



Canadian Institute of Public Health Inspectors

L'Institut canadien des inspecteurs en santé publique

# Position Statement

## Canada's Public Health Protection System:

The Need for a National Strategy to  
Revitalize Frontline Environmental Public Health  
(EPH) Services

October 1, 2004



## Statement

As an organization that certifies and represents Environmental Public Health (EPH) professionals in Canada, it is the Canadian Institute of Public Health Inspectors' (CIPHI) position that a national strategy is needed to revitalize frontline EPH services in Canada. CIPHI also believes that this is an opportune time for all levels of government in Canada to develop and implement this strategy as part of the nation-wide reforms to create a *"Pan-Canadian"* public health system.

## Introduction & Definition:

*"Environmental Public Health (EPH) Services"* is a term used to represent all of those services managed by public health agencies that deal with issues and risks pertaining to human health and the environment.

EPH professionals typically include: Public Health Inspectors, Environmental Health Officers, Specialists and EPH program management. These dedicated individuals spend each day on the frontline of Public Health trying to improve environmental and social conditions for their communities. The general function of EPH programs and services is to protect public health and safety by ensuring: *safe food, safe water, safe housing, clean air and healthy environments free of the threat of disease or injury.*

EPH personnel are an integral part of the inter-professional team of frontline health practitioners committed to protecting the public's health. As a profession, they bring a practical knowledge and a unique set of skills that is rooted in a wide variety of fields of expertise. Their perseverance and goal-oriented approach to problem solving is well-known for its ability to deliver tangible results and positive health outcomes. EPH professionals are a critical component of the Public Health framework that dovetails all levels of governance. They are truly considered to be... *"the frontline troops in the public health battle to prevent disease"*.<sup>1</sup>

EPH professionals not only conduct routine compliance inspections, but more importantly are directly involved in frontline functions such as:

- Communicable Disease Surveillance, Investigation & Management
- Risk Assessment, Management & Communication
- Health Hazard Complaint Investigations
- Sampling, Analysis & Interpretation of Data
- Permitting & Licensing of Developments
- Enforcement of Environmental & Public Health Legislation
- Public Education, Health Promotion & Professional Consultations
- Community Networking & Empowerment
- Problem Prioritization & Resolution
- Emergency Preparedness & Response
- Policy Development

These activities are essential for Public Health to be effective in protecting and enhancing the lives of all Canadians and their environment. Effective health prevention programs such as EPH services can also reduce the stress placed upon the acute health care system.

### **Historical Background & Human Resource Trends:**

EPH services and environmental sanitation practices have been the backbone of public health interventions since the industrial revolution of the 1800's. The recent emergence of many new issues and health threats – such as *Escherichia coli* O157:H7, Cryptosporidiosis, West Nile Virus, Bovine Spongiform Encephalopathy (BSE), Severe Acute Respiratory Syndrome (SARS), and bio-terrorism attacks – underlines the urgent need for Canada to re-build its frontline capacity of a well prepared EPH system and workforce. The system must be able to anticipate, recognize and respond to emerging threats to the public's health, while still being able to carry on with routine work in an effective manner.

However, a decline in the support for EPH services during the past 35 years has led to a system that is ill-prepared to respond to current and emerging threats to the public's health. Erosion of the frontline capacity of EPH services is due to a variety of historical and societal factors.

### Vaccines & Immunization Programs

Vaccines and immunization programs have been highly successful in treating a wide variety of infectious diseases. Until the recent emergence of drug-resistant microbes, a sense of complacency had developed towards communicable disease prevention and program funding.

### Difficulties in Measuring EPH Outcomes

Due to the preventative nature of EPH programs, it has been difficult for governments to measure the efficacy or tangible value of the services. There are very few ways of determining how many cases of disease or the number of public health disasters that are being averted each and every day. Reliable indicators and measurable outcomes are not readily available to help in determining the actual *"safe level"* of resourcing required for administering EPH programs. As a result, program resourcing has varied considerably and noticeable gaps have resulted over time.

### The Environmental Movement

In response to the concerns about environmental degradation, governments of the early 1970's created and funded environmental protection agencies by shifting key personnel and fiscal resources from public health departments. The newly formed environmental agencies were primarily centered on the protection of ecological health and pollution control. These agencies did not have a mandate or focus on public health or disease prevention. The issue of protecting human health from things such as infectious diseases, chemical contaminants and physical hazards remained the primary mandate of the health agencies. Consequently, resources for EPH programs based within these health agencies became limited, and significant program gaps resulted over time.

In 1971, the EPH workforce in Canada was estimated at 2,046 frontline personnel, which gives an approximate ratio of 1:10,700 to the population served.

In 2001, the estimated number in the EPH workforce was estimated at 1,302 workers, which gives an average ratio of 1:18,300 to the population served.<sup>2,3</sup>

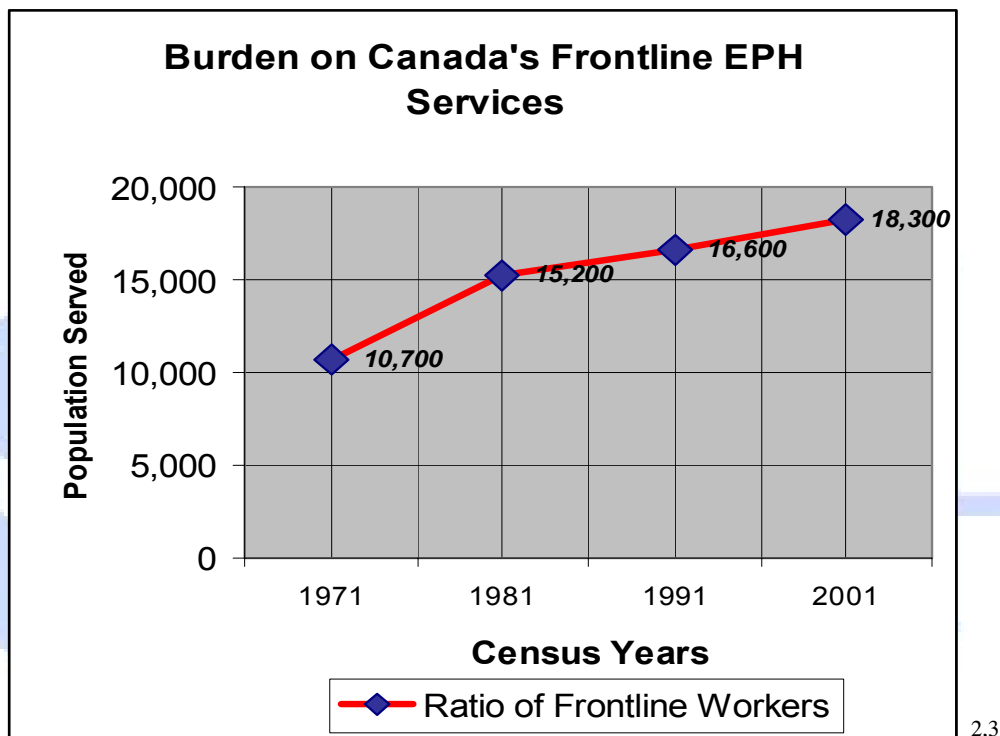


Figure 1

From a health protection perspective, it is also important to note that this ratio is a national average, and regional gaps do exist within the system. Some of the provinces surveyed had ratios well above the Canadian average.

The historical shift in emphasis from disease prevention to environmental protection has inadvertently led to a system that is overburdened and struggling to meet normal everyday demands. It has also resulted in a system that is inadequately resourced to meet the challenges of responding to new and emerging public health threats in an ever-changing world.

## The Critical Importance of EPH Services to the Health of Canadians:

The World Health Organization (WHO), the U.S. Centers for Disease Control & Prevention (CDC) and various other public policy think tanks have rated environmental concerns among the most important health issues and global threats.<sup>4,5,6</sup> These organizations have also ranked EPH and sanitation accomplishments among Public Health's greatest accomplishments in health protection.

For example, the increase in overall life expectancy from 55.9 years to 79.6 years between 1901 and 2001 has been attributed largely in part to:

- ❖ Environmental Public Health interventions, monitoring and regulation of water quality, food safety and waste disposal;
- ❖ The advent of immunization programs; and
- ❖ Other primary preventative care programs.

As a direct result of environmental public health and sanitation standards, more than 80% of human disease has been virtually eliminated. Canada now ranks 5<sup>th</sup> in the world in terms of life expectancy.<sup>7,8,9,10</sup>

## The Need for a National Strategy to Revitalize EPH Services

In the wake of such dramatic disease outbreaks such as:

- *E. coli* O157:H7 in Walkerton, Ontario
- Cryptosporidiosis in North Battleford, Saskatchewan
- SARS in Ontario and British Columbia
- West Nile Virus across North America
- Bio-terrorist attacks (Anthrax, Smallpox, Sarin nerve gas)

Governments across Canada have commissioned numerous studies and public inquiries to shed light on how these types of disasters came about and what reforms and investments are needed to stabilize and enhance Canada's public health system.<sup>11,12,13,14,15</sup> Due to the highly fragmented nature of the Public Health system in Canada,

virtually every study conducted thus far has identified or echoed the following list of remedies:

- ✓ Re-invest in the public health infrastructure in full collaboration with the federal, provincial, territorial and local governments.
- ✓ Re-build capacity and enhance skills of frontline personnel involved in health surveillance and health protection programs.
- ✓ Build *“surge”* capacity into the public health system for dealing with public health emergencies and epidemics.
- ✓ Resolve the issues of human resources shortages in the public health system.
- ✓ In close consultation with all stakeholders, develop a *“seamless”* public health reporting and response system.
- ✓ Provide centralized leadership to steer the new *“Pan-Canadian”* public health network.
- ✓ Identify weaknesses of existing public health programs and services and ensure that these gaps are filled and adequately resourced.

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There is a consensus within the field of EPH that the strategy should be built upon the foundation of the existing system, and that the work to maintain and improve the health of Canadians must continue. In other words, we need to *“strengthen that which remains.”* It is the Institute’s firm belief that the work should be based on a set of clear goals and achievable objectives.

The following pages contain a list of six goals and objectives, which are considered essential to the success of the national strategy.

***Primary Goal: Enhance & revitalize the Environmental Public Health system at the local, provincial and federal levels to ensure that it is capable of effectively responding to current and emerging issues that potentially threaten the health, social and economical well-being of Canadians.***

**I. Strengthen the Frontline EPH Capacity & Human Infrastructure**

A minimum or “*safe level*” of resourcing needs to be established for frontline EPH programs and services to ensure routine capacity and ‘*surge*’ capacity requirements are being met. This goal is intended to identify and correct weaknesses within these programs and the public health system. Governments (and their various partners) need to work together to ensure that issues of optimum staffing levels, recruitment and retention are properly addressed and remedied on an on-going basis.

This goal is also intended to ensure that frontline EPH professionals are competent and effective in responding to current and emerging health issues. EPH practitioners need to be certified based on a set of universal core competencies and held accountable to the public they serve. EPH professionals should be required to maintain their certification by following standardized Codes of Practice and by meeting continuing education requirements to ensure they remain current on emerging health issues, public health networks, research and cutting edge technologies.

**II. Build-Up Strong Leadership at All Levels**

Strong leadership will be required centrally and at regional and local levels. *The Public Health Agency of Canada* will need to play a pivotal role in assisting federal, provincial, territorial and local agencies in acquiring reliable information and training in a wide variety of areas ranging from emergency preparedness, outbreak management, epidemiology and other core program areas. There is a clear need to develop an inventory of highly trained frontline workers and specialists, who in turn, can become leaders at all levels of the EPH system all across



Canada. The *Public Health Agency of Canada's* proposed "*National Collaborating Center for Environmental Health*" in British Columbia, along with some of the country's leading EPH agencies and academic institutions, will need to play a concerted role in developing these training programs and communicating the information by way of Canada-wide standards, guidelines and information bulletins.

It is recommended that the Government of Canada appoint a *Chief Environmental Public Health Officer*, similar to the recent appointment of the *Chief Public Health Officer* position created within *The Public Health Agency of Canada*. Consideration also needs to be given to establishing a *Canadian Council for EPH*. The creation of these mechanisms would help ensure that EPH programs are championed at all levels of government across Canada. It would also ensure that a national strategy to revitalize frontline EPH services is implemented consistently within all regions of Canada and that everyone is working from a *master plan*.

### III. Supporting and Enhancing EPH Research & Development

There is a need to enhance the field of EPH by supporting research & development initiatives by:

- a) Strengthening the 6 existing schools of EPH to ensure that they offer all of the practical aspects of training schools, while also providing the cutting-edge research associated with academic institutions;
- b) Developing effective health strategies and interventions for addressing current and emerging EPH issues;
- c) Identifying and managing the precursors to disease outbreaks;
- d) Creating strategies for engaging the public and the community's meaningful involvement on EPH issues;
- e) Identifying & evaluating the impact of legal decisions relating to EPH issues.

Once again, the proposed “*National Collaborating Center for Environmental Health*” in British Columbia along with some of the country’s leading EPH agencies and academic institutions, will need to play a concerted role in conducting and organizing this type of research & development and communicating it to health agencies across Canada.

#### IV. Develop Measurable Indicators & Outcomes

Due to the preventative nature of EPH programs, it is difficult for public health agencies to measure program effectiveness. In order to have an effective and seamless public health system in Canada, it will be essential that a series of reliable indicators and measurable outcomes be developed to help in determining the “*safe level*” of resourcing required for administering EPH programs.

#### V. Enhance Access to Technology & Improve Communication (Marketing & Advocacy)

Technology has revolutionized the way EPH programs are administered from coast to coast. However, not all agencies or levels of government are currently able to access and take advantage of the wide variety of technologies that are currently available to manage data and streamline operations. A national strategy to revitalize and enhance EPH programs would need to address this issue to ensure all practitioners are able to become part of a seamless ‘*Pan-Canadian*’ public health reporting and response system.

Improving communication within the field of EPH can be readily achieved by improving access to technology. However, part of this goal should also be to communicate or advocate with policy decision-makers and the general public on the importance of EPH services to ensure they are aware of the cost-savings associated with prevention programs versus chronic health care. Public officials and the general public need to be made aware so that preventative programs are kept prioritized and made to be sustainable well into the future.

## **VI. Develop Strategic Partnerships**

The intent of this goal is to foster partnerships between government agencies, private industry, professional organizations and other entities that influence environmental public health policy and services. Creating and bolstering existing partnerships will help to advance the communication, marketing, and training initiatives. This goal will foster communication and much needed interaction between all stakeholders.

### **CONCLUSION:**

Environmental Public Health services and adequate sanitation have been the backbone of public health interventions since the industrial revolution of the 1800's. The recent emergence of many new issues and health threats – such as *E. coli O157:H7*, Cryptosporidiosis, West Nile Virus, BSE, SARS, and bio-terrorism attacks – underlines the urgent need for Canada to re-build its frontline capacity of a well prepared EPH system and workforce. The system must be able to anticipate, recognize and respond to emerging threats to the public's health, while still being able to carry on with routine work in an effective manner.

The Institute believes that this is an opportune time for all levels of government in Canada to develop and implement this strategy as part of the nation-wide reforms to create a "*Pan-Canadian*" public health system.

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- <sup>1</sup> American Public Health Association, Environmental Health Competency Project: Recommendations for Core Competencies for Local Environmental Health Practitioners, National Center for Environmental Health, Page 5, (2001).
- <sup>2</sup> Unpublished Data, Canadian Institute of Public Health Inspectors, Review of Internal Data: 1935-2004.
- <sup>3</sup> Statistics Canada, Census Data Tables & Population Estimates (1970-2004), Personal Communications & Correspondence, Prairie Region Office, Winnipeg, Manitoba, August 2004.
- <sup>4</sup> World Health Organization, Global Burden of Disease and Injury, Vol. I, Geneva, WHO; 1996.
- <sup>5</sup> CDC. Ten Great Public Health Achievements-United States, 1900-1999, Morbidity & Mortality Weekly Report, 1999;48 (12): 241-3.
- <sup>6</sup> Brookings's Institute (US). The Government's Greatest Achievements of the Past Half Century. Washington: The Institute; 2000.
- <sup>7</sup> Statistics Canada, New Birth Cohort Life Tables for Canada & Québec, 1801-1991, Ottawa, 2004.
- <sup>8</sup> Statistics Canada, Table 102-0511: Life Expectancy – Abridged Life Table, at Birth and at Age 65, By Sex, Canada, Provinces and Territories, Annual (Years), 2001, Ottawa, 2004.
- <sup>9</sup> Turnock, BJ. Public Health: What It Is and How It Works, Gaithersburg (MD): Aspen Publishers, Inc. 2001.
- <sup>10</sup> Statistics Canada, Health of Canadians Living in Census Metropolitan Areas, Table 1 (2000), Cat. No. 89-613-MIE, No. 002, Ottawa; July 2004.
- <sup>11</sup> National Advisory Committee on SARS and Public Health, Learning From SARS: Renewal of Public Health in Canada, Chair: Dr. David Naylor, Ottawa, Health Canada, 2003.
- <sup>12</sup> Standing Senate Committee on Social Affairs, Science and Technology, Reforming Health Protection and Promotion in Canada: Time to Act, (Chair: Senator Michael Kirby), Ottawa, Senate of Canada, 2003.
- <sup>13</sup> The Honourable Dennis R. O'Connor, Commissioner, Part One: A Summary Report of the Walkerton Inquiry, The Events of May 2000 and Related Issues, and Part Two: Report of the Walkerton Inquiry: A Strategy for Safe Drinking Water, Ontario, Ministry of the Attorney General, 2002.
- <sup>14</sup> The Honourable Justice Robert D. Laing, Commissioner, Report of the Commission of Inquiry into matters relating to the safety of the public drinking water in the City of North Battleford, Saskatchewan, March 28, 2002.
- <sup>15</sup> Commission on the Future of Health Care in Canada, Roy J. Romanow, Q.C. (Commissioner), Building on Values: The Future of Health Care in Canada (Final Report), November 2002.
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