



Building the Foundation of a Strong Public Health System for Ontarians

2005 Annual Report of the
Chief Medical Officer of Health
to the Ontario Legislative Assembly

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

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Office of the Chief Medical Officer of Health and Assistant Deputy Minister

To the Honourable Speaker of the Legislative Assembly:

In my capacity as the Chief Medical Officer of Health, I am pleased to transmit the 2005 Annual Report of the Chief Medical Officer of Health of Ontario for submission to the Assembly in accordance with the provisions of section 81.(4) of the Health Protection and Promotion Act.

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Dr. Sheela V. Basrur
Chief Medical Officer of Health

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Executive Summary

SARS was the tipping point for public health system renewal in this province and across the country. Years of decline resulted in what Justice Campbell has assessed as a “broken system.” In 2005, we have had major outbreaks of rubella and Legionnaire’s disease, contaminated water in Kashechewan, and increasing concerns over our readiness for an influenza pandemic. These events have focused attention on public health’s critical role in the prevention, detection, investigation and management of outbreaks of infectious diseases.

As part of the government’s action plan to strengthen the public health system post-SARS, significant new powers have been given to Ontario’s Chief Medical Officer of Health (CMOH). Among these is the independence and responsibility to report on the state of public health to the Legislative Assembly of Ontario. In my first independent report to the Legislature, I will focus on the status of system renewal following the 2003 SARS outbreak. This focus on health protection in no way diminishes the importance of the system’s other functions. We need to build the foundation for a strong and effective public health system that will allow us to ensure health protection and also strengthen our ability to address the entire spectrum of public health issues. For public health’s mandate involves not just the immediate threat of infectious diseases, but also the longer term requirements of chronic disease and injury prevention, healthy child development, family and community health, and environmental health – all with a focus on the underlying determinants of health and illness. The ability to fulfill these responsibilities is dependent on the strength and capacity of the public health system.

This report can be thought of as a “check-up” for the province’s public health system. Overall, my assessment is one of “guarded optimism.” Much progress has been made over the past two years, but there is much more that must be done. In this report, I will highlight where progress is being made and identify areas of continuing concern.

In June 2004, the Ministry of Health and Long-Term Care (MOHLTC) released Operation Health Protection: An Action Plan to Prevent Threats to our Health and to Promote a Healthy Ontario. Of the many components of this action plan that are being actively implemented, a critically important item is the creation of a provincial Public Health Agency. This centre of excellence will ensure that Ontario has a credible, reliable and objective source of public health knowledge, information and data to support effective practices and policies. The design of the Agency is being informed by the experiences with public health agencies successfully implemented elsewhere in Canada and around the world. An expert group provided its interim design recommendations in October 2005 and its final report is expected early in 2006.

A key component of the proposed Agency is the provincial public health laboratory. It is to this laboratory that we turn to identify the unknown agent causing an outbreak (e.g., SARS, Legionnaire's disease), as well as perform tests in massive volumes to support patient treatment and outbreak management decisions. Yet, the current public health laboratory is faced with numerous and fundamental challenges. The current situation must be turned around if the public health laboratory is to serve the public health interest during future infectious disease outbreaks. Until the laboratory is appropriately staffed, resourced, and fully integrated with the rest of the public health system, Ontario will be vulnerable.

Ontario's 36 local public health units are the front lines of the province's health protection system. There are a number of important questions regarding how they are structured and whether they have sufficient capacity to protect and promote the health of all Ontarians. Many public health units have longstanding vacancies in their Medical Officer of Health (MOH) positions, as well as difficulties recruiting other types of public health professionals. A Capacity Review Committee was set up to review these and other issues and the final report is expected early in 2006. I anticipate that recommendations will call for substantial changes including consolidations of some existing public health units to achieve a critical mass of expertise and resources.

SARS exposed several gaps in our ability to control infectious diseases in Ontario. While comprehensive system renewal was initiated post-SARS, major outbreaks of rubella and Legionnaire's disease in 2005 tested the extent of our progress to-date. The rubella outbreak occurred in a small public health unit that had been without a full-time, qualified MOH for many years. While the system responded favourably with substantial mutual aid to help control the outbreak, it illustrated the insufficient critical mass of expertise and resources in some smaller public health units. The Legionnaire's disease outbreak highlighted the need for further work to improve coordination and communication within the health care system. Both of these incidents contain lessons about Ontario's ability to manage major infectious disease incidents in the future.

Many other initiatives have been implemented to exist with outbreak management. Significant progress is being made to strengthen our ability to address infectious diseases. For example, a Provincial Infectious Diseases Advisory Committee has been created to provide expert scientific advice to public health and health care workers. Regional Infection Control Networks are being implemented to improve local coordination and communication. Increased infection control training for health care workers is also being developed.

There is increasing professional and public concern about our readiness to handle an influenza pandemic. Ontario developed its first influenza pandemic plan in 2004 and updated it in 2005. While we are in a better position now than two years ago, much work remains to be done. Further planning and resourcing are required to ensure that stockpiles of supplies and pharmaceuticals are in place and that plans for their distribution are established. Of particular concern are the roles and responsibilities for local, provincial and federal public health officials in emergency planning and response

involving First Nations communities. Discussions on a formal protocol relating to public health emergencies affecting First Nations communities have been occurring, but much more work is required.

In rebuilding our public health system, we must avoid “patching cracks without fixing the foundation” as Dr. David Butler-Jones, the country’s Chief Public Health Officer, has described previous efforts at system renewal. The challenge is that renewing the province’s public health system will take several years of committed effort. We are now close to the three-year point post-SARS and are entering a critical time period that will define whether the momentum for system renewal will be maintained or dissipated. Creation of the provincial Public Health Agency, including a revitalized public health laboratory system, and strengthened capacity of local public health units are critical action steps for 2006. The ability to protect and promote the health of Ontarians against future threats depends, at minimum, on the full implementation of these initiatives. In doing so, we will be establishing the foundation for a strong and effective public health system in which Ontarians can have confidence. In future reports, I will highlight the progress that is being made and areas of continuing concern.

A handwritten signature in black ink, appearing to read 'Sheela Basrur', written in a cursive style.

Dr. Sheela V. Basrur
Chief Medical Officer of Health

Introduction – Role and Mandate

The public health system's mandate is to improve the health of the population through health promotion, disease prevention, and health protection. Much of the improvement in life expectancy over the past century is due to such public health measures as ensuring safe drinking water, safe disposal of sewage, better housing and wide scale immunization. Today's public health efforts address challenges and issues including infectious diseases, chronic disease and injuries, healthy child development, family and community health, and environmental health. There is increasing attention on the social, economic and environmental determinants of health as additional areas of public health action. Among these many responsibilities, the public health system has a critical role in the prevention, detection, investigation and management of outbreaks due to infectious diseases. Fulfilling all of these responsibilities depends on the strength and capacity of the system as a whole.

Following years of system decline, SARS was the tipping point for public health system renewal in this province and across the country. Reports of both the Ontario Expert Panel on SARS and Infectious Disease Control (the Walker Panel) and the SARS Commission (the Campbell Commission) have made numerous recommendations to strengthen the structure and capacity of Ontario's public health system. These recommendations were reflected in *Operation Health Protection: An Action Plan to Prevent Threats to our Health and to Promote a Healthy Ontario*, which was released by the Ministry of Health and Long-Term Care in June 2004.

Included in *Operation Health Protection* was the commitment to give the province's Chief Medical Officer of Health (CMOH) significant new powers to protect the health of the people of Ontario. On December 15, 2004, the Legislative Assembly of Ontario unanimously passed Bill 124 amending the *Health Protection and Promotion Act*, which now states that the "Chief Medical Officer of Health shall every year, make a report in writing on the state of public health in Ontario, and shall deliver the report to the Speaker of the Legislative Assembly...[who] shall lay the report before the Assembly at the earliest reasonable opportunity." These amendments, among others, were the first major changes to the CMOH's role since the Act first came into being 20 years earlier.

The authority to report independently on the state of public health is a responsibility that I take extremely seriously. It establishes for the first time a "watchdog" role for the CMOH, which I exercise alongside my role inside government as an Assistant Deputy Minister (ADM). This unique arrangement provides me with an opportunity to reflect on the progress that has been made in improving and protecting the health of the public, while also flagging areas of concern about new or continuing risks to the public's health.

In my very first independent report to the Legislature, I will focus on the status of system renewal following the 2003 SARS outbreak. I believe it is reasonable and necessary to take stock of our progress to-date and to highlight areas of continuing concern. The occurrence of two major infectious disease outbreaks in 2005, rubella and Legionnaire's disease, combined with increasing concerns regarding an influenza pandemic, underscore the timeliness of this area of focus.

That my first Report to the Legislature is centred on health protection does not imply that other public health issues are less important. Indeed, my 2004 annual report focused on the obesity crisis and the need for comprehensive, multi-sectoral strategies to curb this largely preventable epidemic. However, our health protection responsibilities and capacity are right now in the spotlight because, if we do not get these right, there will be significant societal consequences that will also undermine public confidence and support for all facets of public health programming.

Strengthening Ontario's Public Health System – Making Progress

Operation Health Protection outlines the government's three-year action plan for public health system renewal in Ontario that is being comprehensively implemented. The past two years have been an intense period of system development and incidents in 2005 have provided further reinforcement for the direction being taken (see list, on page 8).

The status quo was years in the making and fully fixing it will take time. While it is not possible to discuss all of the activity that is occurring, I wish to highlight some specific items.

Selected System Development Actions and Key Events

2004

- April** Ontario Expert Panel on SARS and Infectious Disease Control (Walker Panel Report)
SARS and Public Health in Ontario – Interim Report (Justice Campbell)
- May** Ontario Health Pandemic Influenza Plan (OHPIP)
- June** Operation Health Protection
- July** Farm to Fork: A Strategy for Meat Safety in Ontario (Justice Haines)
- July** Childhood vaccines publicly funded in Ontario against pneumococcal disease, chicken pox and meningococcal disease.
- Sept.** Public Health e-Health Council created
- Nov.** Healthy Weights, Healthy Lives – CMOH Report
- Dec.** Bill 124 – An Act to Amend the *Health Protection and Promotion Act* increased the authority and independence of CMOH

2005

- Jan.** CMOH strikes Agency Implementation Task Force
CMOH strikes Capacity Review Committee
Provincial funding share for public health increased from 50% to 55%.
Provincial Infectious Diseases Advisory Committee (PIDAC) created
100% funding for 180 full-time communicable disease positions in local Public Health Units confirmed.
Video-conferencing facilities in public health facilities and public health labs commenced
- April** SARS and Public Health Legislation – Second Interim Report (Justice Campbell)
- May** Rubella outbreak in Oxford County
- June** Ontario Health Pandemic Influenza Plan – Second release
Royal Assent for *Smoke-Free Ontario Act* – will make workplaces and public places smoke-free and phase-in retail display restrictions
Ministry of Health Promotion announced
- Sept.** Public Health Division unveils new organizational structure
- Oct.** *Legionnaire's* disease outbreak in Toronto long-term care home
Interim report of Agency Implementation Task Force
Drinking water contamination in Kashechewan
- Nov.** Interim report of Capacity Review Committee

Ontario's Public Health Agency

A key component outlined in *Operation Health Protection* is the commitment to create an independent provincial Public Health Agency to provide high quality scientific and technical advice to service providers who protect and promote the health of Ontarians. To this end, I struck an Agency Implementation Task Force in early 2005 to advise me on the design, development and implementation of the Public Health Agency. The Task Force's interim report was released in October 2005. Informed by experiences with public health agencies in the U.S., UK, Quebec, and British Columbia, the Task Force's vision is a centre of excellence in public health so that Ontario will have a credible, reliable and objective source of public health knowledge, information and data to support effective practices and policies.

The Task Force's initial recommendations address the functions, services, and program areas for which the Agency should initially be responsible (see list, below). Reflecting its central importance to the investigation and control of infectious diseases, the public health laboratory is a critical component of the proposed Agency. The current state of the provincial public health laboratory is of substantial concern and I will return to this issue later in my report.

Agency Implementation Task Force – Initial Recommendations

Functions/services:

- surveillance and epidemiology
- research
- knowledge exchange
- specialized laboratory diagnostics
- professional development
- communication.

Program areas:

- infectious diseases
- health promotion, chronic disease and injury prevention
- environmental health
- emergency management support

The Task Force also made recommendations about the governance of the new Agency and the roles and responsibilities of both the Agency and the Ministry. The Task Force will now turn its attention to the development of a high-level implementation plan for the Agency that will recommend priorities for its first three years, along with a capital plan and operating budget to ramp up the program areas and functions/services. I will provide a progress update on the implementation of the Public Health Agency in my 2006 report.

Capacity of Local Public Health Units

While provincial level leadership, coordination and capacity are important, one must not forget that public health is based on local action. All of the expert best practice advice in the world will be wasted unless there is local capacity to implement it. Consistent with the *Operation Health Protection* action plan, I established a Capacity Review Committee (CRC) in January 2005 to review the capacity of local public health units. The CRC has been actively assessing the fundamental design characteristics of this critical component of the public health system (see list, below).

Capacity Review Committee – Analyzing the Design of Local Public Health Units

- Governance, structure and configuration
- Funding
- Accountability mechanisms
- Public health human resources
- Research and knowledge transfer

The CRC released its interim report in November 2005, highlighting the many complex and inter-related issues with which it is grappling. The next phase will consist of a continued review of commissioned research and interviews, focus groups and roundtable discussions with system stakeholders to analyze possible options to enhance the capacity of public health units. I anticipate that the recommendations will call for substantial changes including, but not limited to, consolidation of some public health units to achieve a critical mass of expertise and resources. My 2006 report will provide an update on the progress being made to strengthen Ontario's public health units, which must have the capacity and resources needed to serve as our vital front-line defence against infectious diseases.

Building Capacity to Control Infectious Diseases

Provincial Infectious Diseases Advisory Committee

To provide a single source of expert advice on infectious diseases for Ontario, the Provincial Infectious Diseases Advisory Committee (PIDAC) was established in June, 2004. PIDAC advises the CMOH on the prevention, surveillance and control of infectious diseases and provides a mechanism for greater collaborative analysis and decision making between the public health and health care systems. PIDAC and its sub-committees have been specifically designed to include a variety of representatives from both systems. For example, public health nurses, public health inspectors and public health physicians are involved along with practitioners from medical microbiology, veterinary medicine, infectious disease, institutional infection control, primary care, and occupational health and safety.

PIDAC Best Practices – Completed and Current Projects

- C. difficile Best Practice manual (Dec 2004)
- Febrile Respiratory Illness Best Practice manual (Sept 2005)
- Review of Ontario Reportable disease list (HPPA), including case definitions (2006)
- Antibiotic resistant organisms Best Practice manual (2006)
- Reprocessing of medical devices Best Practice manual (2006)
- Ontario adaptation of federal meningococcal guidelines (2006)
- Surveillance strategies for key nosocomial infections such as C. difficile and MRSA (2006)

In addition to fostering communication among these different types of professionals, their complementary strengths and perspectives enable translation of existing scientific knowledge into best practice recommendations that will be highly relevant throughout the health system. As shown above, PIDAC and its sub-committees have produced and are producing guidance and recommendations for several key topics.

In addition to this ongoing work, PIDAC has shown itself to be an excellent resource in times of emergencies. During the 2005 rubella and Legionnaire's disease outbreaks, it was highly advantageous for the outbreak teams to be able to consult with a standing expert group for highly specialized scientific advice instead of relying on ad hoc mechanisms to access advice (as was the case during SARS). PIDAC has also provided scientific advice on aspects of the province's influenza pandemic plan.

Regional Infection Control Networks

The SARS experience identified the need to improve local coordination and access to infection prevention and control information across the health care continuum. Regional Infection Control Networks are being created to maximize this coordination and integration on a regional basis. The networks are required to include representatives from public health, acute care, long-term care and community care. Guidance, direction and overall leadership for network activities are to be provided by a regional steering committee, network coordinator and medical coordinator.

Creating Regional Infection Control Networks

Initial networks (funding initiated March 2005):

- Champlain
- Central South Ontario
- Southeastern Ontario
- Northwestern Ontario

The Networks will promote a common approach to infection prevention and control and utilization of best practices within the region. This may include standardization of infection prevention and control policies, procedures, protocols and surveillance practices. In addition to fostering local communication and coordination, the networks will form an important feedback and implementation loop with PIDAC. For example, the networks are ideally positioned to review and implement PIDAC's best practice advice in a coordinated manner.

The initial Networks were funded in March 2005 and began the process of establishing their committees and hiring the coordinators, which were completed as of October 2005. Another four networks are scheduled to begin development in early 2006. Drawing on the experiences of the first four networks, the Ministry anticipates that all fourteen networks will be implemented across the province by the end of 2006/07.

Infection Control Training

A core competency education program for infection prevention and control is being produced by MOHLTC in partnership with key stakeholder groups. The program will develop up-to-date educational tools to provide core competency education to front-line health care workers across three different health care sectors: acute care, long-term care, and community-based providers. Scientific content of the program will be reviewed and approved by PIDAC's Infection Prevention and Control Subcommittee, and the Regional Infection Control Networks will be one of the main conduits for reaching front-line staff with the training. Web-based learning tools will be piloted and evaluated at three acute care hospitals in December 2005 and January 2006 and in one Community Care Access Centre (CCAC) in spring 2006. Based upon the evaluations of the pilots and other input, a broader roll-out of initial tools is targeted for summer 2006.

Emergency Preparedness

To a large extent, how a system responds to an emergency is dependent upon the existing capacity and planning that has occurred *before* the emergency event. Public health units are expected to take an active role in leading the response to public health emergencies, which means they must have the capacity to plan, train, and exercise in preparation for these events on an ongoing basis. As SARS clearly demonstrated, some public health emergencies have significant implications for the broader health care system and the entire community infrastructure, and there needs to be an efficient way to coordinate the health response to such events.

The Ministry created the Emergency Management Unit (EMU) in 2003 to lead and coordinate health emergency planning and response. The EMU now reports to the CMOH, reflecting the CMOH's leadership role in health-related emergencies both within and beyond public health. The EMU has been developing new protocols and systems that permit timely alerts to health care providers through "Important Health Notices", providing information for both health care providers and the public on emergency planning through their website, and crafting emergency plans for the health care sector.

The EMU serves an invaluable role in ministry-wide coordination of both emergency planning and health system responses to incidents ranging from natural disasters such as the 2004 Peterborough flood to the 2005 Kashechewan evacuation. The EMU also serves as a window between the MOHLTC and Emergency Management Ontario (EMO), which coordinates government-wide emergency planning and response. Creation of the EMU permitted Ontario to play a more significant role in health emergency management activities at the federal/provincial/territorial level, including the championing of a mutual aid agreement among the parties.

Implementation of the integrated Public Health Information System (iPHIS) has been proceeding with all 36 public health units currently connected to a province-wide database. The system will enhance reporting of infectious diseases, contact tracing and outbreak management. This is an extremely important step to improve public health's capacity, but is only one part of the need for improved surveillance and communication. For example, further system development is required for information sharing between public health and hospitals (e.g., emergency rooms), laboratories, and physician offices. Until these systems are put into place, information sharing across these sectors will be limited to manual processes.

Public health system capacity and preparedness are the focus of increasing concern among professionals and the public in relation to a possible influenza pandemic. All eyes are currently on the H5N1 strain of influenza that is infecting domestic flocks along migratory flightpaths in Asia and Europe. While primarily still a disease of birds, the concern of most health experts is whether the virus will mutate to a form that is easily transmitted between people – a significant pre-condition for a worldwide epidemic (or “pandemic”). History informs us of the severity of influenza pandemics that have occurred in the past. It is therefore not a question of “if” there might be an influenza pandemic, but rather “when” it will occur, how quickly it may spread and how severe the illness will be. It is the responsibility of governments at all levels to prepare as best they can for this eventuality.

Following the release of the national-level plan by the Public Health Agency of Canada, Ontario's first comprehensive contingency plan for an influenza pandemic was released in May 2004 and updated again in June 2005. This plan is the product of substantial work by public health officials, infectious disease specialists, labour associations, first responders and a broad range of health care providers. A further updated version is expected in 2006 with a focus on community-based roles and responsibilities.

The goals of pandemic preparedness are to minimize serious illness and overall deaths through appropriate management of Ontario's health care system; and to minimize societal disruption in Ontario as a result of the pandemic. The plan sets out a comprehensive province-wide approach to health preparedness and response planning, and provides information to guide local pandemic planning groups. Many of the items I have highlighted throughout this report have direct relevance to pandemic preparedness including the following:

- building public health system capacity at the provincial and local levels;
- creating a public health agency to integrate scientific and laboratory expertise;
- establishing a mechanism for evidence-based advice on the prevention and control of infectious diseases (PIDAC); and
- building regional infection control networks to support local planning and coordination between public health units and health care systems.

Whether or not an influenza pandemic occurs in the near future, the thinking, planning and preparation for this scenario will help build emergency response capacity at provincial and local levels which will be useful for all types of health emergencies. SARS was a new pathogen with unexpected characteristics, illustrating that one cannot plan for every conceivable scenario. However, the response to SARS likely would have been substantially stronger if pandemic and emergency planning had been comprehensively pursued throughout the health sector in the lead-up to the outbreak.

The report of the National Advisory Committee on SARS and Public Health (Naylor Report) expressed concerns regarding inequities in health outcomes and their determinants that exist between Aboriginal people and non-Aboriginal Canadians, as well as the pattern of separate health systems for First Nations communities. The Walker Panel Report recommended that discussion on a formal protocol relating to public health emergencies affecting First Nations communities be initiated among the federal government, First Nations leaders and MOHLTC. While discussions have begun, there is a continuing debate about jurisdiction and funding that is not conducive to progress and may be disastrous in the context of a public health emergency. Recent events regarding drinking water in Kashechewan provide a glimpse into the challenges of weak infrastructure and other chronic problems that must be addressed before emergencies occur. I will provide an update on these issues in my 2006 report.

System Responsiveness to Threats

In 2005, Ontario experienced two large infectious disease outbreaks. Analysis of these events provides insight into the progress being made to strengthen the public health system.

Rubella Outbreak – Oxford County

An outbreak of rubella in Oxford County peaked in May within a religious community with historically low rates of immunization. A disease that is highly preventable by immunization, rubella can have serious consequences for the fetuses of susceptible pregnant women including intrauterine death, spontaneous abortion and congenital malformations of major organ systems. Surviving infants can suffer from some combination of deafness, cataracts, lack of proper eye and/or brain development, heart defects, and bone abnormalities.

The outbreak resulted in 283 cases in Oxford County and an additional 28 cases in three other public health units. The vast majority (90%) of the cases occurred in children and adolescents 19 years of age or younger. It is still too early to know if any cases of congenital rubella will occur as a result of this outbreak.

The number of cases and their contacts quickly overwhelmed the capacity of the local public health unit. This was therefore the first post-SARS test of how Ontario's public health system would respond to this type of scenario. In the absence of a full-time Medical Officer of Health (MOH) employed by the local board of health, I exercised my authority under the *Health Protection and Promotion Act* to appoint two Associate MOHs from nearby health units and ordered additional resources to the affected health unit. Disease investigation and control staff including public health nurses, public health inspectors, an epidemiologist and data analyst, and other staff were transferred in from seven other health units to augment the limited local staff complement. Provincial public health communications staff were also sent to assist the outbreak team. PIDAC was actively consulted for expert scientific and technical advice to support the local disease control efforts. From a mutual aid perspective, the system responded in an extremely positive and coordinated manner to this public health emergency. However, the fact that so many staff and so much expertise had to be transferred in to assist this health unit on an urgent basis raises significant concerns as to whether some public health units have a sufficient critical mass of resources and expertise. I will address this issue in more detail later in this report.

Legionnaire's Disease Outbreak – Toronto

Later in 2005, an outbreak of Legionnaire's disease occurred in a long-term care home in Toronto – site of the country's largest and arguably best resourced public health unit. Unlike most infectious diseases, *Legionella* are not spread from person-to-person, but from inhalation of contaminated water. Previous outbreaks have implicated showers, air conditioning cooling towers, humidifiers, whirlpool spas, respiratory therapy devices and decorative fountains. The typical inhabitants of long-term care homes, the elderly and those with chronic medical conditions, are particularly susceptible to this bacterium. As of mid-November 2005, 23 residents had died in the outbreak and a total of 136 cases of *Legionella*-related conditions had occurred, which were linked to water in the building's cooling system. From a system perspective, this outbreak raised issues around public confidence in the public health system and the public health laboratory, both of which I will address later in this report.

Ministry of Health Promotion

While the focus of this report is on health protection, I wish to highlight this government's decision to create a Ministry dedicated to health promotion, which provides long awaited attention and visibility to this core public health function. The Ministry of Health Promotion (MHP) is responsible for the improvement, coordination and delivery of programs designed to contribute to healthy living and wellness, in concert with communities, other levels of government, and the private sector. The essential nature of health promotion to the mandate of public health is such that I now report jointly to the Deputy Minister of Health and Long-Term Care and to the Deputy Minister of Health Promotion.

A remarkable development alongside the creation of the new ministry is the establishment of an Interministerial Committee (IMC) on Healthy Living that will be chaired by the Minister of Health Promotion and comprised of Ministers in key portfolios across government, including:

- Agriculture, Food and Rural Affairs
- Children and Youth Services
- Community and Social Services
- Education
- Environment
- Health and Long-Term Care
- Labour
- Municipal Affairs and Housing

The mandate of the IMC is to improve the coordination and communication of health promotion initiatives across government and help ensure the government delivers on its health promotion commitments. The IMC will develop a common vision for health promotion within government, and identify effective ways for ministries to work together to promote health. This promising initiative is an indicator of this government's commitment to better align policies and programs intended to keep people healthy in the first place. The IMC represents a long overdue mechanism for policy coordination and alignment on issues affecting health. Its membership includes the leadership of virtually all of the ministries whose policy levers influence the social and economic determinants of health. As such, this initiative has the potential to improve the conditions for health in a systematic and long-lasting manner.

Areas of Continuing Concern

While there is much to be optimistic about in the renewal of public health in Ontario to date, there continue to be a number of areas of vulnerability that are cause for concern.

Longstanding Vacancies in Medical Officer of Health Positions and Broader Human Resource System Challenges

The Medical Officer of Health (MOH) is a key position in public health units. The local MOH holds a position of organizational leadership and is relied upon for expert knowledge and skills, including but not limited to the investigation and management of outbreaks. Consistent with this, the *Health Protection and Promotion Act* requires every public health unit to employ a qualified, full-time MOH. As of mid-November, 2005, 12 of 36 Ontario public health units were without a full-time MOH appointed by the Minister, and were relying instead on one of the following: a primary care physician serving as an acting MOH on a part-time or full-time basis, a neighbouring MOH providing only part-time coverage, or the temporary appointment of an Associate MOH to fill a recent vacancy.

It is fortuitous that many recent public health emergencies have occurred in public health units with full-time, qualified MOHs and sufficient teams of multi-disciplinary public health professionals. However, we cannot rely on luck to protect the health of the public.

A previous section described the positive way in which the system mobilized to provide mutual aid to the Oxford County Health Unit during the rubella outbreak. The list of public health professionals that were transferred, including two Associate MOHs, encompasses all of the skill sets required to manage a public health emergency. While reliance on mutual aid is expected if local capacity is overwhelmed, the system must be designed to ensure that baseline capacity is in place, such that every local public health unit has a critical mass of expertise and resources to fulfill core public health functions including the ability to respond to public health emergencies.

Oxford County has been without a full-time, qualified MOH since 1998. It is not unique in this regard. There are seven public health units that have had MOH vacancies for at least five of the last 10 years. The eighth (Muskoka-Parry Sound District Health Unit) was disbanded and amalgamated with adjacent health units on April 1, 2005. As illustrated by the rubella outbreak, public health units with longstanding MOH vacancies also have a limited complement of other key public health professionals. This situation creates several problems for adjacent public health units that do have a full-time MOH:

- Risks that are not adequately addressed in one public health unit may spill over into a neighbouring health unit
- Staff of the smaller public health unit often rely on advice from the adjacent unit's MOH, taking that MOH away from his/her own unit's needs, and posing serious questions about the adequacy of after-hours medical coverage in these units
- MOH vacancies result in fewer people being available to exercise leadership on local or regional public health issues.

Longstanding MOH vacancies were highlighted by the 2002 inquiry into the Walkerton outbreak, as well as the 2004 Walker Panel report and Campbell Commission interim report. The situation remains essentially unchanged to this day, for a host of systemic reasons. The professional isolation of being a sole public health practitioner with unsustainable call schedules, non-competitive pay, and limited human and other resources within these public health units are major deterrents to attracting new entrants to the field. The system is only as strong as its weakest link, and we cannot continue to have public health units that lack the minimum critical mass to function as a modern and effective public health organization. I am expecting the final report of the Capacity Review Committee to provide advice to the government on how these problems can be rectified.

The longstanding MOH vacancies are a sign of a much broader challenge facing Ontario's public health system since many of the issues surrounding the recruitment and retention of MOHs also apply to other public health professionals. For example, not every public health unit employs a full-time epidemiologist, let alone individuals with risk communication, information system and other essential skill sets. Difficulties in recruiting public health inspectors and other disciplines are a common occurrence. Recruitment of public health nurses must compete with other health sectors in an environment of limited supply. Along with absolute shortage, maldistribution of public health professionals compounds the problem with inequities particularly pronounced in rural and northern settings.

The availability of a sufficient number and mix of public health professionals cannot be left to chance. Academic institutions need to offer a range of training programs that provide an appropriate balance of academic and practical training. Substantial infrastructure exists in the health care system to train health care providers, and similar attention needs to be given to the training of public health professionals. Options must exist not only for primary level professional training, but also for continuing education to ensure that existing professionals maintain and enhance their skills. As the employer of public health professionals, governments have a responsibility to ensure an adequate supply of trained professionals, contribute to their staff's continuing education, and provide a stimulating and rewarding work environment.

Addressing public health human resources is a challenge across the country and for the first time this challenge is a key focus among federal, provincial and territorial health ministers. In Ontario, the government has created a provincial health human resources strategy headed by an assistant deputy minister who reports jointly to MOHLTC and the Ministry of Training, Colleges and Universities. A strong public health component must be included in Ontario's efforts to move forward, and I will rely on the Capacity Review Committee to recommend a strategy for long-term systemic change.

System Fragility – Issues of Confidence and Coordination

The 2005 Legionnaire's disease outbreak in a Toronto long-term care home provided a test of the system and of the extent to which it had recovered and been strengthened through government action since SARS. While progress has been made, some of the difficulties that were experienced during SARS remain unresolved. Public and health care provider confidence in the system has clearly not been fully restored. However, considering the extent of decline in the system over the preceding decade, the basis for confidence in the system pre-SARS was primarily one of misplaced complacency. The experience with SARS continues to nurture fear, especially among front-line health care staff, about exposure to infectious diseases in their workplace. Both of these have implications for our collective ability to manage major infectious disease incidents in the future.

In the early stages of the Legionnaire's disease outbreak, it was clear that a respiratory pathogen had infected a large number of vulnerable elderly patients. Initially patients requiring hospitalization were placed in "negative pressure" isolation rooms until it was

known that the illness was not transmitted through the air from person to person. While it is reported that there has been a significant expansion in rooms that can do double-duty as negative pressure rooms since SARS, there were difficulties accessing these beds as they were being used for other patients and there is so little spare capacity in the system. Therefore, a central inventory of these critical resources is required in conjunction with a mechanism to manage scarce resources so that they are efficiently deployed with regard to system-wide needs and not just the requirements of the individual institution.

Communication with Front-line Staff

The SARS outbreak exposed gaps in our collective ability to communicate best practice advice for infection control to front-line health care workers. In the Legionnaire's disease outbreak, recommendations for hospital-based infection control practices were developed provincially and disseminated to institutions. However, based on feedback received to-date, this information did not reach the front-line staff in all institutions. The government has made significant enhancements to the distribution capacity of "Important Health Notices" for health care providers across the province. In addition, individual employers and organizations, including regulatory colleges, professional associations and organized labour must increase their efforts to ensure that all staff have the requisite information to promote both occupational health and safety and the appropriate care of patients. Similarly, individual practitioners have a responsibility to provide their contact information to health officials so that they can receive important health information in a timely fashion. A number of initiatives I outlined earlier including the creation of PIDAC, the EMU, Regional Infectious Disease Control Networks, and competency-based infection control training will also help to improve the content and reach of communication across and within the health care sector.

Ontario's Public Health Laboratory

Ontario's public health laboratory system is the invisible and unsung testing support service for much of our work in infectious diseases and outbreak control. As stated in the Walker Panel Report, "The ability to provide timely and accurate lab information... is key to an effective surveillance system and to a responsive public health system." Simply put, public health's ability to detect an outbreak and identify its cause depends on the existence of a strong, well-functioning public health laboratory system. Both federal and provincial post-SARS reports have stressed the priority of addressing the structure and capacity of public health laboratories across Canada. The Canadian Public Health Laboratory Network has identified the core functions and capabilities that are basic to the public health laboratory system (see list, on page 20). The Network has also recently developed a two-year strategic plan to improve laboratory surveillance, communication and collaboration across the country.

Public Health Laboratory Core Functions:

- Communicable disease surveillance, prevention and control
- Outbreak and emergency response to communicable diseases
- Environmental health and food safety
- Reference testing, specialized screening and diagnostic testing
- Biosafety, containment, and biohazard spill response programs
- Integrated communicable disease data management
- Public health policy development and evaluation
- Laboratory improvement and regulation (Quality Assurance)
- Training and education of health care and public health workers, and
- Public health related research and development

Source: Canadian Public Health Laboratory Network

In Ontario, the staff at both the central and regional public health laboratories have been called upon repeatedly in crises over the past decade to perform massive test volumes rapidly for public health units and health care providers. SARS, West Nile, and tuberculosis in Toronto's hostel system are but a few examples. The ability to rise to these challenges reflects the tremendous effort and dedication of the professional and technical staff within the public health laboratory, notwithstanding the chronic and increasingly urgent need to stabilize and strengthen these facilities.

The central role of the laboratory in outbreak control was illustrated in the 2005 Legionnaire's disease outbreak in Toronto. During the outbreak, delays were encountered in recognizing the cause due to false negative urine tests. Lack of a diagnosis caused undue fear among health care workers and the public, which in turn was fuelled by international media coverage of an "unknown" killer. While the in-house test that was initially used was at the cutting edge 15 years ago, better alternative supplementary testing exists today. An operational review of Ontario's public health laboratory is being completed and indicates a number of major challenges including the lack of a clear mandate, operational limitations, fragmented databases, under-developed academic and scientific linkages, and limitations of existing physical plants. Reflecting the challenging past and uncertain future, the laboratory suffers from substantial human resource shortages. For example, it currently employs only one medical microbiologist, one scientist, and a half-time medical director. The Walker Panel Report recommended a minimum of six medical microbiologists, but even these would be substantially less than the number of medical microbiologists employed at British Columbia's Centre for Disease Control, which serves a population a third of the size of Ontario. Nor would they account for the medical leadership needed across 11 regional laboratories. The challenge is not simply a matter of having positions available, but rather the ability to attract and retain leading scientists and professionals in a highly competitive market. Without this critical mass of expertise, we are at risk of being left behind.

The current situation must be turned around if the public health laboratory is to serve the public interest during future infectious disease outbreaks. Its critical importance to the health of the public must be recognized and much-needed stability returned to its staff and operations. As stated by Justice Campbell, “the capacity of a laboratory system to respond to an outbreak of infectious disease must pre-exist any future outbreak because it is impossible to create it during an outbreak.” Information systems are essential for any modern enterprise, and are especially crucial for a public health laboratory, which must integrate with and inform disease control efforts. The laboratory must be on the cutting edge of new knowledge and therefore requires strengthened linkages with academic health science centres and the research community. Unless the laboratory is appropriately staffed, resourced, and fully integrated with the rest of the public health system, Ontario will be vulnerable. The laboratory is on the front lines of disease surveillance and we cannot afford this essential service to be a weak link in our disease control efforts. Action is required now.

The best and possibly only hope for public health laboratory renewal lies in Ontario’s commitment to create a provincial Public Health Agency. As jurisdictions elsewhere in Canada and the world have done, Ontario is planning to have the public health laboratory as a key component of the Agency in order to integrate epidemiological and laboratory services under one roof. The site for this facility needs to be chosen in a manner that maximizes both its academic links and its geographic proximity to teaching hospital-based laboratories and scientific innovation centres. Failure to take advantage of this strategic opportunity will relegate this essential service to an even more uncertain future, resulting in a loss of the expertise and commitment needed to protect the health of Ontarians.

Pandemic Preparedness

While SARS was a major wake-up call, and definitely a tragic loss for individuals, families, and affected workplaces, it was a relatively modest outbreak with 375 cases (including 44 deaths) caused by a virus that was neither highly lethal nor highly transmissible. Despite this, it overwhelmed the public health system, paralysed the health care system, and had significant consequences on the hospitality and tourism sectors with a total economic impact topping \$2 billion across Canada. An influenza pandemic would be much more massive in scope because human strains of influenza are highly transmissible. Depending on the severity of the pandemic, Ontario may see between 1.8 and 4.2 million outpatient visits, between 7,500 and 65,000 hospitalizations, and between 2,900 and 19,700 deaths. While these estimates do not take into account the potential impact of antiviral drugs or an effective vaccine, they do give an approximate order of magnitude of health impacts that must be taken seriously by every government and health organization.

As has been said by many commentators since SARS, the only thing harder than planning for an emergency is explaining why you didn't. Pandemic preparation involves dealing with probabilities and making many judgement calls, not unlike earlier decisions about how well to fortify the levees of New Orleans. Ontario is better prepared than we were two years ago:

- roles and responsibilities in a health emergency have been clarified
- surveillance activities have been enhanced to identify outbreaks sooner, with reporting of outbreaks now occurring within 24 rather than 72 hours
- criteria for admission/discharge and transfers within hospitals have been developed to maximize bed utilization in a pandemic
- laboratory testing that will be available at each phase of a pandemic has been outlined
- a pandemic plan specifically for long-term care homes has been distributed
- the government has initiated the stockpiling of antivirals and other supplies anticipated to be in short supply.

A challenge that emergency planners and public health officials are facing in every jurisdiction is to determine what level of preparedness is sufficient and what other initiatives will be curtailed as a result of pandemic-related plans. While the Province has engaged many experts within health care and beyond in its pandemic planning, there has not been enough communication with Ontarians to allow them to understand the concept and implications of an influenza pandemic, including the province's planned response, the actions that each of us can take to protect ourselves, and our response should we or those we care about become ill. Our ability to manage during a pandemic will be dependent on the strength of our collective response, including the extent to which we are able to care for ourselves and our neighbours; our ability to prioritize health care to those in greatest need; and the degree to which we maintain the many services that comprise our complex society.

In the coming year the provincial plan will be updated to outline the strategies to be used in an influenza pandemic to avoid hospitalization. These will include a consolidated community health care agency response, how supplies will reach the community level, and how individual physicians, nurses, and other health care practitioners will contribute to and be supported by the provincial pandemic response. Pandemic preparedness will be a significant focus of my attention in the coming year and I will provide a situation update in my 2006 Report.

Final Comments

In this report, I have outlined the significant progress that has been made to strengthen Ontario's public health system over the past two years, along with the substantial work that remains to be done. In spite of the challenging environment, public health professionals both in the field and in the ministry continue to work hard to protect and promote the health of Ontarians. As outlined in distressing detail in the Naylor, Walker, and Campbell reports, long-standing complacency was the underlying theme leading to a weakened public health system. Following SARS, a flurry of activity occurred to begin to respond to the preceding decade of system decline. However, the renewal of public health is but one public policy issue among many, the memory of negative events such as SARS fade with time, and it is natural to be reassured by the initial actions taken in response to a crisis.

The focus on SARS and public health emergencies is also "double-edged" because, while it provides a positive opportunity to strengthen health protection, it risks diverting attention and resources away from prevention and promotion, which is not in the long-term public interest. While the initial focus is on building the foundation of a stronger system, future action must also be directed to strategies and programs across the public health spectrum that improve health and tackle the root causes of illness and injury.

The challenge with rebuilding the public health system is that it will take several years of concerted effort and focus to fulfill the recommendations outlined by Walker and Campbell. Unless those recommendations are fully implemented, public health will not be able to fulfill its legislated mandate or meet the expectations of the public. It is my role as an independent voice for the public's health and the state of the public health system to identify when misalignment exists and to point the way towards corrective action.

We are now close to the three-year point post-SARS and are entering a critical time period that will define whether the momentum for system renewal will be maintained or allowed to dissipate. Following receipt of the Capacity Review Committee's final report in early 2006, many challenging decisions will be required to improve the governance, configuration and capacity of Ontario's public health units. A revitalized public health laboratory in conjunction with a provincial Public Health Agency is the other critical pillar of system renewal. Our ability to protect the health of Ontarians against future threats will rely on the strength of these foundational elements.

