fragmented (beyond substantial information showing that long-term exposure is more harmful than short-term exposure). This gap must be addressed.

*Consolidating between all the WGs, the following key **objectives** can be applied specifically to the Research, knowledge transfer and surveillance action area:*

*With regard to Research:*

1. There is a well-funded, sustainable, and successful research program aligned with the National Lung Health Framework;
2. Gaps are identified and targeted research is implemented to add new knowledge and address the gaps;
3. Research value is improved by integrating how all levels of government deal with lung health research and interact with other research agencies and organizations;

4. There is increased, better-coordinated and targeted research at the applied level (for example, linking environmental causes and health effects, and at the socio-economic level; linking health to costs to society –burden of care, lost productivity etc.);

*With regard to Knowledge translation:*

5. Research is effectively translated into knowledge and into practice, including new policy and programs;

*With regard to Surveillance:*

6. There is coordinated, focused data collection, analysis, and dissemination of the burden of lung disease, with better information systems to promote understanding;
7. National surveillance programs and community-specific monitoring are implemented;
8. There is a national surveillance database;
9. Surveillance plays a more effective role in epidemiology and in terms of measuring broader needs;
10. There is effective and useful monitoring/tracking/surveillance of emissions and exposure levels, as well as health outcomes and indicators, and these are related to environmental factors such as air quality, presence of toxins, pollution etc.

*The WGs proposed the following key **strategies** to guide achievement of the objectives:*

*With regard to Research:*

- 1. Increase funding for chronic and infectious respiratory disease research;**
- 2. Work towards finding cures for respiratory diseases;**
- 3. Improve targeting of medical and socio-economic research;**
- 4. Research and develop respiratory health norms, standards, guidelines and best practices;**
- 5. Expand on research that establishes links between respiratory health and environmental factors;**

*With regard to Knowledge translation:*

- 6. More effectively translate research findings into knowledge;**
- 7. Translate research results into the workplace, home and public places.**

*With regard to Surveillance and monitoring:*

- 8. Better define roles and responsibilities for surveillance;**
- 9. Increase support for surveillance mechanisms;**
- 10. Analyze trends for better understanding, information and results;**
- 11. Better measure the impact of services and policies on lung problems and health care utilization;**
- 12. Increase monitoring and use of guidelines;**
- 13. Produce measurable smoking cessation targets;**
- 14. Improve emission registries;**
- 15. Improve ambient air monitoring and reporting;**
- 16. Improve overall surveillance and monitoring of health indicators.**

## 5. Looking forward

### 5.1 Strategic areas for investment

#### ***Risk management/cost-benefit analysis***

The April 2006 Pre-Workshop meeting identified, as a priority, the need to implement a Risk management/cost benefit analysis in order to help stakeholders establish priorities for action and to inform development of the National Lung Health Framework's Financial Plan.

Risk management models have been successfully used in the past in Canadian health care, including the Canadian Strategy for Cancer Control, the National Cancer Institute of Canada, and the Canadian Working Group in HIV and Rehabilitation. In a risk management setting, problems are relative; the process requires measurement of the problem. Governments relate well to this concept as it can quantify how bad a situation can be if action is not taken, and how good it can be if certain actions are taken. Such an approach tells governments how their decisions and policies can affect others.

At the same time, Government priorities are often set in response to the public's perception of risk. Increasingly, this perception is shaped by mass media where business realities and sensationalism often take precedence over evidence-based science. As a consequence, many well informed stakeholders believe, for example, that the resources dedicated to SARS, Avian Flu and pandemic preparedness are disproportionate to the actual risks posed by these infectious conditions and that public resources might be better used elsewhere. A rigorous Risk management/cost-benefit analysis relative to the current state of respiratory health in Canada should help create a properly balanced perspective.

This analysis will target both the *direct* costs associated with respiratory illnesses (such as hospital expenditures, drug expenditures, physician care expenditures and expenditures for care in other institutions) and the *indirect* costs (including the value of lost work time, diminished productivity, and quality of life issues). It will also project the short- and long-term costs (and opportunities for cost savings) that specific components of a national response to respiratory health issues would incur.

These findings will be integrated into a future draft of the Framework document, and will be used to inform a financial plan.

#### ***Evaluation***

In the current political climate where accountability is synonymous with sustainability, the ability to evaluate both the process and the results of a major health initiative like a National Lung Health Framework, in a systematic manner, is paramount.

The Interim Steering Committee has recently engaged a private sector team to report on options for Framework Evaluation over the coming months. This report, expected in Fall 2007, will comprise two parts:

1. *Process evaluation* of the Framework development – did we do what we said we would do? Have stakeholders been adequately involved in the development process?
2. *Impact evaluation* of the Framework – is it achieving its goals and objectives? What impact has it had on the respiratory health of Canadians?

As part of the process of developing and implementing evaluation options, the Interim Steering Committee intends to ensure that we put in place an ongoing, iterative process, with clear points of data collection along the way, and to create meaningful opportunities for stakeholders to participate in and benefit from the evaluation process.

## **5.2 Developing a comprehensive National Framework: next steps**

Following the April 2007 Workshop, these are the next steps that will lead to the completion of a comprehensive National Lung Health Framework document, targeting the fall of 2008:

- Produce a Workshop Report that is available to all participants (target date: June, 2007);
- Integrate feedback from the Workshop into a first Lung Health Framework draft (target date: Fall, 2007);
- Conduct additional consultations throughout 2007-2008, with the following objectives:
  - Expand stakeholder participation – increase the number of, and contribution level of, new stakeholders to the framework process;
  - Refine specific activities and priorities to be included in the Framework draft;
  - Clarify stakeholder roles and accountabilities within the Framework;
- Continue to develop, expand and promote the Stakeholder Asset Map (the online database being introduced and demonstrated at the Workshop);
- Develop a respiratory health communications strategy, targeting potential new stakeholders and the general public to increase awareness of respiratory health in Canada (target date: Spring, 2008);
- Integrate, over the course of 2007-2008, the findings of the Risk management/cost-benefit analysis, the Evaluation Plan, as well as governance and administration recommendations;
- Complete and distribute to stakeholders a comprehensive National Lung Health Framework draft, identifying key short-term activities and action plan (target date: Fall, 2008).

## **6. Conclusion**

When one stops to genuinely reflect and understand the magnitude of respiratory health issues, the conclusions are always the same: things will only get worse if we don't work towards a coordinated and comprehensive approach to prevent and combat these lethal and crippling diseases.

Stakeholders have come to understand that any attempt to reduce the impact of respiratory disease and move forward with initiatives in these areas requires the involvement and cooperation of many different levels and representatives of government, agencies, and industry. We are moving towards a truly innovative, integrated and comprehensive response to respiratory health in Canada.

Planning and preparation for the upcoming Workshop has been intensive, with much ground covered in a very short period. Participants are joining together to identify key goals for improved lung health in Canada, and the actions required to achieve these goals. This planning process will be supported by a number of research initiatives, and extensive stakeholder consultation.

The potential benefits of a national framework for action are many. It increases the possibilities for support at all levels and across all sectors, enables better planning and utilization of resources for enhanced effectiveness, and establishes a common frame of reference. The success of this initiative will depend on the commitment and endorsement of all stakeholders. We thank you all for your efforts to date, and look forward to your future contributions.

## 7. Appendices

### A. Working Group reports

All four Working Group reports are available in both English and in French. To log on, go to <http://www.lung.ca/intranet>

Username: framework

Password: stakeholder07

(username and password are case-sensitive; please enter them exactly as shown)

From the welcome page, under the heading "My Groups", click on Resp\_Health\_Framework\_Stakeholders. This brings you to our group area. Click on View files and navigate through the folders.

If you have any questions on how to use the Intranet, please contact [dsmith@lung.ca](mailto:dsmith@lung.ca)

### B. Asset Map and Gap Analysis

To be launched on April 26<sup>th</sup> at the *Plan for Action* Workshop and available in full by the end of June.

### C. National Lung Health Framework Interim Steering Committee 2006-2007

Nora Sobolov - CHAIR	Lung Association
Kim Bulger	Métis National Council
Dr. Kenneth Chapman	Canadian Network for Asthma Care (until Jan 2007)
Mr. Neil Collishaw	Physicians for a Smoke Free Canada (until March 2007)
Wayne Courchene	Assembly of First Nations
Dr. Gerard Cox	Canadian Thoracic Society (CTS) (alternate for Dr. Gordon Ford)
Dr. Gordon Ford	Canadian Thoracic Society (CTS)
Nancy Garvey	Ontario Ministry of Health and Long-Term Care
Dr. Roger Goldstein	COPD Alliance
Patricia Hoes	Healthy Environments, Health Canada
Dr. Harold Kim	Canadian Network for Asthma Care, University Health Network, Asthma and Airway Centre, Toronto Western Hospital
Deirdre Laframboise	Clean Air Champions
Dr. Peter Liu	Institute of Circulatory and Respiratory Health, Canadian Institutes for Health Research
Peter MacKenzie	Lung Cancer Canada
Brenda Paine	Healthy Environments and Consumer Safety, Tobacco Control Programme, Health Canada
Onalee Randell	Inuit Tapiriit Kanatami
Robert Ryan	National Aboriginal Health Organization
Lianne Vardy	Health Promotion and Chronic Disease Prevention (HPCDP), Public Health Agency of Canada
Cheryl Winger	Canadian Respiratory Health Professionals (CRHP)
Wendy Zatylny	Rx & D: Canada's Research-Based Pharmaceutical Companies

## D. Working Group membership (Phase 1)

### ***Chronic Disease Working Group***

Dr. Gerard Cox – CO-CHAIR	Canadian Thoracic Society
Nancy Garvey – CO-CHAIR	Ontario Ministry of Health and Long-Term Care
Donna Bleakney	Saskatoon Health Region
Dr. Dina Brooks	Canadian COPD Alliance
Vicki Bryanton	The Lung Association – PEI
Dr. Ilana Kogan Gombos	Canadian Institute for Health Research
Jan Haffner	The Lung Association - Saskatchewan
Dr. Paul Hernandez	Dalhousie University
Dr. Rick Hodder	University of Ottawa
Dr. Oxana Latycheva	Asthma Society
Douglas Maynard	Canadian Society of Respiratory Therapists
Dilshad Moosa	The Lung Association - Ontario
Robert Ryan	National Aboriginal Health Organization
Mary-Pat Shaw	The Lung Association
Dr. Don Sin	Canadian Research Chair in Chronic Obstructive Lung Disease
Dr. Paula Stewart	Public Health Agency of Canada

### ***Infectious Disease Working Group***

Dr. Malcolm King - CHAIR	University of Alberta
Leonor Alvarado	The Lung Association
Dr. Monica Avendano	West Park Healthcare Centre
Dr. Edward Ellis	Public Health Agency of Canada
Dr. Anne Fanning	University of Alberta
Dr. Dennis Furlong	The Lung Association – New Brunswick
Richie Gage	The Lung Association – British Columbia
Dr. Ronald Grossman	
Tony Hudson	The Lung Association – Alberta
Dr. Klaus Jochem	Montreal Public Health Department
Joy Letkemann	The Lung Association - Manitoba
Onalee Randell	Inuit Tapiriit Kanatami
Robert Ryan	National Aboriginal Health Organization
Dr. Terry-Nan Tannenbaum	Montreal Health and Social Services Agency, Department of Public Health
Dr. Heather Ward	University of Saskatchewan
Dr. Lori Whitehead	Firestone Institute for Respiratory Health

### ***Tobacco Control Working Group***

Paul Thomey - CHAIR	The Lung Association - Newfoundland
Catherine Carry	National Aboriginal Health Organization
Neil Collishaw	Physicians for a Smoke Free Canada
Dr. Charl Els	Consulting Agent
Dr. Alan Kaplan	Family Physician Airways Group of Canada
Ken Kyle	Canadian Cancer Society
Dr. Oxana Latycheva	Asthma Society
Karen McLean	Program Training and Consultation Centre
Brenda Paine	Health Canada
Ratsamy Pathammavong	The Lung Association – Ontario
Veda Peters	The Lung Association – British Columbia
Shirley Thompson	Health Canada

### ***Environment Working Group***

Ken Maybee - CHAIR	The Lung Association – New Brunswick
Dr. Menn Biagtan	The Lung Association – British Columbia
Jennifer Blomqvist	National Aboriginal Health Organization
Bruce Dudley	The Delphi Group
Paul Glover	Health Canada
Dr. Paul Hasselback	Interior Health - BC
Dr. Susan Kennedy	University of British Columbia
Dr. Tom Kosatsky	Montreal Health and Social Services Agency
Dr. Tom Kovesi	Children's Hospital of Eastern Ontario
Deirdre Laframboise	Clean Air Champions
Dr. Tim Lambert	Canadian Public Health Association
David MacIsaac	Transportation Canada
Dr. Barb MacKinnon	The Lung Association – New Brunswick
Dr. Mark Raizenne	Health Canada
Catherine Ray	Natural Resources Canada
Dr. Virginia Salares	Canadian Mortgage and Housing Corporation
Brian Stocks	The Lung Association – Ontario
Kerri Timoffee	Environment Canada
Frank Viti	Asthma Society of Canada
Christopher Wilson	The Lung Association