

# BC CENTRE FOR DISEASE CONTROL STRATEGIC PLAN



**BC Centre for Disease Control**  
AN AGENCY OF THE PROVINCIAL HEALTH SERVICES AUTHORITY

August 2007



August 29, 2007

It is my pleasure to convey the 2007/08 update of British Columbia Centre for Disease Control's (BCCDC) strategic plan. Our plan is aligned with PHSA's four key strategic directions and three enabling strategies.

BCCDC's critical role in communicable disease control and emerging responsibilities in environmental health and emergency management preparedness focus our core responsibilities on the protection of the public's health. We have re-aligned our strategies and priorities to further reinforce our provincial role in supporting PHSA, the BC Ministry of Health and Provincial Health Officer, the health authorities and First Nations in our collective efforts to ensure that British Columbians are protected from infectious disease and environmental hazards. Our work in the protection of health remains a high public priority as global events continue to remind British Columbians of the threat of pandemic disease, the consequences of natural disasters or bioterrorism.

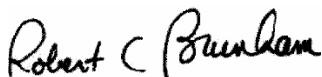
Our five year goals are focused on:

- Information management and data stewardship
- Surveillance and emergency management
- Public health core programs
- PHSA Centres for Population and Public Health
- imPROVE
- First Nations health
- Research
- Service

We are fully engaged with PHSA's and national and provincial efforts to improve public health capacity. We are actively contributing to PHSA's Population and Public Health Community of Practice. We are leading and/or supporting the development of evidence-based core public health programs related to communicable disease control, environmental health, public health emergency management, health assessment and disease surveillance, and the Provincial Public Health Laboratory. We are coordinating the implementation of new vaccine preventable disease programs and developing the National Collaborating Centre on Environmental Health.

We are working with the Ministry and related national efforts in information management related to improve surveillance and laboratory reform to support population health prevention, promotion and protection.

We look forward to working with our partners to monitor and protect the health of British Columbians.



Robert Brunham  
Provincial Executive Director and  
Scientific Director  
BC Centre for Disease Control

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# The BCCDC – Who We Are and What We Do

## ***Vision***

*“The Healthiest Place on Earth”.*

## ***Mission***

*Working Together to Protect Health,  
Prevent Harm, Prepare for Threats.*

The BC Centre for Disease Control (BCCDC) is an agency of the Provincial Health Services Authority (PHSA) and is responsible for preventing and controlling communicable disease and promoting environmental health for British Columbia. BCCDC’s core focus includes Communicable Disease Control, Environmental Health and Public Health Emergency Management. BCCDC also hosts the medical and scientific expertise associated with the Provincial Public Health Laboratory function of PHSA’s integrated Laboratory service. BCCDC provides a unique integration of public health protection programs resulting in highly effective service, while attracting and retaining the very best scientists, technologists and clinicians. BCCDC is accountable to the PHSA, in support of the Minister of Health, the health authorities, and the people of British Columbia.

Key specialized, yet integrated, services within BCCDC operate to support the province's regional health authorities to provide the specialized services necessary to control communicable disease and promote environmental health.

BCCDC collaborates with the University of British Columbia, Simon Fraser University, Genome BC, the Public Health Agency of Canada, regional health authorities and other agencies across Canada in the advancement of public health policy, applied research and clinical teaching. Moreover, BCCDC has ties with international organizations and health partners with whom it works on research and collaborative projects, including in the Asia Pacific region.

BCCDC's main facility is located at 655 West 12th Avenue in Vancouver. It is augmented by street outreach nurse services and offices in the inner city of Vancouver, by an ambulatory tuberculosis clinic in New Westminster and by consultative clinics at various locations around the province. Annually the BCCDC receives reports of over 25,000 cases of communicable diseases, provides thousands of consultations to health-care practitioners, and in partnership with PHSA Laboratories performs over 1 million laboratory tests, and provides services to individual patients in over 100,000 clinical activities.

## **What We Do**

The following are the key program divisions of BCCDC:

**Epidemiology Services** provides the surveillance function for the province by monitoring the occurrence of cases and outbreaks of communicable diseases, develops prevention and control policies and programs, and supports the implementation of province-wide immunization programs.

**Vaccine and Pharmacy Services** provides specialized pharmaceutical care services for clients in the management of tuberculosis, sexually transmitted infections, and vaccine-preventable

diseases. The division provides safe and effective therapies through the evaluation and monitoring of client and population profiles.

**Hepatitis Division** coordinates the integration of viral hepatitis prevention and care services in British Columbia. Through integration of the public health and care systems, the comprehensive health promotion, prevention and care needs of at-risk individuals and vulnerable populations can be addressed in an equitable manner to maximize control and prevent viral hepatitis.

**Laboratory Services** provides the professional and scientific staff that coordinates public health and microbiology reference services and focuses on issues such as safe drinking water, controlling food-borne disease agents, identifying novel emerging agents of disease and conducting molecular epidemiology. Laboratory Services together with Epidemiology Services provides the critical surveillance role for the province in detecting and in preparing for epidemic and pandemic disease.

**STI/HIV Prevention and Control** is the provincial centre of excellence for sexually transmitted infection and HIV and coordinates province-wide efforts to control them. The division operates an outpatient Sexually Transmitted Disease (STD) clinic, an outreach prevention program, on-reserve education for Aboriginals and provides consultation to practitioners around the province regarding STD management.

**Tuberculosis Control** is the provincial centre of excellence for TB prevention, control and treatment. Programs include outpatient clinics in New Westminster and Vancouver; a street outreach program in Vancouver's downtown eastside; field operations in other areas of the province; and services for on- and off-reserve Aboriginal people.

**Environmental Health Services** at BCCDC includes the following programs and services:

*Toxicology* provides expert, state-of-the art scientific consultation in environmental health and toxicology in support of government ministries and health authorities. *Food Protection Services* partners with key stakeholders and provides provincial leadership to ensure the province's strategies, legislation, policies and standards protect the safety of BC's food supply from farm to plate. *Radiation Protection Services* provides programs and services that help protect British Columbians from radiation hazards. *Drug and Poison Information Centre* assists health professionals, acute and long-term care facilities and the public with poison information. *National Collaborating Centre on Environmental Health* – BCCDC is the host agency for the National Collaborating Centre on Environmental Health.

**Public Health Emergency Management** is the newest program at BCCDC and is being developed in response to a memorandum of understanding with the Ministry of Health which requests that BCCDC develop a capacity to anticipate and coordinate the

*Through affiliation with the University of British Columbia (UBC) and in partnership with the public health community, our vision – "The Healthiest Place on Earth" is realized when science informs public health and public health informs science.*

*BCCDC provides the province with state-of-the-art public health surveillance, detection, treatment, prevention and consultation services that also support national initiatives.*

*BCCDC provides direct diagnostic and treatment services for people with diseases of public health importance.*

*BCCDC provides analytical and policy support to all levels of government and health authorities for the protection and promotion of health.*

*BCCDC is a UBC research and training centre, which assures that health practitioners and the public have ready access to the best people with the latest knowledge.*

*BCCDC provides opportunities for scientists, health professionals and other partners to contribute their knowledge and experience in resolving the outstanding health challenges facing British Columbia.*

*Ultimately, BCCDC envisions that, through the application of effective public health services, British Columbians will enjoy the benefits of healthy people living in healthy communities.*

public health aspects of a major communicable disease or environmental hazard emergency that impacts or has the potential to impact several health authorities.

In addition to the specific programs identified, BCCDC also provides the following functions:

### **Education**

BCCDC is involved in a wide range of education activities through its various divisions, including training health professionals and emergency preparedness personnel, as well as providing reliable and current public health information to the general public.

### **Research**

Research at BCCDC reflects a commitment to innovation in public health services. Basic research focuses on vaccine discovery – pre-clinical and evaluation, genetic characterization of new and emerging disease agents and mathematical modeling of major communicable disease problems. Applied research focuses on cost-effective evaluation of public health interventions such as drinking water and source protection, vaccination, disease outbreak recognition and control, and antimicrobial treatment of communicable diseases. BCCDC in partnership with developing nations is involved in Canadian International Development Agency-sponsored global health research to prevent and control HIV/AIDS, STIs and TB. Research generates more than \$3 million annually in contract and grant awards.

### **Mathematical Modeling**

Modeling is a principal new public health tool for predicting the behavior of large, complex systems, such as infectious disease spread, within a population (a hospital, school, city or at the international level). These simulations are used to test a variety of potential intervention strategies for efficiency. The mathematical modeling program at BCCDC is actively involved in developing new and innovative mathematical tools to better understand and control the spread of infectious diseases. The objective is to produce state-of-the-art analytical and computational tools and make them available to public health decision-makers to be used in designing new disease control strategies and policies.

## **Looking Forward: Opportunities and Challenges**

Events such as the SARS crisis, avian influenza, climate change, environmental disasters and continued worldwide concern about the possibility of pandemic influenza continue to focus scientific, public and political attention on the critical importance of an effective public health system. BCCDC is engaged with national, provincial, and health authority efforts to strengthen public health capacity and improve population health. We are taking advantage of being selected as the host agency for the National Collaborating Centre on Environmental Health to network with the other five National Collaborating Centres, chairing the Advisory Committee related to the National Collaborating Centre on Infectious Disease, and by partnering with the other Centres around the issues of drinking water safety and Aboriginal health.

As a member of PHSA's public health family of services we continue to contribute our expertise related to communicable disease, environmental health, public health laboratories, and emergency management to the strengthening of prevention, health promotion and other population health strategies in conjunction with PHSA's development of a Population and Public Health Community of Practice, and our shared commitment to chronic disease management and primary care improvements.

While the threat of a pandemic currently remains the most critical international public health threat, there are persistent threats such as avian influenza, West Nile virus and bioterrorism. Environmental health has emerged as a major public issue, especially because of global warming and the safety and security of our food and water supply. British Columbia's political and fiscal commitment to building a new relationship with First Nations provides an opportunity to improve collaboration with Aboriginal communities and jointly develop population health strategies to address health inequities. In order to improve our capacity to support Aboriginal health, BCCDC will continue to realign our hepatitis, sexually transmitted infections, and tuberculosis prevention and control programs to improve access and coordination of prevention and intervention strategies supporting First Nations' health. This will be done in part by having Aboriginal professionals become part of the program.

BCCDC's critical role in communicable disease control and emerging responsibilities in environmental health and emergency management preparedness focus our core responsibilities in the protection of the public's health. We have realigned our strategies and priorities to further reinforce our provincial role in supporting the Ministry, Provincial Health Officer, and the health authorities and First Nations in our collective efforts to ensure that British Columbians are protected from infectious disease and environmental hazards.

## **Opportunities**

### **Memorandum of Understanding and Proposed Modernization of (Public) Health Act:**

- New Public Health Act to be introduced in 2008 will provide a legislative base for mandatory public health core programs, population health planning, and evidence based practice.
- Formal delegation of Provincial Health Officer and Ministry support functions related to health protection functions – memorandum of understanding identified in performance agreement.

### **Strengthened Science - Provincial, National and International Collaborations:**

- CFI Research Hospital Initiative could provide PHSA with super-computing capacity to further strengthen mathematical disease modeling and analysis.
- Formalized relations and initiatives related to surveillance, outbreak surveillance, disease trends and response planning.

### **Provincial Population Health / Public Health Initiatives:**

- ActNow – 2010 Health BC goals reinforce population and public health.
- PHSA's Public Health Community of Practice harnesses the diverse public and population health capacity of PHSA agencies and corporate services related to public health core programs, primary care and chronic disease prevention and management.
- Provincial laboratory reform provides an opportunity to use laboratory test information for disease surveillance and outbreak control.

### **Improvements in Information Management and Surveillance Capacity:**

- E-Health combined with Panorama (the public health surveillance system) provide an opportunity to substantially improve disease surveillance, outbreak control and response coordination.

- CFI – Research Hospital Initiative has the potential to realize a quantum leap in computer-based analysis of disease phenomena leading to new knowledge about prevention and control.
- Canada and BC’s continued interest in the Asia Pacific Centre for Disease Control reinforces the significance of the pacific region from a communicable disease and environmental health perspective.

**The Transformative Change Accord: First Nations Health Plan:**

- Stage set for coordinated and focused attention on improving Aboriginal health within BCCDC and across PHSA.
- Appointment of a Provincial Aboriginal Health Advisor in the Office of the Provincial Health Officer provides an important link to First Nations leadership and will facilitate collaborative health planning and service delivery.

**Challenges**

Despite the opportunities outlined above – several challenges will need to be addressed in the years ahead.

**British Columbia, Canada and the international community continue to be challenged by serious disease outbreaks and environmental catastrophes:**

- Pandemic influenza threat
- West Nile virus
- Avian influenza and other potential emerging infectious disease outbreaks
- Food contamination
- Environmental hazards
- Blood borne disease

**Maintaining effective relations and mutually supportive roles – in an evolving health system:**

- Aboriginal collaboration and health status improvement strengthened by the First Nations Health Plan.
- Meeting Ministry and Provincial Health Officer expectations outlined in the memorandum of understanding which must be signed by Sept. 30, 2007.
- Translating research knowledge into practice improvements in an era where the public has expanded access to a range of knowledge sources through the Internet.

**Managing cost pressures:**

- Evolving best practices require investment in new technology, diagnostics and treatments.
- Demographic shifts such as aging, immigration and travel increase exposure to known and new or emerging disease phenomena.
- Inflation – especially related to drugs and labour -- continue to challenge relatively fixed budgets.
- Effective communication and collaboration require ongoing investments of time and technology.

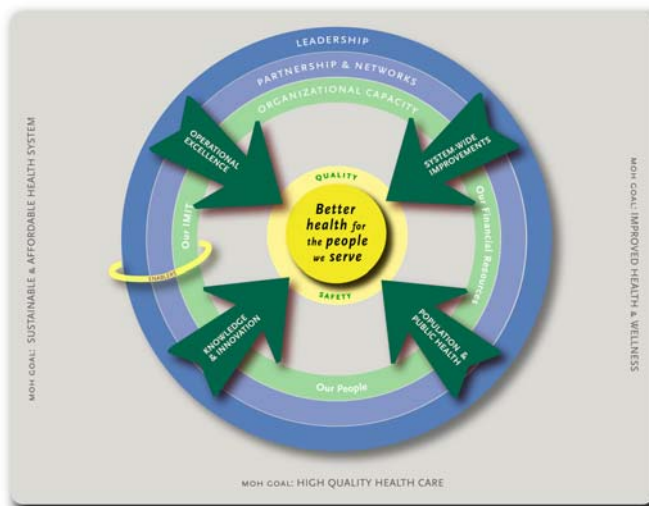
**Information management:**

- Harnessing full potential of rapidly evolving information systems requires an effective technology platform and information management capacity.
- Privacy protection will need comprehensive data anonymization and related data security capacity.
- Data linkages across data systems will require significant investment in data standardization, as well as policies and procedures to ensure data integrity.

## Our Strategic Directions

BCCDC has engaged key stakeholders and undertaken a thorough review of its strategic directions in conjunction with PHSA's planning process. As a result BCCDC has sharpened its core foci and deepened its strategies to better meet customer needs and expectations.

Our five strategic directions and seven enabling strategies as described below are aligned with PHSA's strategic directions (highlighted in green).



## Population and Public Health

### 1. Lead in Protecting Health

Focus mandate, core program responsibilities, clinical and scientific resources on protecting health and related prevention, communications and advocacy in relation to:

- Communicable disease and health-care associated infection prevention and control
- Environmental health and hazard protection
- Public health emergency management
- Patient and population safety

## Operational Excellence

### 2. Create and Enhance Partnerships

- Contribute our expertise in communicable disease prevention and environmental health to PHSA's Public and Population Health Community of Practice in order to support PHSA's efforts to improve chronic disease prevention and management.

- Create partnerships to target specific chronic diseases such as cervical cancer and end stage liver disease.
- Contribute to government's goal to improve First Nations health.
- Establish partnerships with academic institutions to further the development of a School of Public Health in BC.

## Knowledge and innovation

### 3. Harness Science and Innovation

- Promulgate best practice and clinical excellence in communicable disease management, environmental health, and public health emergency management.
- Provide education, research and training.
- Undertake knowledge generation, translation, and knowledge transfer.
- Enhance and manage information management systems, communicable disease and environmental health surveillance capacity.
- Develop translational research strength on the social, environmental and biological determinants of disease.

## System Wide Improvements

### 4. Strengthen Environmental Health (EH)

- Improve organizational capacity through greater integration of programs and resources of the EH Division (including the National Collaborating Centre for Environmental Health).
- Recruit to unfilled scientific and technical positions.
- Support EH core program and explore the establishment of capacity to support other areas of environmental health such as water, tobacco, climate change and the broad public health interest in food.

### 5. Coordinate Public Health Emergency Management

- Establish the organizational capacity to plan for and respond to the public health aspects of provincial emergencies.
- Develop the Asia-Pacific Network for advanced surveillance and disease prevention.

- Prepare for pandemic influenza and the potential for chemical, biological and radiological terrorism.

# Our Enabling Strategies

## Building Organizational Capacity

### 1. Communications

- Improve communications and branding related to our core business of protecting health.
- Improve the BCCDC website for better communications, knowledge transfer, and e-health.

### 2. Scientific and Clinical Expertise & Development

- Recruit environmental health and emergency management expertise.
- Continue strong commitment to research and innovation.

### 3. Healthy Workplace/Recruitment Retention

- Maintain a healthy workplace and strengthen our intellectual capital by recruiting and retaining the very best people to expand our program, scientific and innovation capacity.

## Harnessing the Potential of Partnerships and Networks

### 4. Integration and Collaboration

- Support PHSA and the health-care system's concern for chronic disease management by partnering with PHSA agencies to improve prevention across the broad field of population and public health.
- Integrate communicable disease prevention strategies.

### 5. Ministry/Provincial Health Officer Memorandum of Understanding

- Finalize the memorandum of understanding (MOU) between the Ministry, Provincial Health Officer and PHSA concerning the roles and responsibilities of BCCDC.
- Develop implementation plan regarding MOU.

## Modeling Focused and Disciplined Leadership

### 6. Information Management & Privacy Protection

- Steward and develop information management systems that protect privacy and improve surveillance and our understanding of disease phenomena.

### 7. Quality / Patient & Community Safety

- Maintain commitment to Quality, Risk Management and Patient Safety.
- Develop the concept of population safety as a public health complement to the health-care system's concern for patient safety.
- Refine balanced scorecard and other performance reporting indicators.

### 8. imPROVE

- Undertake imPROVE analysis and program integration to improve efficiency and effectiveness.

# Implementing Our Strategy – Five Year Goals

- 1. Information Management and Data Stewardship**
  - Robust and seamless information management across databases and between agencies.
- 2. Surveillance and Emergency Management**
  - Integrated and enhanced capacity.
- 3. Public Health Core Programs – fully functional and effective**
  - Communicable Disease Control
  - Environmental Health
  - Public Health Emergency Management
  - Health Assessment and Disease Surveillance
  - Provincial Public Health Laboratory.
- 4. PHSA Centres for Population and Public Health**
  - Leveraging off PHSA’s Population and Public Health strategic direction and Population and Public Health Community of Practice.
- 5. imPROVE**
  - An established culture of imPROVE, quality and safety.
- 6. First Nations Health**
  - Aboriginal engagement in programs and services.
- 7. Research**
  - “Brand” recognition for scientific and research excellence.
- 8. BCCDC Services**
  - Integrated client access to and response by BCCDC services.