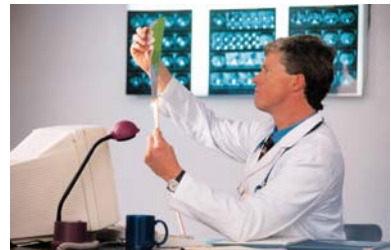


# 2010 - 11 Gap Analysis & Improvement Plan: Prevention & Control of Communicable Diseases Core Public Health Program

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**2010-11 Gap Analysis & Improvement Plan:  
Communicable Disease Prevention  
Core Public Health Program**

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## Introduction

In 2005, the BC Ministry of Health released a policy framework to support the delivery of effective public health services. *The Framework for Core Functions in Public Health* identifies 20 core programs that a renewed and comprehensive public health system must provide. Evidence reviews are conducted for each core program to inform Model Core Program Papers, against which each health authority is responsible to perform a gap analysis and develop an improvement plan.

This document contains a gap analysis and improvement plan for the Communicable Disease Prevention core program. The specific objectives of the Communicable Disease Prevention core program are to:

- Prevent the acquisition and transmission of communicable diseases;
- Decrease individual and population level vulnerabilities and risk factors associated with acquiring communicable diseases;
- Reduce the severity, disability and harm from communicable diseases; and
- Improve utilization of animal health and environmental health data with human health surveillance for early detection of human communicable diseases.

The program outlines six core components through which health authorities can support the objectives listed above. These are:

- Surveillance;
- Prevention of communicable diseases:
  - Immunization;
  - Harm reduction;
  - Screening.
- Management and control of communicable diseases:
  - Individual case management and contact notification;
  - Outbreak management;
  - Health emergency management.
- Health promotion;
- Health protection strategies;
- Program monitoring, evaluation and applied research.

The purpose of this document is to present PHSA's gap analysis and multi-year improvement plan in relation to the Communicable Disease Prevention core program.

## Background

PHSA's Strategic Plan 2010-2013 identifies *Creating Quality Outcomes and Better Value for Patients*, *Promoting Healthier Populations* and *Contributing to a Sustainable Health Care System* as its three key strategic directions. The PHSA's Population & Public Health initiatives support mainly the Promoting Healthier Populations strategic direction.

In 2009, the PHSA Centres for Population & Public Health model was launched as a coordinating mechanism to support the commitment made by PHSA's Executive Leaders Council and Board to advance population and public health in BC. The Centres provide a venue to leverage expertise across PHSA agencies and programs, facilitate knowledge exchange and collaboration, and coordinate PHSA's response to the Core Public Health Functions requirements. The Centres provide a mechanism for PHSA to internally coordinate primordial and primary prevention activities and link with external agencies to address issues across the province. The Centres are responsible for:

- Leveraging expertise and knowledge of key agencies.
- Developing gap analyses and performance improvement plans for Core Public Health Programs and report on progress of the plans.
- Collaborating on planning, implementation and evaluation of population and public health primary prevention projects funded by PHSA.
- Being a point of contact with external groups, including health authorities, government, community groups, aboriginal groups and other stakeholders; offer, and provide support to them in addressing province-wide needs through knowledge synthesis, transfer and exchange, coordination/facilitation of surveillance, consistent messaging, supporting healthy public policy and expert advice.
- Being a point of contact with academic institutions and a venue for coordinating and expanding academic initiatives in population and public health.

A sub-group of the Centre for Communicable Disease Prevention plus other key PHSA informants, has undertaken the responsibility for developing the gap analysis and improvement plan for the Communicable Disease Prevention core program.

## Context

The Provincial Health Services Authority (PHSA) is responsible for ensuring that high-quality specialized services and programs are coordinated and delivered within the regional health authorities. PHSA operates eight provincial agencies including: BC Mental Health & Addiction Services, BC Children's Hospital, BC Women's Hospital, BC Centre for Disease Control, BC Cancer Agency, BC Renal Agency, BC Transplant and Cardiac Services BC.

One of PHSA's four key strategic directions is *Promoting Healthier Populations*, which includes objectives relevant to improving population and public health (PPH), and elements of health promotion and prevention. A steering committee consisting of representation from all PHSA agencies and programs oversees PPH activity across PHSA. Due to the provincial scope of PHSA's mandate, a dual role for PHSA has emerged: improvements aimed at streamlining PPH activities within PHSA agencies and programs, as well as potential provincial coordination in areas such as surveillance, consistent messaging, expert advice, and supporting development of healthy public policy. The role for PHSA could be to: convene and coordinate provincial dialogue; facilitate the identification of common needs and joint problem solving; collaborate

with and support regional and provincial partners to meet common needs; and jointly identify available resources for common initiatives.

### **PHSA's Role**

The majority of PHSA communicable disease prevention and control services are delivered through the BC Centre for Disease Control (BCCDC), the provincial organization responsible for tertiary/ quaternary health services related to communicable disease control, environmental health and public health emergency preparedness and the Provincial Public Health Microbiology and Reference Laboratory (PH LABS), located on the BCCDC site.

BCCDC carries out the following functions:

- Communicable disease surveillance and epidemiological analysis;
- Outbreak investigation support for regional health authorities;
- Communicable disease policy analysis and advice on best practice guidelines and tools;
- Delivery of certain, direct clinical services where provincial delivery is appropriate (tuberculosis and sexually transmitted infections);
- Public health information system management;
- Expert knowledge translation and program consultation;
- Scientific support for the PHO and Province related to communicable disease prevention and control, including networking with provincial/territorial, federal, pan-Canadian, and/or international groups;
- Vaccine supply management (i.e. purchasing and distribution of vaccines); and
- Applied public health research, quality assurance, evaluation and training.

BCCDC service lines include: Communicable Disease Prevention and Control Services, Immunization Services, Clinical Prevention Services, Environmental Health Services and Emergency Management Services.

The provincial public health microbiology and reference laboratory, including Central Processing Receiving site (PH LABS), PHSA, is located on the BCCDC Site. Its unique mandate requires it to provide 'state-of-the-art' reference testing, specialized population level screening, diagnostic analyses, biosecurity for high risk microbial agents as well as bio-containment and bio-hazard response, outbreak detection and management, emergency response, and interpretation and analyses as well as and information dissemination to clients province-wide.

PH LABS carries out reference microbiology and public health testing at the provincial level - microbiological testing is conducted by regions with some regional labs subcontracted by the PH LABS for limited public health testing (depending on local capacity, turn-around-times and test complexity). Over 95% of public health testing (including pathogens in water, food, etc.) is centralized at the BCCDC Site in the Lower Mainland. In addition, PH LABS leads: oversight and continued development of the BC Public Health Laboratories Network (BC-PHLN); linkages to national microbiology and other provincial public health laboratories; policy development and evaluation; laboratory quality management systems; leadership in novel test development for emerging pathogens; and training and education of laboratory staff.

PHSA also provides prevention and treatment support for Perinatal and Paediatric communicable diseases through referral clinics at BC Women's Hospital and BC Children's Hospital. In addition, surveillance for key perinatal infections including HIV In pregnancy are conducted in collaboration with BC Women's Hospital. Research into transmission of communicable diseases in pregnancy and as they affect reproductive health is a core function of BC Women's and the Women's Health Research Institute.

PHSA also conducts population health surveillance (i.e., chronic disease and lifestyle), clinical pediatric surveillance, as well as vaccine research to contribute to the knowledge base for communicable disease analysis in BC.

PHSA contributes significantly to all components of the prevention & control of communicable disease core program. Please see Appendix A for a status update on all of PHSA's activities related to the core program.

In completing the gap analysis & improvement plan (GA/IP) process, the Centre for Communicable Disease Prevention chose to focus the gap analysis exercise on achieving a high-level understanding of some of PHSA's major strengths and challenges in this area, and identified four priority areas of improvement accordingly.

## **Gap Analysis & Improvement Plan**

### **Strengths for the Communicable Disease Core Program**

PHSA does the following things particularly well with regards to addressing the communicable disease core program:

- Program delivery (Immunization, CD Control, Clinical Prevention Services, Population Screening, Specialized Testing, Environmental Microbiology, Bio-Security Bio-Hazard Containment, Molecular Services, for rapid test development)
- Outbreak and Threat Response (Epidemiology, PH LABS, Emergency Planning)
- Knowledge Synthesis and Translation (Guidelines, Briefs to Government, Consultations, Public Education)

### **Gaps for the Communicable Disease Core Program**

A high level review of current activities against the components of the model core program identified the following challenges and gaps:

- Lower Mainland Lab consolidation, while potentially generating efficiencies across labs, may potentially dilute resourcing for unique public health laboratory activities not well understood within the hospital sector. Responsiveness to unique clinical program needs are challenging to meet.
- Recent disinvestment in this sector of public health services has directly reduced the ability to introduce program enhancements especially in immunization. Catch up programs that could have been funded will now be delayed for half a decade without new funding.
- Adoption of Panorama will require considerable focus and resources.

- A need exists to identify strategies to use the critical mass at BCCDC to facilitate deeper PHSA involvement in areas such as Chronic Disease Prevention.
- Enhancement of capabilities for surveillance of Perinatal infections such as tracking of Hepatitis B prevention in neonates, TORCH infections, Group B streptococcus in neonates.
- A need exists to introduce enhancements to existing immunization programs, especially those for children – such as broadening protection against meningococcal disease or expanding catch-up programs for HPV immunization.

### **Priority Areas of Improvement**

Based on the challenges and gaps articulated, four priority areas of improvement have been identified that would address components of the model core program as follows (see Improvement Plan chart below for more detail re: outcomes, performance targets, timeline and PHSA lead):

#### *Prevention*

- Briefing government on opportunities for improved childhood immunization in keeping with its priority of improved health in the first year of life
- Ensuring timely HIV testing for all pregnant women

#### *Surveillance*

- Building team to implement Panorama in a quality controlled fashion

#### *All*

- Recognizing PH LABS' unique mandate in consolidation of laboratories

## Prevention & Control of Communicable Diseases Improvement Plan:

Component	Priority Areas for Improvement	Outcomes/Objectives	Performance Targets (Indicators)	Timeline	PHSA Lead
Prevention of Communicable Diseases: <ul style="list-style-type: none"> <li>• Immunization</li> <li>• Harm reduction</li> <li>• Screening</li> </ul>	Strategy to enhance specific immunization programs such as meningococcal or HPV through product improvement or catch-up	<ul style="list-style-type: none"> <li>• Comprehensive briefing of government</li> <li>• Enhancement of one program/initiative</li> </ul>	<ul style="list-style-type: none"> <li>• Briefing completed</li> <li>• One enhancement funded through reinvestment of PH funds or another mechanism</li> </ul>	<ul style="list-style-type: none"> <li>• Summer 2012</li> <li>• Summer 2013</li> </ul>	Monika Naus, BCCDC
	Ensure timely HIV testing for all pregnant women	Implement Point of Care (POC) Testing at BC Womens' Hospital in Labour/Delivery	<ul style="list-style-type: none"> <li>• Establish laboratory and clinical processes</li> <li>• 100% women in labour with known HIV status</li> </ul>	<ul style="list-style-type: none"> <li>• Summer 2011</li> </ul>	Dr. Deborah Money, Cheryl Davies, BCWH
Surveillance	Panorama implementation	Adoption of Panorama by all willing health authorities	<ul style="list-style-type: none"> <li>• Go live of each module</li> <li>• User assessment of functionality meeting needs</li> </ul>	<ul style="list-style-type: none"> <li>• Full implementation by Summer 2013</li> </ul>	Laura MacDougall, BCCDC
All	Recognition of PH LABS roles	Mechanisms in place that recognize public health and reference Core Functions of provincial public health laboratory	<ul style="list-style-type: none"> <li>• Governance mechanisms in place</li> </ul>	<ul style="list-style-type: none"> <li>• Winter 2012</li> </ul>	Judy Isaac-Renton, BCCDC



## Appendix A – STATUS OF PHSA ACTIVITIES RELATED TO THE CORE PROGRAM

Function	PHSA/BCCDC	Status	Comment
General (Planning, Policy Analysis, Program Expertise, Scientific support)	BCCDC and PH LABS maintains state of the art scientific knowledge capacity in order to provide ongoing support to the PHO and the Ministry:		
	Provides research evidence and scientific analysis.	Green	BCCDC, PH LABS and PHSA partners continue to provide rapid response research for government as best evidenced during the recent influenza pandemic. BC Women's provided provincial guidance for prevention and treatment in pregnancy.
	Provides technical analysis and recommendations concerning communicable disease, vaccination and harm reduction.	Green	BCCDC, PH LABS and members of partner organizations provide research, briefing notes and convenes a Communicable Disease Policy committee to serve this function.
	Advises on development and choice of best practices and tools.	Green	BCCDC provides a CD Control Manual and Immunization Guide which is regularly updated and available on the website.
	Provides input and support for policy and legislative development.	Green	BCCDC/PH LABS provides research, briefing notes and convenes a Communicable Disease Policy committee to serve this function. E.g. Advice for new Public Health Act
	Develops and maintains data repositories and information management capacity.	Yellow	BCCDC stewards iPHIS and will be doing so with Panorama. Internal IT/IM resources were removed to PHSA but a new team is forming around Panorama.
	BCCDC/PH LABS provides program expertise and ongoing support to the PHO and the ministry, and to the health authorities, for:		
	Communicable disease prevention and control.	Green	The above mechanisms are in place as well as two 24/7 On Call system to support emergencies and outbreak management.
	Environmental health protection and promotion.	Green	EH Services and Environmental Microbiology in PH LABS provides parallel services to the CD grouping

Function	PHSA/BCCDC	Status	Comment
	Public health emergency preparedness.	Yellow	BCCDC/PH LABS provides Emergency Preparedness support for public health as evidenced by contributions to 2010 Games and Pandemic response. Staffing is short.
	PHSA PH LABS provides state of the art scientific and medical microbiological resources as noted above.	Yellow	
	PHSA Public Health Laboratory provides state of the art scientific and medical microbiological resources including reference testing, specialized screening, diagnostic analysis, biocontainment and biohazard response, outbreak detection and response, integrated information analysis, and laboratory quality leadership.	Green	PH LABS provides state of the art diagnostic support for public health issues. It is not clear if a Lower Mainland laboratory governance structure will provide recognition and mechanisms to preserve this role – one that is not easy to understand from within the healthcare delivery system. This laboratory service would be improved with 24/7 access to laboratory results.
	The role of BCCDC/PH LABS has been formalized in a memorandum of understanding with the BC Ministry of Health Services.	Green	MOU ties activities of BCCDC/PH LABS directly to legislation as delegated by PHO. A Service Level Agreement between PH LABS and public health in Health Authorities and BCCDC is under development.
Surveillance	BCCDC receives communicable disease reports from MHOs.	Yellow	BCCDC does receive regular reports from MHOs. However those flowing from the PARIS system which is now in use throughout Vancouver Coastal Health Authority are only forwarded on a weekly basis.
	Collects provincial and national data from multiple sources.	Green	Data are collected and analyzed regularly and reports posted on the website.

Function	PHSA/BCCDC	Status	Comment
	Provides provincial epidemiological analysis including data linkage and analysis for health assessment and disease surveillance functions, such as tracking disease processes, hazard and disease effects, detection of outbreaks, identification of health risks, and assessing the effectiveness of interventions.	Yellow	There are many aspects of this work that are going very well. However, data linkage with Ministry databases is moving very slowly (and at times glacially) under current government stewardship structure. PH LABS is working with PLIS and VCH's SunSet for improved data linkages and data integration. Work is beginning between BCCDC and PSBC to link perinatal data and Hep B, C and HIV data.
	Operates provincial public health information system.	Yellow	BCCDC has received funding for sustainment of Panorama. There are uncertainties about functionality of the new system with respect to full deployment on a new schedule.
	PH LABS provides specialized investigation and real-time test development for novel and emerging pathogens for BC.	Green	PH LABS technical and scientific experts have performed especially well in creating new diagnostics for emerging infectious diseases.
Prevention: Immunization	BCCDC manages and oversees provincial-level aspects of vaccine program implementation, manages vaccine supplies, coordinates new vaccine introduction and major vaccine program changes, monitors and evaluates program performance, and conducts applied vaccine and immunization program research.	Green	A comprehensive program of immunization, education, safety monitoring etc. is at work. Recent research, conducted by partners within PHSA including BC Women's Hospital and BC Children's Hospital has pointed at strategies that save the province millions in delivery costs while maintaining program efficacy. Further innovation and program enhancement is being limited by recent budget reductions requested by Ministry of Health.
	Operates the provincial-level components of immunization information systems and databases.	Green	
Prevention: Harm Reduction	BCCDC manages provincial-level support for harm reduction initiatives such as supplies and related support to health authorities consistent with priority activities identified by the Harm Reduction Policy Committee.	Green	

Function	PHSA/BCCDC	Status	Comment
Prevention: Screening	BCCDC/PH LABS develops guidelines and provides advice to health authorities on communicable disease screening.	Green	Screening programs for STI, HIV, TB and Hepatitis are functioning well with up to date guidelines. Latent TB screening program needs to be rolled out.
	Delivers screening programs for conditions where provincial delivery makes sense. These include screening programs in pregnancy directed through BC Women's and Perinatal Services BC.	Green	Direct delivery of screening by BCCDC Clinical Prevention Services and PH LABS, providing opportunity for development of best and innovative practices, research and training for province
Management & Control: Case Management	BCCDC/PH LABS works with health authorities to implement best practices for secondary prevention of communicable diseases.	Green	Clinical Prevention Services sets the standard for these practices for STI, TB and viral hepatitis. PH LABS co-directs the Provincial Infection Control Network (PICNet). Need to strengthen linkages between epidemiological surveillance of HCAI and antimicrobial resistance and PICNet.
	Recommends approaches for contact management for communicable diseases (guidelines for partner notification for sexually transmitted infections are provided by the Public Health Agency of Canada).	Green	Up-to-date recommendations in place for contacts of CDs (be they STI, vaccine preventable etc.)
	Provides guidelines on the use of post-exposure prophylaxis.	Green	BCCDC facilitates delivery of products for post exposure prophylaxis.
	Delivers clinical and PH LABS services for priority communicable diseases, such as TB, STIs and HIV.	Green	Provides opportunity for clinical service, lab diagnosis, training, research and development of best practices

**Appendix B – CENTRE FOR COMMUNICABLE DISEASE PREVENTION  
MEMBERSHIP & KEY PHSA INFORMANTS**

<b>CENTRE FOR COMMUNICABLE DISEASE PREVENTION MEMBERSHIP &amp; CORE PROGRAM KEY INFORMANTS</b>	
David Patrick	BC Centre for Disease Control (BCCDC)
Bob Brunham	BC Centre for Disease Control (BCCDC)
Tom Kosatsky	BC Centre for Disease Control (BCCDC)
Judy Isaac-Renton	BC Centre for Disease Control (BCCDC)
Monika Naus	BC Centre for Disease Control (BCCDC)
Gina Ogilvie	BC Centre for Disease Control (BCCDC)
Bonnie Henry	BC Centre for Disease Control (BCCDC)
Mel Krajden	BC Centre for Disease Control (BCCDC)
Laura MacDougall	BC Centre for Disease Control (BCCDC)
Cheryl Davies	BC Women's Hospital & Health Centre (BCWH)
Ann Pederson	BC Women's Hospital & Health Centre (BCWH)
Kim Williams	Perinatal Services BC (PSBC)
David McLean	BC Cancer Agency (BCCA)
Simon Dobson	BC Children's Hospital (BCCH)
Leslie Varley	Aboriginal Health
Tannis Cheadle	Population & Public Health (PPH)
Lydia Drasic	Population & Public Health (PPH)