

Answering the *Wake-up Call*: CMA's Public Health Action Plan



**Submission to the National Advisory Committee
on SARS and Public Health
June 2003**

ASSOCIATION
MÉDICALE
CANADIENNE



CANADIAN
MEDICAL
ASSOCIATION

Answering the Wake-up Call: CMA's Public Health Action Plan

CMA submission to the National Advisory Committee on SARS and Public Health

June 25, 2003

Dana W. Hanson, MD, FRCPC
President

ASSOCIATION
MÉDICALE
CANADIENNE



CANADIAN
MEDICAL
ASSOCIATION

A healthy population...a vibrant medical profession
Une population en santé...une profession médicale dynamique

The Canadian Medical Association (CMA) is the national voice of Canadian physicians. Founded in 1867, the CMA's mission is to serve and unite the physicians of Canada and be the national advocate, in partnership with the people of Canada, of the highest standards of health and health care.

On behalf of its 55,000 members and the Canadian public, CMA performs a wide variety of functions, such as advocating health promotion and disease/accident prevention policies and strategies, advocating for access to quality health care, facilitating change within the medical profession, and providing leadership and guidance to physicians to help them influence, manage and adapt to changes in health care delivery.

The CMA is a voluntary professional organization representing the majority of Canada's physicians and comprising 12 provincial and territorial divisions and 45 affiliated medical organizations.

ASSOCIATION
MÉDICALE
CANADIENNE



CANADIAN
MEDICAL
ASSOCIATION

CONTENTS

- EXECUTIVE SUMMARY.....i**
- PURPOSE1**
- INTRODUCTION.....1**
 - THE ENDURING IMPACT OF SEVERE ACUTE RESPIRATORY SYNDROME.....2
 - PUBLIC HEALTH IN CANADA3
 - THE CHALLENGES AHEAD4
- CMA’S PROPOSED PUBLIC HEALTH ACTION PLAN5**
 - LEGISLATIVE REFORM5
 - CAPACITY ENHANCEMENT9
 - RESEARCH, SURVEILLANCE AND COMMUNICATIONS.....13
- CONCLUSION14**
- APPENDIX 1: THE CMA’S PUBLIC HEALTH ACTION PLAN.....15**
- APPENDIX 2: ESTIMATED COST OF IMPLEMENTING THE RECOMMENDATIONS.....16**
- APPENDIX 3: CHRONOLOGY OF THE CMA’S RESPONSE TO SARS.....17**
- APPENDIX 4: CMA’S PROPOSED HEALTH EMERGENCY ALERT SYSTEM20**
- REFERENCES21**



EXECUTIVE SUMMARY

The public health system in Canada lies at the heart of our community values. It is the quintessential “public good” and is central to the continued good health of our population. When the public health system is working well, few are even aware that it *is* at work! Only when something goes terribly wrong — like the Walkerton tragedy or when we are faced with a new threat like SARS — is the integral, ongoing role of public health really recognized.

The Canadian Medical Association (CMA) has been warning that our public health system is stretched to capacity in dealing with everyday demands, let alone responding to the latest crises. Canada’s physicians have repeatedly called for governments to enhance public health capacity and strengthen the public health infrastructure throughout Canada.

Our public health system is the first — and often the only — line of defence against emerging and ongoing infectious and noninfectious threats to the health of Canadians. But we are only as strong as the weakest link in the emergency response chain of survival. As most health threats know no boundaries, our public health armaments must be in a constant state of “battle readiness.” In today’s climate of SARS, West Nile Virus, mad cow disease and monkey pox, even the thought that the public health system may be stretched beyond capacity strikes fear into the hearts of Canadians.

Physicians have always been an integral part of the public health system serving as medical officers of health, community health specialists and other related roles. Indeed public health cannot successfully fulfill its mandate without the cooperation and commitment of front-line clinicians.

In this submission, we reflect on the lessons to be learned from our recent experience with SARS and reflect on the longer-term needs of the public health system as a whole. The objectives of the pan-Canadian *Public Health Action Plan* proposed by the CMA are, first to realize a clearer alignment of authority and accountability in times of extraordinary health emergencies; and, second, to enhance the system’s capacity to respond to public health threats across the country (see recommendations, below, and Appendix 1).

To achieve these twin objectives, three broad strategies are presented for immediate attention. They are legislative reform; capacity enhancement; and research, surveillance and communications.

Legislative reform (see recommendations 1–3)

The country's response to SARS has brought into stark relief the urgent need for national leadership and coordination of public health activity across the country, especially during a health crisis. The apparent reluctance to act quickly to institute screening at airports, the delay in unifying the practice community for a concerted response and the appalling communications confusion worked against optimum handling of the outbreak — despite the best efforts of health care professionals.

This is a wake-up call that highlights the need for comprehensive legislative reform to clarify the roles of governments with respect to the management of public health threats. A renewed and enhanced national commitment to public health should be anchored in new federal legislation to be negotiated with the provinces and territories.

Specifically, the CMA recommends an *Emergency Health Measures Act*, to deal with emergent situations in tandem with the creation of a Canadian public health agency headed by a *Chief Public Health Officer of Canada*.

Capacity enhancement (see recommendations 4–7)

The SARS crisis has demonstrated the diminished capacity within the public health system. The Greater Toronto Area (GTA), with one of Canada's most sophisticated public and acute health systems, has not been able to manage the SARS crisis adequately and carry on other health programs. The acute care system virtually ground to a halt in dealing with SARS. There was little or no surge capacity in Canada's largest city. We should be grateful that SARS did not first strike a smaller centre in a far less-advantaged region of Canada.

A critical element of the public health system is its workforce and the health professionals within the acute care system, such as hospital-based infectious disease specialists and emergency physicians who are the front-line interface. Let there be no doubt that the ongoing efforts of the GTA front-line providers are nothing short of heroic. However, the lack of coordinated contingency planning of hospital and community-based disease control efforts was striking. The overall shortage of critical care professionals and the inability of governments to quickly deploy the required professionals to areas of need contributed to the enormous strain on the public and health care system.

Considering the importance of the public health system and its clearly limited capacity to protect and promote the health of Canadians, it is incomprehensible that we do not know how much is actually spent on the system. It is imperative that public health expenditures and capacity, in terms of both physical and human resources, be tracked and reported publicly.

The CMA recommends a \$1-billion, 5-year capacity-enhancement program to be coordinated with and through the new Canadian public health agency.

Research, surveillance and communications (see recommendations 8–10)

Canada's ability to respond to public health threats and acute events, such as SARS, and to maintain its effective public health planning and program development depends on sound research, surveillance and rapid, real-time communications.

A concerted pan-Canadian effort is required to take full advantage of our capacity for interdisciplinary research on public health, including infectious disease prevention and control measures. New-millennium challenges require moving beyond old-millennium responses. Enhanced surveillance is an overdue and integral part of public health, performing an essential function in early detection and response to threats of infectious diseases. Mandatory national reporting of identified diseases by all provinces and territories is critical for national and international surveillance.

During times of crisis, rapid communication to the public, public health staff and front-line clinicians is of critical importance, but in many jurisdictions impossible. We tested our systems during the SARS outbreak and they came up short.

The CMA recommends a one-time federal investment to enhance technical capacity to allow for real-time communication.

Conclusion

The CMA believes that its proposed three-pronged strategy, as set out in the attached recommendations, will go a long way toward addressing shortfalls of the Canadian public health system. Action now will help to ensure that Canadians can once again be confident that they are protected from any future threat of new infectious diseases. Action now will help Canada regain its position as a leader in public health.

We wish the advisory committee well in its deliberations and offer the CMA's assistance at any time in clarifying the strategies set out in our submission.

Recommendations to the National Advisory Committee on SARS and Public Health

Legislative reform (\$20 million / 5 years*)

1. The enactment of a *Canada Emergency Health Measures Act* that would consolidate and enhance existing legislation, allowing for a more rapid national response, in cooperation with the provinces and territories, based on a graduated, systematic approach, to health emergencies that pose an acute and imminent threat to human health and safety across Canada.
2. The creation of a *Canadian Office for Disease Surveillance and Control* (CODSC) as the lead Canadian agency in public health, operating at arm's length from government.
3. The appointment of a Chief Public Health Officer of Canada to act as the lead scientific voice for public health in Canada; to head the Canadian Office for Disease Surveillance and Control; and to work with provinces and territories to develop and implement a pan-Canadian public health action plan.

Capacity enhancement (\$1.2 billion / 5 years*)

4. The creation of a *Canadian Centre of Excellence for Public Health*, under the auspices of the CODSC, to invest in multidisciplinary training programs in public health, establish and disseminate best practices among public health professionals.
5. The establishment of a *Canadian Public Health Emergency Response Service*, under the auspices of the CODSC, to provide for the rapid deployment of human resources (e.g., emergency pan-Canadian locum programs) during health emergencies.
6. Tracking and public reporting of public health expenditures and capacity (both physical and human resources) by the Canadian Institute for Health Information and Statistics Canada, on behalf of the proposed Canadian Office for Disease Surveillance and Control.
7. Federal government funding in the amount of \$1 Billion over 5 years to build adequate and consistent surge capacity across Canada and improve coordination among federal, provincial/territorial and municipal authorities to fulfill essential public health functions.

Research, surveillance and communications (\$310 million / 5 years*)

8. An immediate, sequestered grant of \$200 million over 5 years to the Canadian Institutes of Health Research to initiate an enhanced *conjoint program of research* with the Institute of Population and Public Health and the Institute of Infection and Immunity that will expand capacity for interdisciplinary research on public health, including infectious disease prevention and control measures.
9. The *mandatory reporting* by provinces and territories of identified infectious diseases to the newly established Chief Public Health Officer of Canada to enable appropriate communications, analyses and intervention.
10. The one-time infusion of \$100 million, with an additional \$2 million a year, for a “*REAL*” (*rapid, effective, accessible and linked*) *Health Communication and Coordination Initiative* to improve technical capacity to communicate with front line public health providers in real time during health emergencies.

*See Appendix 2: Estimated cost of implementing recommendations.

PURPOSE

The CMA prepared this submission in response to an invitation from Dr. Naylor to provide input to the National Advisory Committee on SARS and Public Health.

We applaud this initiative and welcome the opportunity to present the views of Canada's medical community to the committee. The CMA's basic message is that our health protection laws are woefully outdated and the public health system is stretched beyond capacity. This submission draws on our long history of engagement in public health in Canada and our experience both post-September 11, 2001 and with SARS. It builds on the knowledge and experience of our members, national specialist affiliated societies and provincial and territorial divisions. (We acknowledge, in particular, the outstanding efforts of the Ontario Medical Association and the Canadian Association of Emergency Physicians in battling SARS.)

In this submission, we examine the lessons to be learned from our experience with the SARS outbreak and reflect on both the immediate and longer-term needs of the public health system as a whole. The objectives of the public health action plan proposed by the CMA are, first, to realize a clearer alignment of authority and accountability in times of extraordinary health emergencies and, second, to enhance the system's capacity to respond to public health threats across the country, including those posed by preventable chronic disease.

INTRODUCTION

The public health system in Canada lies at the heart of our community values. It is the quintessential "public good" and is central to the continued good health of the population. When the public health system is working well, few are even aware that it *is* at work! Only when something goes terribly wrong — like the contamination of the blood supply in the 1980s, the Walkerton tragedy or SARS — is the integral, ongoing role of public health recognized.

Our public health system is the first — and often the only — line of defence against emerging and ongoing infectious and noninfectious threats to the health of Canadians. But we are only as strong as the weakest link in the emergency response chain of survival. As most health threats know no boundaries, our public health system must be in a constant state of "battle readiness." We can ill afford any weakness in our public health preparedness. In today's climate of SARS, West Nile Virus, mad cow disease and monkey pox, the mere thought that the public health system may be stretched beyond capacity strikes fear into the hearts of Canadians.

Physicians have always been an integral part of the public health system serving as medical officers of health, specialists in infectious disease and community medicine (who will not remember the stalwart efforts of Dr. Donald Low on SARS?) and in other related roles. Indeed, public health cannot successfully fulfill its mandate without the cooperation and commitment of front-line clinicians.

The CMA has been warning for some time that our system is stretched to capacity in dealing with everyday demands, let alone responding to crises. Canada's physicians have repeatedly called for governments to enhance public health capacity and strengthen the public health infrastructure throughout Canada. For example, the CMA's submission to the House of Commons Standing Committee on Finance's prebudget consultations on October 22, 2001 called for substantial investments in public health and emergency response as a first step to improve the public health system infrastructure and its surge capacity.

This submission not only reiterates our previous recommendations, but also outlines specific actions that the CMA believes must be taken to ensure a strong public health system in Canada.

The Enduring Impact of Severe Acute Respiratory Syndrome

SARS (Severe Acute Respiratory Syndrome): in February 2003, these four letters sent massive shock waves around the world, causing widespread fear and confusion among health care officials and citizens of many countries. The "fear factor" extended across Canada as people realized the full threat of SARS.

Since SARS was first identified in a patient in Toronto in March 2003, 438 probable or suspected cases have been reported to Health Canada and 38 people have died (as of June 23, 2003). However, these numbers do not reflect the full impact of the outbreak. The number of indirect deaths due to system shutdown will never be known.

Local public health authorities across the country went on high alert. Those in the Greater Toronto Area (GTA) as well as their provincial counterparts diverted almost all of their resources to respond to the crisis.

Acute care services were adversely affected as stringent infection-control and screening measures were put into place to control the spread of SARS. In the GTA, the health system — acute and public — was brought to its knees. Over half of the reported SARS cases involved front-line providers as the outbreak largely affected health care settings. Approximately 20 physicians in Ontario contracted SARS and close to 1000 were quarantined. Thousands of nurses and other health care workers also faced quarantine, some more than once.

Institutions closed their doors, limiting access to emergency departments, clinics and physicians' offices. Intensive care units were full and surgeries were cancelled. Front-line health care professionals involved in critical care were stretched to their physical and mental limits. Others found themselves underutilized due to the impact of the infection-control measures on their practice settings. Feast and famine co-existed.

Although the outbreak was mainly confined to health care settings, the entire GTA felt the effects. Upwards of 20,000 people entered voluntary quarantine. Businesses were affected. The tourism industry is still reeling. The disruption that SARS caused continues to reverberate through health care systems and economies.

In response to urgent requests from both the Ontario Medical Association and Health Canada, the CMA mobilized its membership and assisted in the country's response to SARS. Everything that could be done was done to facilitate bringing in qualified personnel to relieve those on the front line and make appropriate information available in real time. The CMA has learned its own lessons, both positive and negative. A full chronology of CMA activity is attached as Appendix 3.

It has become abundantly clear that Canada's public health system was ill prepared to deal with the SARS outbreak. If not for the heroic efforts of public health officials, health care providers and research scientists, Canada's experience would have been much worse.

Public health in Canada

Public health is the science and art of protecting and promoting health, preventing disease and injury, and prolonging life. It complements the health care system, which focuses primarily on treatment and rehabilitation, sharing the same goal of maximizing the health of Canadians. However, the public health system is distinct from other parts of the health system in two key respects: its primary emphasis is on preventing disease and disability and its focus is on the health needs of populations rather than those of specific individuals.

Public health is the systematic response to infectious diseases. It also ensures access to clean drinking water, good sanitation and the control of pests and other disease vectors. Further, it is immunization clinics and programs promoting healthy lifestyles. But it is also there to protect Canadians when they face a public health crisis like SARS. If the public health system is fully prepared to carry out essential services, then communities across the country will be better protected from acute health events.

The reality in Canada today is that a strong, consistently and equitably resourced and integrated public health system does not exist. Public health systems across Canada are fragmented — a patchwork of programs, services and resources across the country. In reality, it is a group of multiple systems with varying roles, strengths and linkages.

Each province has its own public health legislation. Most legislation focuses on the control of communicable diseases. Public health services are funded through a variable mix of provincial and municipal funding formulae, with inconsistent overall strategies and results, and with virtually no meaningful role for input from health professionals via organizations such as the CMA, or the federal level, in terms of strategic direction or resources.

Federal legislation is limited to the blunt instrument of the *Quarantine Act* and a variety of health protection-related acts. (e.g., *Food and Drugs Act*, *Hazardous Products Act*, *Controlled Drugs and Substances Act*, *Radiation Emitting Devices Act*) Some of the laws, such as the *Quarantine Act*, date back to the late 19th century. Taken as a whole, the legislation does not clearly identify the public health mandate, roles and responsibilities of the different levels of government. In many cases, the assignment of authorities and accountabilities is anachronistic.

Moreover, there is little information available on the functioning and financing of Canada's public health system. There is no "one-stop shopping" for authoritative information on public health issues.

In 2001, a working group of the Federal, Provincial and Territorial Advisory Committee on Population Health assessed the capacity of the public health system through a series of key informant interviews and literature reviews. The consistent finding was that public health had experienced a loss of resources and there was concern for the resiliency of the system infrastructure to respond consistently and proactively to the demands placed on it. Significant disparities were observed between "have" and "have-not" provinces and regions in their capacity to address public health issues.

The report's findings are consistent with previous assessments by the Krever Commission and the Auditor General of Canada. In 1999, the Auditor General said that Health Canada was unprepared to fulfill its responsibilities in public health; communication between multiple agencies was poor; and weaknesses in the key surveillance system impeded the effective monitoring of injuries and communicable and non-communicable diseases. In 1997, Justice Horace Krever reported that the "public health departments in many parts of Canada do not have sufficient resources to carry out their duties."

The Challenges Ahead

The 21st century brings with it an awesome array of new public health risks and ancient foes. Not all of them can be identified at the present time. New diseases (e.g., SARS, West Nile Virus) will likely continue to emerge. Dr. Alan Bernstein, President of the Canadian Institutes of Health Research, recently noted that SARS is here to stay. Old threats, such as contamination of a community water supply (e.g., Walkerton), can strike quickly if vigilance is relaxed or delegated to third parties. This century will likely bring greater focus on threats from the physical environment. Our social environment is also a source of illness as shown by the recent epidemic trends in obesity and type 2 diabetes mellitus. A substantial minority of Canadians continue to smoke. In short, there is no lack of public health threats to Canadians.

Although for each of these issues, there is a clear role for clinical care, it is the public health system that will identify and monitor health threats and provide interventions to prevent disease and injury and improve health. The system will also be at the front lines in any response to a biological, chemical or nuclear event. The public health system must have the infrastructure to respond to a range of threats to health, including emergencies. The experience with SARS has reaffirmed that we do not have the system flexibility to respond to these events after they have occurred. It is vital that we take steps now "to embrace not just the essential elements of disease protection and surveillance but also new strategies and tactics capable of addressing global challenges."<1>

CMA'S PROPOSED PUBLIC HEALTH ACTION PLAN

No one policy instrument can possibly address the multiple factors involved in meeting the public health challenge head on. Similarly, no one level of government or constituency (e.g., community medicine) can or should shoulder all of the responsibilities.

Although we need to restore public confidence quickly, we must also do what it takes to get it right. Accordingly, the CMA is proffering a three-pronged approach to meet the challenge:

- A legislative reform strategy
- A capacity enhancement strategy
- A research, surveillance and communication strategy.

These three broad strategies make up the CMA's proposed 10-point Public Health Action Plan. Taken together, the CMA believes the Plan, if adopted, will serve us very well in the future.

Legislative Reform

Our experience with SARS — and the seeming lack of coordination between international, federal, provincial and local system levels — should be a massive wake-up call. It highlights the need for legislative reform to clarify the roles of governments with respect to the management of public health issues and threats.

Four years ago, national consultations on renewing federal health protection legislation<2> resulted in a recommendation that

- “The federal government must be given, either through legislation or through memoranda of understanding among provincial and territorial governments, the authority it needs to effectively address any outbreak of a communicable disease, where the health risk extends beyond provincial borders.
- “Federal health protection legislation should be amended to give Health Canada authority to act quickly and decisively in the event of a national health emergency... if it poses a serious threat to public health; affects particularly vulnerable segments of the population; exceeds the capacity of local authorities to deal with the risk; and involves pathogens that could be rapidly transmitted across national and international borders.”

Such legislative reform is consistent with the federal government's well-recognized responsibility to act to protect public health and safety. It fits well with Health Minister McLellan's recently announced plans to act now to review and update health protection legislation. The SARS outbreak has provided further experience to support these, and in our view, even stronger recommendations.

There is ample historical evidence to support the federal government's role in the management of communicable disease, a role that dates back to the time of confederation. The quarantine power was the initial manifestation of this authority in 1867 under Section 91 of the *British North America Act* and it gave the federal government the responsibility for ensuring the containment of infectious diseases. The outbreak of the Spanish Flu epidemic in 1918 further highlighted the need for coordinated national efforts and (at the urging of the CMA and others) resulted in the creation of the federal Department of Health in 1919. It would be reasonable to assume that legislators at the time had an expansive view of the need for centralized authority to deal with pan-Canadian health threats.

One hundred and thirty-five years after confederation, we have a highly mobile global community. This mobility and the attendant devastating speed with which diseases can spread demand a national response. Currently, there is tremendous variation in public health system capacity among the various provinces and territories and, more particularly, among municipalities and local authorities. Inconsistencies in provincial approaches to public health matters have resulted in significant disparities between and within the provinces.<3>

Health Canada's mandate as set out in its enabling legislation states that "[t]he powers, duties and functions of the Minister extend to and include all matters over which Parliament has jurisdiction relating to the promotion and preservation of the health of the people of Canada." The CMA believes that it is time for the federal government to take responsibility for public health matters that touch the lives of all Canadians.

The legal staffs at CMA, in consultation with external experts, have conducted a detailed review of existing legislation. We have concluded, as Health Minister McLellan recently announced, that there is a long overdue need to consolidate and rationalize current related laws. We also believe there is now public support and a demonstrable need to enhance the powers afforded the federal government. We recognize that the government has put forward Bill C-17, the *Public Safety Act* and a review of health protection legislation is underway.

We believe that amending and updating existing legislation is necessary but not sufficient to address today's public health challenges. The CMA is calling for the enhancement of the federal government's "command and control" powers in times of national health emergencies. Specifically we are recommending a three-pronged legislative approach.

1. The CMA recommends

The enactment of a *Canada Emergency Health Measures Act* that would consolidate and enhance existing legislation, allowing for a more rapid national response, in cooperation with the provinces and territories, based on a graduated, systematic approach, to health emergencies that pose an acute and imminent threat to human health and safety across Canada.

The existing *Emergencies Act* gives the federal government the authority to become involved in public welfare emergencies when regions of the country are faced with “an emergency that is caused by a real or imminent... disease in human beings... that results or may result in a danger to life or property... so serious as to be a national emergency.” However, to use this power, the federal government must declare a “national emergency,” which itself has political and economic ramifications, particularly from an international perspective, and mitigates against its use. The CMA believes that this all-or-nothing approach is not in the public's best interest. The concept of emergency in the context of public health requires a different response from governments in the future.

Although we recognize that provincial and municipal governments currently have preplanned sets of responses to health threats, the CMA is proposing new legislation to allow for a rapid federal response to public health emergencies. The proposed *Emergency Health Measures Act* clarifies the roles and authority of governments and ensures a consistent and appropriate response with sufficient human and financial resources to protect Canadians faced with a public health emergency. Of utmost importance, all Canadians, regardless of their location, can be assured that the response to a health emergency will be delivered systematically by experts who can sustain the effort as needed.

The proposed legislation would be founded on a graduated approach that would give the federal government the powers necessary to deal with a crisis, in an appropriately measured way, as it escalates. As the emergency grows, the government could implement stronger measures as required to meet the challenge — in principle, akin to the United States' homeland security levels, which increase as the level of threat increases (see Appendix 4 for a description of the Canadian Emergency Health Alert System).

The CMA strongly believes that the federal government must have jurisdiction to act when the ability of the provinces to respond to public health emergencies is so disparate. The inability of one province to stop the spread of virulent disease would have serious implications for the health of residents in the rest of the country. The federal government and the provinces must work together to ensure the safety of all our citizens.

2. The CMA recommends

The creation of a *Canadian Office for Disease Surveillance and Control (CODSC)* as the lead Canadian agency in public health, operating at arm's length from government.

Although some provinces have established centres of public health expertise, considering the breadth of public health issues, the relative population sizes and differences in wealth, it will never be feasible to have comprehensive centres of public health expertise for each province and territory.

Even if one achieved this, there would increasingly be issues of economies of scale and unnecessary duplication among centres. This issue is not unique to Canada.¹ The CMA is proposing the development of a *Canadian Office for Disease Surveillance and Control* (CODSC) operating at arm's length from any level of government. CODSC would have overall responsibility for protecting the health of Canadians.

The Office would provide credible information to enhance health decisions and promote health by developing and applying disease prevention and control, environmental health and health promotion and education activities.

CODSC would enable a consistent and coordinated approach to public health emergencies as well as play a key role in the prevention and control of chronic diseases and injuries. It would provide national health surveillance, apolitical scientific expertise, system development including standards and guideline development, development and dissemination of an evidence base for public health interventions, skills training and transfer of expertise (i.e., through secondment of staff) and resources, including funding for core programs, to other levels of the system (e.g., provincial and local).

3. The CMA recommends

The appointment of a *Chief Public Health Officer of Canada* to act as the lead scientific voice for public health in Canada; to head the Canadian Office for Disease Surveillance and Control; and to work with provinces and territories to develop and implement a pan-Canadian public health action plan.

Many national or federal–provincial–territorial committees play an important role in recommending public health strategies or actions. The National Advisory Committee on Immunization and the Federal, Provincial and Territorial Advisory Committee on Population Health are two excellent examples. But there is currently no single credible public health authority in whom is vested, through legislation or federal–provincial–territorial agreement, the overall responsibility for pan-Canadian public health issues.

Therefore, the CMA is recommending the appointment of a Chief Public Health Officer of Canada. Potential roles for this officer may include:

- Serve as the head of the Canadian Office for Disease Surveillance and Control
- Serve as the national spokesperson for public health with the independence to comment on critical public health issues
- Report annually on the health of the population

¹ Many countries (e.g., United States, United Kingdom, Norway and the Netherlands) have developed critical masses of public health expertise at the national level. The Centers for Disease Control and Prevention in the United States, which has a critical mass, great depth of scientific expertise and the tools and fiscal resources to fund public health programs at both state and local levels through demonstration projects, is a sterling example of the effectiveness of such a central agency.

- Develop, implement and report independently to parliament on public health system performance measures
- Lead processes to identify and address gaps in the nation's public health system.

Capacity enhancement

The public health system infrastructure is the foundation that supports the planning, delivery and evaluation of public health activities. In March 2001, the Federal, Provincial and Territorial Advisory Committee on Public Health³ reported,

In the view of respondents the system 'is lacking in depth.' This means that a sustained crisis would seriously compromise other programming. While the research does not indicate that the public health system in Canada is strained beyond capacity, there does appear to be agreement that there is a capacity to manage just one crisis at a time.

However, just 2 years later, the GTA, an area with one of Canada's most sophisticated public and acute care health systems, was not able to manage the SARS crisis and carry on any other programs. The Ontario government recognized this state of affairs when, on 12 June, Ontario's Health Minister Tony Clement said, "I was concerned that if we had one additional large-scale crisis, that the system would crash."

Important public health issues ranging from immunization to suicide prevention went virtually unaddressed, as the public health capacity in Toronto was overwhelmed. In the absence of a mechanism to share resources within the system and a general lack of overall system surge capacity, the city of Toronto and the province competed with each other to recruit trained staff from other health departments. The SARS outbreak has shown there is no surge capacity in Canada's largest city. The acute care system in Toronto virtually ground to a halt in dealing with SARS. We must ask ourselves what would have happened if SARS had struck first in a smaller centre in a far less-advantaged region of Canada.

Clearly Canada is not fully prepared. We should not have needed a crisis to tell us this. The CMA sees several components to rebuilding the capacity of the public health system.

Public health human resources

For the essential functions of the public health system to be realized, public health agencies need a workforce with appropriate and constantly updated skills. Canada's public health workforce is extremely thin. There appear to be too few graduate-level public health professionals (i.e., those holding a master's degree and physicians who are certified specialists in community medicine); those who do exist are not distributed equitably across jurisdictions. The scarcity of hospital-based infection control practitioners and emergency physicians within the acute care system and the lack of integration of hospital and community-based disease control efforts have been particularly striking during the SARS outbreak.

The knowledge and skills required for effective public health practice are not static. They continually evolve as new evidence is identified. However, continuing education programming for public health practitioners is woefully underdeveloped in Canada. Health Canada has made some limited progress in this area, but the issue needs to be addressed much more substantively.

4. The CMA recommends

The creation of a *Canadian Centre of Excellence for Public Health*, under the auspices of the CODSC, to invest in multidisciplinary training programs in public health, establish and disseminate best practices among public health professionals.

Canada has world-class expertise in public health. However, it does not have the depth of other countries, partly because we do not have a national multidisciplinary school of public health of the calibre of Harvard in Boston, Johns Hopkins in Baltimore and the School of Hygiene and Tropical Medicine in London.

A national school of public health, which might be based on a virtual network of centres nationwide, could

- Develop a plan to assess and address the substantial educational needs of new and existing public health staff
- Address the coordination of the various academic training programs to meet the needs of the field
- Ensure self-sufficiency of our public health workforce.

5. The CMA recommends

The establishment of a *Canadian Public Health Emergency Response Service*, under the auspices of the CODSC, to provide for the rapid deployment of human resources (e.g., emergency pan-Canadian locum programs) during health emergencies.

The SARS outbreak clearly demonstrated the need for a pre-planned approach to supporting and augmenting the public health and acute care workforce during a crisis. When health professionals in the GTA were overwhelmed, we were ill prepared to move health professionals in from other jurisdictions to help. Health professional associations like the CMA took the first steps in investigating and overcoming obstacles regarding licensure and insurance. We were taken aback when we found that the Ontario government had unilaterally awarded an exclusive contract to a for-profit company to arrange for emergency relief. The further delay caused by concerns about privacy, confidentiality and harmonizing fees hampered relief efforts. The deployment of health professionals during health emergencies is too important to be left in the hands of for-profit organizations as it was during the SARS experience.

An established Canadian Public Health Emergency Response Service, operating on a non-profit basis, would

- Maintain a “reserve” of public health professionals who are fully trained and could be deployed to areas of need during times of crisis
- Co-ordinate the logistics of issues such as portable licensing, malpractice and disability insurance
- Identify funding for staff training and a more equitable distribution of numbers and skills among jurisdictions.

Investment in public health

Considering the importance of the public health system and its capacity to protect and promote the health of Canadians, it is amazing that we have no reliable or comprehensive information about how much money is actually spent on the system or what public health human resources are available across Canada. This is partially due to the lack of uniform definitions, service delivery mechanisms and accounting practices. Even in the absence of reliable data on public health expenditures, there is ample evidence that the public health system continues to operate under serious resource constraints across Canada.

6. The CMA recommends

Tracking and public reporting of public health expenditures and capacity (both physical and human resources) by the Canadian Institute for Health Information and Statistics Canada, on behalf of the *Canadian Office for Disease Surveillance and Control*.

In its latest report on health system expenditures, the CIHI states that 6% of total expenditures in 2000 were spent on “public health and administration.”² The inclusion of administrative costs in this figure means that public health funding is substantially less than 6% of health system expenditures.²

Federal Government Estimates report that Health Canada allocated \$433 million in 2003–2004 for health promotion and prevention activities with spending scheduled to decrease to \$308 million by 2005–2006 or by almost 30%. This decrease in spending exemplifies a decade that has seen tremendous fluctuations in spending on public health activities.

The situation is alarming when looked at from a current-dollar basis; there was an 8.8% decrease in funding of public health activities between 1994–1995 and 1997–1998. In fact, federal spending on public health on a constant dollar basis did not regain its 1994–1995 level until 2000–2001.

² A review by the Canadian Institute for Health Information recognizes the problem with current expenditure tracking systems and has recommended separating public health from government administrative costs and prepayment administration in future health system cost estimates.

Although the late 1990s saw some reinvestment in public health initiatives, the most recent 2003–2004 estimates suggest that, once again, federal investment in public health will decrease dramatically over the next few years. Indeed, public health continues to represent only a small fraction of total federal direct spending on health (9.7% in 2002–2003).

At the provincial level, although we cannot distance public health from administration, we know that it fell victim to the brutal climate of fiscal retrenchment of the 1990s, when in real terms provincial–territorial per capita health spending declined for 5 consecutive years after 1991–1992.

During this period, public health was further destabilized by regionalization. According to the *Survey of Public Health Capacity in Canada* most provincial and territorial officials reported reductions in programming as a result of the transfer of funding and responsibility to regional structures. Although Ontario did not regionalize, in 1997 public health funding was downloaded to municipalities, which left public health departments scrambling to find funds to meet existing programs as well as new services that were mandated by the provincial *Health Protection and Promotion Act*.

Whether talking about federal or provincial–territorial jurisdictions, we can no longer afford to have funding for health and safety subject to the vagaries of financial cycles.

However, what perhaps is most alarming is the potentially large economic impact of underinvestment in this area. Although the net cost of the SARS outbreak in Ontario is not yet known, recent estimates suggest that it could be as high as \$2.1 billion.³ Given this, the proverbial ounce of prevention that is worth a pound of cure comes to mind suggesting that a relatively modest increase in funding for public health could potentially result in substantial savings in the longer term.

7. The CMA recommends

Federal government funding in the amount of \$1 billion over 5 years to build adequate and consistent surge capacity across Canada and improve coordination among federal, provincial/territorial and municipal authorities to fulfill essential public health functions.

The best way to ensure that the public health system is capable of addressing the range of public health threats, including emergencies, is to significantly increase investment in its capacity. This investment must assist all levels of the system to fulfill essential public health functions, with particular attention to local and regional agencies. The strategic national leadership that we are calling for includes the development of new mechanisms for federal cost sharing of basic public health services and the guarantee of a basic core set of local programs serving everyone in Canada, regardless of where they live.

³ On 6 May, the TD Bank released a paper<5> suggesting that the cost of SARS to the Canadian economy may be between \$1.5 and \$2.1 billion.

The system also needs to receive targeted funds so that it can do its work smarter and more effectively. Priority areas for this targeted funding should include development of an integrated information system and staff training.

Research, surveillance and communications

Canada's ability to respond to emerging public health threats and acute events, such as the SARS outbreak, and to maintain its effective public health planning and program development depends on sound research, surveillance and rapid, real-time communications.

8. The CMA recommends

An immediate sequestered grant of \$200 million over 5 years to the Canadian Institutes of Health Research to initiate an enhanced *conjoint program of research* with the Institute of Population and Public Health and the Institute of Infection and Immunity that will expand capacity for interdisciplinary research on public health, including infectious disease prevention and control measures.

Similar to the efforts in clinical care to support the use of evidence-based practices, interventions in public health must be based on research, evidence and best practices. A national effort should be undertaken to develop and make widely available, on an ongoing basis, a comprehensive and up-to-date review of the evidence base for public health programs. This information would support effective practice, enhance public health research capacity and support other infrastructure elements (e.g., minimum programs and services, performance measurement, system funding). It could also reduce unnecessary duplication of efforts by different public health agencies.

We applaud the tremendous work of the unique trans-Canada partnership of 4 CIHR-funded research teams who, in just 11 weeks, discovered the complete DNA sequence of the coronavirus associated with SARS. This is a perfect example of what can be accomplished when our talented research teams work together. The recent announcement by the CIHR of an integrated national strategy for research on SARS reflects the intent of this recommendation for other public health challenges.

9. The CMA recommends

The *mandatory reporting* by provinces and territories of identified infectious diseases to the newly established Chief Public Health Officer of Canada to enable appropriate communications, analyses and interventions.

Public health surveillance is defined as the ongoing, systematic collection, analysis and interpretation of health data necessary for designing implementing and evaluating public health programs. It is an integral part of the public health system and performs an essential function in early detection and response to threats to human health.

Current surveillance systems for communicable and noncommunicable diseases are inadequate to allow public health professionals to detect and react to major health issues. For effective public health management, surveillance must be a continuous process covering a range of integrated data sources to provide useful and timely information.

10. The CMA recommends

The one-time infusion of \$100 million, with an additional \$2 million a year, for a “*REAL*” (rapid, effective, accessible and linked) Health Communication and Coordination Initiative to improve technical capacity to communicate with front line public health providers in real time during health emergencies.

In today's world, international travel, business and migration can move infectious diseases around the world at jet speed. But during the SARS experience, governments and public health authorities were unable to communicate in real time with health professionals on the front lines. Gaps in the basic communication infrastructure prevent public health agencies from talking with each other in real time, and also hinder exchanges between public health staff, private clinicians and other sources of information about emerging new diseases.

In response to requests from both the Ontario Medical Association and Health Canada, the CMA mobilized its communication networks to provide physicians with critical information about public health management of SARS. In less than 48 hours, via email and fax, we reached over 45,000 physicians with authoritative information. Through the good offices of the Canadian Council of Health Services Accreditation, this information was also made available to over 1500 accredited health facilities across Canada.

Although necessity caused the limits of the system to be tested, SARS highlighted the fact that we do not have information systems in place to facilitate real-time communication with health professionals. Information is the key to effective response during times of emergency. Information in real time is also essential for effective day-to-day health care to provide, for example, information on adverse drug reactions.

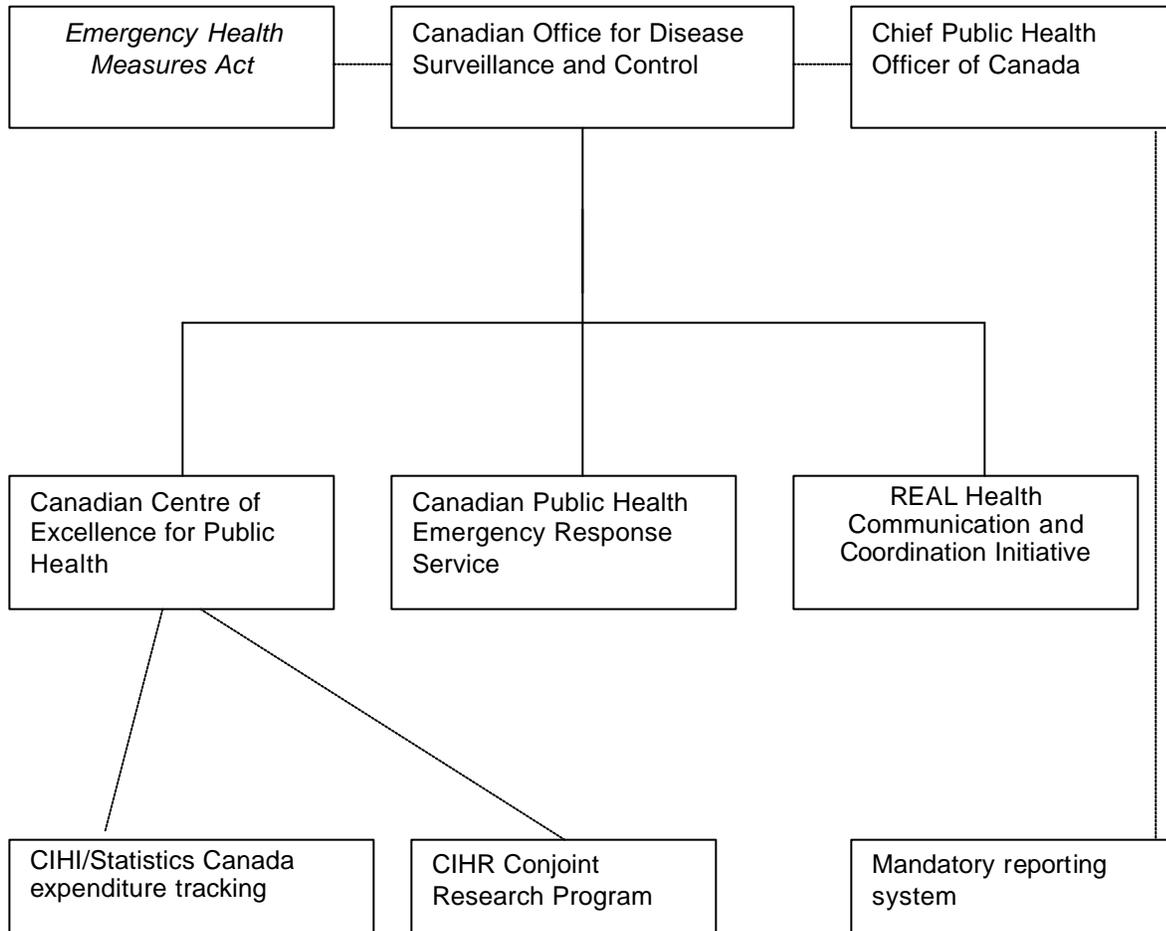
CONCLUSION

SARS brought out the best in Canada and Canadians' commitment to one another. It also turned a bright, sometimes uncomfortable spotlight on the ability of this country's health care system to respond to a crisis, be it an emerging disease, a terrorist attack, a natural disaster or a large-scale accident. We must learn from the SARS experience and quickly move to rebuild the infrastructure of a strong public health system.

The CMA believes that this 10-point Public Health Action Plan will go a long way toward addressing shortfalls in the Canadian public health system. Action now will help to ensure that Canadians can be confident once again that their governments are doing all they can to protect them from the threat of new infectious diseases.

We wish the advisory committee well in its deliberations and offer the CMA's assistance at any time in clarifying the strategies set out in our submission.

APPENDIX 1: THE CMA'S PUBLIC HEALTH ACTION PLAN



APPENDIX 2: ESTIMATED COST OF IMPLEMENTING THE RECOMMENDATIONS

Recommendation	Estimated cost over 5 years
Legislative and institutional reform	
1. <i>Canada Emergency Health Measures Act</i>	N/A
2. Canadian Office for Disease Surveillance and Control (CODSC)	} \$20 million
3. Chief Public Health Officer of Canada	
Capacity enhancement	
4. Canadian Centre of Excellence for Public Health	\$100 million
5. Canadian Public Health Emergency Response Service	\$35 million
6. Canadian Institute for Health Information and Statistics Canada	\$35 million ^a
7. Surge capacity	\$1 billion ^b
Research, surveillance and communications	
8. Canadian Institutes of Health Research	\$200 million ^c
9. Mandatory reporting	Included under 2 and 3 above
10. Enhanced reporting	\$110 million
TOTAL	\$1.5 billion

a. Work is currently underway to break-out public health from the current category of “public health and administration.”

b. This is an incremental investment in addition to funding currently available under Health Canada's *Health Promotion and Prevention Strategic Outcome* area.

c. Funding must be sequestered specifically for new initiatives related to public health. Additional money could also be acquired through funding from the Canadian Foundation for Innovation, which received an additional \$500 million in 2002–2003 (announced in the 2003 federal budget) to enhance the Foundation's support of public health infrastructure.

APPENDIX 3: CHRONOLOGY OF THE CMA'S RESPONSE TO SARS

2002

November 16

- First known case of atypical pneumonia (SARS) occurs in Guangdong province, China

2003

February 11

- World Health Organization (WHO) receives reports from the Chinese Ministry of Health about SARS; 305 persons affected and 5 deaths

February 13

- Canadian index case arrives in Hong Kong for a family visit

February 18-21

- Canadian index case is a guest at the Metropole hotel in Kowloon

February 21

- A medical doctor from Guangdong checks into Metropole hotel in Kowloon. The physician, who became ill a week before staying at the hotel, is considered to be the original source of the infection
- This leads subsequently to outbreaks in Vietnam, Hong Kong, Singapore and Canada after guests leave the hotel and return home

February 23

- Canadian index case returns home to Toronto

March 5

- Canadian index patient dies in Toronto, 9 days after the onset of her illness

March 12

- WHO issues global alert about SARS

March 13

- National and international media reports begin appearing about SARS
- The Canadian index patient's son, Canada's second SARS victim, dies 15 days after the onset of his illness

March 14

- First reports from Toronto about deaths from SARS

March 16

- Health Canada receives notice of SARS patients in Ontario and British Columbia; begins regular updates on SARS on its website
- Health Canada initiates its pan-Canadian communication infrastructure, based on its pandemic influenza contingency plans

March 17

- CMA calls Health Canada to offer assistance and request “real time information.” CMA immediately placed on list of participants in daily pan-Canadian teleconferences.
- CMA adds a SARS page to its website home page (cma.ca) with CMA Shortcuts to expert information and daily updates

March 19

- CMA alerts all its divisions and affiliates to the Health Canada and CMA SARS web pages
- *eCMAJ* includes SARS updates on its website

March 20

- CMA divisions add a link to SARS information for health professionals to their websites
- Health Canada requests CMA's assistance to inform physicians of the public health management guidelines for SARS

March 28

- CMA sends an email to 33,000 members (copied to divisions and affiliated societies) to alert them to Health Canada's SARS public health management documents and SARS web page

April 1

- CMA CEO initiates cross-directorate task force and deploys dedicated staff resources. Some other CMA programs deferred/delayed. Task force begins daily staff SARS Working Group meetings
- CMA communicates with the Ontario Medical Association on a daily basis

April 2

- CMA holds teleconference with divisional communication directors re: SARS

April 3

- CMA contacts the British Medical Association to establish whether we can secure a supply of masks from European sources
- CMA organizes a teleconference among national health care organizations to discuss SARS developments

April 7

- CMA posts electronic grand rounds on SARS for clinicians on cma.ca;
- CMA sends email and fax communication to physicians to raise awareness of SARS e-grand rounds on cma.ca
- Working with the Mental Health Support Network of Canada, CMA prepares and posts on cma.ca, fact sheets for health professionals and the public on coping with the stress caused by SARS

April 9

- CMA hosts second teleconference among national health care organizations to discuss SARS developments

April 17

- Electronic grand rounds on SARS updated and promoted through cma.ca

April 23

- CMA sends email to membership requesting volunteers for the CMA Volunteer Emergency SARS Relief Network

April 24

- CMA consults with the American Medical Association regarding the possibility of US physicians volunteering for the relief network

April 25

- CMA CEO sends letter to deputy minister of health about the urgent need to create a national ministerial SARS task force

April 30-May 1

- CMA participates in Health Canada-sponsored international SARS conference in Toronto

May 6

- Health Canada announces the National Advisory Group on SARS and Public Health, headed by Dr. David Naylor

May 12

- Opinion editorial by Dr. Dana Hanson, CMA president, on SARS and public health surge capacity published in *The Ottawa Citizen*;

May 28

- CMA organizes a meeting of national health care organizations to discuss lessons learned from SARS

June 3

- CMA receives an invitation to submit a brief to the National Advisory Group on SARS and Public Health

June 6

- CMA sends e-mail to targeted segment of its membership (community medicine, public health, infectious disease and medical microbiology) requesting volunteers for the CMA Volunteer Emergency SARS Relief Network

June 25

- CMA president outlines the CMA's Public Health Action Plan during a speech at the Canadian Club in Toronto
- CMA submission to the National Advisory Committee on SARS and public health

APPENDIX 4: CMA'S PROPOSED HEALTH EMERGENCY ALERT SYSTEM

Health alert may be declared in:	Level 1	Level 2	Level 3	Level 4	Level 5
<ul style="list-style-type: none"> Any area under federal jurisdiction Any community or province/territory with a risk of transmission to other provinces/territories or countries Any community or province/territory with insufficient resources to manage the public health emergency within the capacity of the local public health authorities 	Definition of the area of concern	Voluntary quarantine for individuals or property	Increasing surveillance	Chief public health officer takes the lead in coordinating the response	Regulation or prohibition of travel
	Facilitating communication	Reviewing and updating health emergency procedures	Determination of local capacity to lead and respond	Coordinating necessary response efforts with national disaster relief agencies, armed forces or law enforcement agencies at the federal–provincial–territorial level	Medium to significant limitations of civil rights and freedoms
	Mandatory surveillance	Assessing future resource requirements	Deployment of a national response team	Medium to significant limitations of civil rights and freedoms	Evacuation of persons and the removal of personal property
	Providing the public with necessary information.	Discretionary deployment of the national response team or on request of local authorities	Quarantine of individuals and/or property with enforcement by law	Implementing interventions, as appropriate, and emergency response actions	Regulation of the distribution and availability of essential goods, services and resources
			Assessing further refinement of actions	Restricting access to the area of concern	Requisition, use or disposition of property
Required consent of governor in council	No	No	Yes	Yes	Yes
Lead response team	Municipal or provincial	Provincial or national	Provincial or national	National or international	International

REFERENCES

1. Garrett, L. *Betrayal of trust: the collapse of global public health*. New York: Hyperion; 2000.
2. Health Canada. *National consultations, summary report: renewal of the federal health protection legislation*. Ottawa: Health Canada; 1999.
3. Federal, Provincial and Territorial Advisory Committee on Population Health. *Survey of public health capacity in Canada: highlights*. Ottawa: The Committee; 2001.
4. Canadian Institutes for Health Information. *National health expenditure trends: 1975–2002*. Ottawa: CIHI; 2002.
5. Lévesque M. *The economic impact of SARS*. TD Economics Topic Paper. TD Bank Financial Group; 6 May 2003. Available: http://www.td.com/economics/topic/ml0503_sars.html (viewed: 20 June 2003).