Telled by Minister of Health and Commenty Services 2008. 03. 21.

PUBLIC HEALTH LABORATORY

Public Health, Wellness and Children and Youth Services Branch,

Department of Health and Community Services

BUSINESS PLAN 2007-2008



Message from the Director

On behalf of the Public Health Laboratory, Public Health, Wellness and Children and Youth Services Branch, I am pleased to submit our 2007-2008 Business Plan in accordance with the requirements of the *Transparency and Accountability Act* for a Category 2 Government Entity. As Director of the Public Health Laboratory, I am accountable for the preparation of this plan and for the achievement of the specific objectives contained herein.

This is a transition plan leading into the three year plan required for 2008-2011. In the development of this plan careful consideration was given to the strategic directions of government, as communicated by the responsible minister. The development of this plan focused on the current operating environment and the requirements to ensure that the Public Health Laboratory has the wherewithal to secure its mandate for public health in the Province. It is also designed to support the goals and objectives of the Department.

The core mandate for the Public Health Laboratory is focused on the screening, detection, prevention, protection, surveillance and assessment of infectious disease throughout the province of Newfoundland and Labrador. Thus, the Public Health Laboratory is an essential and integral part of the provincial public health system infrastructure and our services are a vital component in safeguarding provincial public health. This plan outlines our key issues and specific goals that will be pursued over the coming three years as part of our commitment to ensure that all safeguards reflect best practices and the highest level of integrity.

Sam Ratnam, Ph. D., MPH, FCCM Director

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1.0 Introduction

This document has been prepared under government's accountability measures as defined under the *Transparency and Accountability Act* (the *Act*). The Plan demonstrates the commitment of the Public Health Laboratory (PHL) to ensure the effective management of its mandate and that all associated efforts reflect the values and principles of this legislation while also pursuing standards of excellence for all of its operations. This plan is also focused on ensuring that the PHL's allocation of resources is consistent with government's broader mandate for the efficient use of public resources.

2.0 THE PUBLIC HEALTH LABORATORY

2.1: Overview and Core Services

The PHL is not a legislated entity. It operates under the authority of the Department of Health and Community Services (DHCS) with the Director of the PHL reporting to the Chief Medical Officer of the DHCS.

The core function of the PHL is to safeguard public health throughout the province through the surveillance, detection, prevention and control of infectious diseases. In this capacity, it works closely with hospitals, medical clinics, health care agencies and health care professionals throughout the province, as well as public officials within DHCS, the provincial health regions and other public health authorities to provide routine and specialized diagnostic and screening services in clinical and public health microbiology.

The PHL also provides bacteriological water quality testing service for protection of public health to government departments, private individuals, communities, municipalities, private and other public agencies etc, throughout the province. The main laboratory is located in St. John's with external water testing sites operating under the direction of the PHL providing testing services in all health regions of the province. Partners in our external water testing services include 6 hospital laboratories across the province.

Overall, the PHL test services cover the following seven clinical and public health service areas:

- Serology
- Virology
- Bacteriology
- Parasitology
- Mycology

- ➤ Mycobacteriology
- Sanitary/Environmental Microbiology

A full listing of all patient and public health-related diagnostic and screening services provided by the PHL is provided in Appendix A.

2.2 Research Projects

In addition to laboratory testing, the PHL is active in research and special projects in microbiology and infectious disease epidemiology as part of it broader mandate to protect public health. The following outlines recent and significant projects:

- ▶ HPV Triage in Cervical Cancer Screening Backed by several years of its own research and development activity, the PHL introduced HPV testing service in 1998 on a limited basis to all gynaecologists in the province as an adjunct test to Pap screening. This was followed by an HPV triage trial in 2005, which facilitated the province—wide introduction of liquid-based cytology (LBC) in early 2007. The introduction of LBC has allowed the incorporation of reflex HPV testing in triage of women having borderline Pap abnormality. The PHL now plays an important role in the provincial cervical cancer screening program by providing HPV triage service. There is considerable savings in health care costs with this approach which also ensures proper resource utilization and elimination of unnecessary anxiety and follow up visits for the majority of women who are not at risk. Our province is the first and the only province in the country that offers HPV triage service on a province-wide basis through a publicly funded program.
- Research on HPV and Cervical Cancer Following the completion of a major randomized clinical trial on the application of HPV DNA testing in primary cervical screening for detection of cervical disease involving over 10,000 women in St. John's and Montreal, a new multicentre Canadian study was started. This will further assess the relative merits of testing for certain molecular markers for more accurate and specific identification of the small fraction of women truly at risk for cervical cancer among those having abnormal Pap test. This study will enrol and follow about 2,000 women in 6 sites representing 6 provinces for about 3-5 years to determine the predictive value of the new tests under study. This is the only study of its kind in North America and will contribute to cervical cancer screening strategy.

2.3 Other Services

The PHL has an important role in a range of other initiatives and activities designed to protect public health. These are as follows:

- ➤ Over the past few years, the PHL has been working in close collaboration with the Information Technology Department of the Eastern Health towards establishing complete electronic data transfer of laboratory information for the province. This was initially implemented in 2003 with Eastern Health and has been expanded to other regions since. Northern health region remains to be linked. This project has greatly improved the timely transfer and access to health data across the province. This system is designed to enhance the ability of the province to monitor overall public health in a timely manner and to respond quickly to critical and urgent health issues.
- ➤ The PHL participates in several national and international networks, expert working groups and advisory committees that are involved with clinical and public health microbiology, and prevention, control and surveillance of infectious diseases. In this capacity, the PHL is a partner in public health at the national level and represents the province in facilitating the two-way transfer of information vital to monitoring and securing the public health of the country. With its location, Newfoundland and Labrador has strategic role in national security and public health protection. In this context, the PHL has an important role in dealing with public health emergencies and international health risks.
- The PHL has an important role to ensure the province can respond effectively to potential bioterrorism threats. The laboratory's level III facility and technical expertise are integral parts of our rapid response system to bioterrorism threats. PHL employees, as well as Environmental Health Officers across the province, have been trained to handle suspicious packages and deal with biohazard events. The PHL has also taken part in a national initiative to train laboratory technologists across the province in the handling of clinical specimens and agents associated with bioterrorism. The PHL also ensures that it maintains adequate and satisfactory response capacity to biohazard/ bioterrorist threat through annual recertification of the response team members.
- The PHL has always been vigilant in following recommended laboratory procedures and practices. It has traditionally ensured strict quality control protocols and practices and routinely participated in various proficiency testing programs to monitor performance level, accuracy and competency. It has also made every effort to provide a safe working environment for its employees. However, it has been our aim to have our facility accredited to ensure the highest standard, quality and reliability of all services provided by the PHL. The goal of the Canadian Laboratory Accreditation Program is to improve and maintain the quality of laboratory services through quality management system, standard setting, and ensuring the PHL meets or exceeds regulatory requirements.

2.4 Staff and Budget

The PHL has a staff complement of 25 people. The 2007/08 budget allocation was \$3,526,754.00. The PHL does not charge for any of its services and therein generates no revenues from its clients.

To keep abreast of new developments and advances in technology, PHL technologists routinely participate in professional development opportunities. This has included training in molecular diagnostics for a variety of disease markers, water safety and the Emergency Response Assistance Program (ERAP). The Emergency Response Team within the PHL also receives annual recertification in biohazard/bioterrorist threats.

3.0 MANDATE

The core mandate of the PHL is as follows:

- > Act as the provincial laboratory center for infectious disease detection, surveillance, prevention, control and epidemiology.
- Provide a comprehensive range of specialized and reference laboratory services in clinical and public health microbiology and infectious disease epidemiology to the all provincial health authorities and related stakeholder groups.
- > Pursue research and development activities in support of its others responsibilities for securing optimum public health.

4.0 LINES OF BUSINESS

As noted, the PHL operates under the authority of the DHCS which has a mandate to strengthen the public health capacity. As a result, PHL has several lines of business including:

- ➤ Laboratory, consultative, educational and training services in the detection, prevention, surveillance and control of infectious diseases;
- Provision of routine and specialized laboratory diagnostic and screening services in public and clinical health microbiology to all hospitals, clinics and other health related agencies across the province;
- > Laboratory and consultative services in outbreak investigation and control;
- > Laboratory based surveillance of communicable disease incidence and prevalence;

- Research and development activities in the areas of infectious disease epidemiology, immunization, community health, clinical and public health microbiology;
- Municipal Water Supply Safety;
- > Pandemic influenza, Bioterrorism and emergency response preparedness;
- > Lab supply center; and
- Guidance in the development of related policy.

These lines of business are entirely consistent with the PHL's mandate and they are also sufficiently comprehensive. There are no facilities in the province that duplicate the roles and responsibilities of the PHL and therein no redundancy in PHL operations

The PHL does not propose any changes to its lines of business and feels that the current issues can be addressed under the existing operating model. Notwithstanding, there are some issues that could challenge the capabilities of the facility to meet its mission if not addressed. The wherewithal to address these issues is not dependant solely on the efforts of the PHL but will rest on the commitment of other department officials.

TABLE 1							
Lines of Business: Influence On Operations							
Focus Areas of Strategic Direction, This Direction Is:							
2008-2011	Clearly Supported by the Mandate	Does it set Parameters		How Does It Influence Our Operations			
Laboratory, consultative, educational and training services in the detection, prevention, surveillance and control of infectious diseases	Yes	Yes	AAA	Requires that PHL infrastructure meets minimum standards and can secure accurate information for test results. Requires that expertise among staff			
Provide routine and specialized laboratory services in public and clinical health microbiology to all hospitals, clinics and other health related agencies across the province	Yes	Yes	A	reflects high standards for skill, integrity and accuracy of laboratory results. Requires management systems provide for continuous surveillance			
Laboratory and consultative services in outbreak investigation and control	Yes	Yes	A	and timely communications and reporting. Supports pursuing accreditation			
Laboratory based surveillance of communicable disease incidence and prevalence	Yes	Yes	2	consistent with the national Laboratory Accreditation Program Requires continuous improvements			
Research and development activities in the areas of infectious disease epidemiology, immunization, community health, clinical and public health microbiology	Yes	Yes	A	in testing infrastructure and processes. Requires the development and maintenance of partnerships with like organizations across Canada.			
Municipal Water Supply Safety	Yes	Yes	>	Requires human resource expertise and dedication to standards.			
Pandemic influenza, Bioterrorism and emergency response preparedness	Yes	Yes	A	Requires that the PHL have an emergency response team with skills and expertise that can be deployed anywhere in the province.			
Lab supply center	Yes	Yes	A	Requires efficient maintenance of supplies through effective inventory management procedures.			
Guidance in the development of related policy	Yes	Yes	A	Requires ongoing availability of best information to provide policy advice to the Department specifically and government generally for all public health related issues within mandate.			

5.0 VISION

The vision of the PHL is:

To support enhancement of public health and early detection through the provision of comprehensive range of laboratory services to facilitate the diagnosis, screening, surveillance, prevention and control of infectious diseases and use of best practices and minimum standards for public health safety and protection.

This vision reflects the core mandate of the PHL as well as desired outcomes. It also provides the basis for the organization's core identity, roles and responsibilities. As the science respecting infectious diseases advances, so too should the capabilities and quality of services provided by the PHL. This vision is fundamental to the well-being and health of the provincial population.

6.0 VALUES

Timeliness

The following reflects the core values that guide the work of the PHL and the manner in which it pursues its mandate:

Integrity Ensure that the PHL is consistent in securing the absolute accuracy and reliability of it services, procedures, test results and policy advice.

Ensure all clients have access to information and test results on a timely

and consistent basis.

and information requirements so as to enable them to fulfill their

mandates with accuracy and reliability.

Excellence Ensure excellence in the delivery of all of its services consistent with best

practices and standards established in the industry.

The PHL also adheres to the broader values established by the Department of Health and Community Services as follows:

Collaboration Ensure that the PHL works with other stakeholders in fulfilling its overall

mandate for the protection of public health.

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Fairness Ensure that each person uses a balance of evidence for equity in decision

making.

Privacy Ensure confidentiality and protection of information related to any

persons/families/organizations/communities.

Respect Enable each person the opportunity to express their opinions in an open

and safe environment.

Transparency Ensure all persons are forthcoming with information related to decision

making except where prohibited by legislation

7.0 PRIMARY CLIENTS AND PARTNERSHIPS

7.1 Our Clients

As the mandated provincial laboratory responsible for providing all routine and specialized reference diagnostic and specialized services in clinical and public health microbiology in the province, the PHL has many clients. These include:

- ➤ All provincial hospitals
- ➤ Health officials of DHCS
- > All community health clinics
- All medical clinics/offices
- Doctors and their patients
- Nursing homes and stations
- Public Health Inspectors
- Department of Municipal Affairs
- Municipalities
- Department of Environment
- Government Services and Lands
- National and international networks, expert working groups, advisory committees etc involved with clinical and public health microbiology and epidemiology.

Many of these clients are entirely dependent on the services provided by the PHL and, without these services, would be severely compromised in fulfilling their mandates for preserving public health and addressing the health related needs of their clients. While an independent review has not been undertaken to survey all clients, the PHL believes, based on current quality and communication protocols, it is successfully addressing the needs of these clients.

7.2 Our Partners

As part of its mandate the PHL also actively participates in several national and international networks, expert working groups and committees which are key stakeholders in securing national public health:

- ➤ Canadian Public Health Laboratory Network (CPHLN), whose main focus is providing a forum for exchange of information and identification and establishment of common goals and priorities at inter-provincial and national levels. CPHLN is one of 6 Expert Groups of the recently established Pan Canadian Public Health Network, with a major role respecting national public health. Membership includes all PHL Directors across the country. There are also several committees and working groups under the CPHLN umbrella and the PHL is an active member of the following groups.
 - o Canadian Tuberculosis Laboratories Technical Network (CTLTN) whose mission is to promote excellence, standardization and quality assurance in mycobacteriology services.
 - o *National Enteric Surveillance Program*, a federal-provincial network of laboratories that tracks the prevalence and incidence of microorganisms causing enteric illnesses.
 - National Water and Food Safety Subcommittee whose prime objective is to ensure best practices in microbiology testing of drinking water for public health purposes.
 - Bio-terrorism Subcommittee, whose main objective is preparedness and technical expertise and training for potential events of terrorism involving microorganisms.
 - Laboratory Standardization Subcommittee, whose main objective is to review, update and standardize laboratory testing parameters for nationally notifiable diseases and address related quality control and quality assurance issues.
- Canada Health Infoway Pan-Canadian Lab Standards Group This national group was formed to contribute to, review and validate laboratory information standards to support the interoperable pan-Canadian electronic health record (HER) as defined by Infoway and as part of the Laboratory Program.
- Canadian Association of HIV Clinical Laboratory Specialists This national network is dedicated to the advancement of excellence in HIV laboratory practices and services.

8.0 MISSION STATEMENT

The efficient and accurate processing, detection and surveillance of disease includes human resources and expertise. Hence, PHL has established that its primary mission for the 2007-2011 planning period will focus on:

Ensuring that the province continues to advance and secure its technical, professional and human resource capabilities for the timely detection, surveillance, prevention and control of and protection from infectious diseases in the province.

In pursuit of this mission the PHL will focus on securing and improving the PHL capacity to respond to any and all threats to the provincial public health and respecting the delivery of its services.

Measure: Comprehensive succession/transition HR plan developed

Indicator: completed environmental scan

Measure: Introduce new testing procedures for influenza diagnosis

Indicators: Increased performance in Quality Control program

Reduce reporting times on key tests

Develop logistics and reagent and other supply plan for pandemic flu.

9.0 Goals

Strategic Issues

There are a number of issues that will prove to be significant challenges if they are not addressed. These issues must be identified as priorities for the PHL as it plans and secures its future and protects it mandate and values.

ISSUE ONE - Human Resources

Securing qualified human resources so that operations of the PHL can continue with current operations consistent with established protocols and quality control measures is essential. Currently, the two most senior staff is near retirement and in particular there are no internal or local candidates to be able to assume senior management positions. A transition plan is required for the organization. It is anticipated that

senior management staff for the PHL will need to be recruited from outside the province.

GOAL

By March 31, 2008, the PHL will have commenced development of a comprehensive succession/transition HR plan.

Measure: The environmental scan is completed

Indicators: Completed inventory of the senior positions and required qualifications

Completed environmental scan to identify hard to fill positions

Identified potential candidate pool

ISSUE TWO – Emergency Response

As part of its efforts for continuous improvements, the PHL must continue efforts to review and update all its services and capabilities with focus on improving access to testing and turnaround time.

The threats of a public health emergency triggered by events like a flu pandemic, food or water borne outbreaks, emergence of exotic diseases or terrorist attack are within the realm of possibility in North America. With Newfoundland's proximity in travel routes and as a point of entry from European countries, the threat of an exotic disease or a virulent pathogen being imported into the province is real. Such an event will have a significant impact on national and international public health security. More work needs to be undertaken in assessing the province's capabilities to respond to such emergencies, in particular to the impending pandemic flu.

GOAL

By March 31, 2008, the PHL will have enhanced the province's ability to respond to a Pandemic or other severe risks to public health.

Measure: Introduce new testing procedures for influenza diagnosis

Indicators: Increased performance in Quality Control program

Reduce reporting times on key tests

Develop logistics and reagent and other supply plan for pandemic flu.

ISSUE THREE – Accreditation

Accreditation of laboratories across Canada is a requisite that ensures all laboratory services meet the highest standards, quality and reliability. The PHL has initiated efforts towards accreditation, but as this effort represents a significant undertaking, additional

rigor in documentation of our already established procedures and processes is still required before proceeding further.

GOAL

By March 31, 2008, the PHL will have initiated efforts towards commencement of the accreditation process.

Measure:

Completed environmental scan

Indicators:

Identification of required documentation

Review of laboratory policies and procedures

Strategic Direction: Strengthened public health capacity

The Department of Health and Community Services has set four strategic directions for the period 2008-2011. The PHL's Business Plan focuses on the strategic direction of strengthening public health capacity. The core functions of the public health system include population health assessment, health surveillance, prevention, health promotion and health protection. The ability of the providers to fulfill public health functions is dependent on the strength and capacity of the supporting infrastructure. This requires sufficient, competent and appropriately distributed workforce, adequate resources, organizational capacity, and an ability to manage information upon which decision making is dependant. Health and community system responsiveness to public health issues and broad planning for disaster and emergencies need to be strengthened. This requires a strategic focus by Government and public bodies to address:

- Organization of the provincial public health structure
- Fiscal and human resources for public health
- Surveillance for communicable disease control
 All hazards emergency preparedness in the health and community services system immunization management including vaccine inventory control and immunization registry

	Focus Areas of the Strategic Direction	This Direction is:				
Strategic Direction		Addressed in the business plan	Addressed in the operational plan	addressed in the work plan		
Strengthened public health	Surveillance for communicable disease			aje		
capacity	Health emergency plan for the HCS system	*				
	Resources for public health including fiscal and human resources	*				
	Immunization management including vaccine inventory control and immunization registry			*		

APPENDIX A

LISTING OF ALL PATIENT AND PUBLIC HEALTH-RELATED DIAGNOSTIC AND SCREENING SERVICES CURRENTLY PROVIDED BY NL PUBLIC HEALTH LABORATORY

- ➤ Adenovirus -antigen detection Anthrax -microscopy, culture, PCR
- > Arbovirus -referred
- > Astrovirus EIA
- Botulism –referred
- Brucella –culture, serology
- Bartonella –referred
- > Chl. Psittaci -referred
- ➤ Chl. Trachomatis –PCR, culture
- ➤ C.difficile EIA
- > CMV -PCR, culture
- Coxiella –referred
- CJK -referred
- C.diphtheria –culture, serology (referred out)
- E.coli 0157- culture, toxin
- ➤ EBV serology, PCR
- ➤ Enterovirus –culture
- > Farmer's lung -referred
- Food borne bacterial disease –culture various agents
- > Francisella -culture
- ➤ Gonorrhoea –PCR, culture confirmation
- > Hantavirus-referred
- ➤ H.pylori –serology
- ➤ Hepatitis A-serology
- ➤ Hepatitis B-serology
- ➤ Hepatitis C –serology, PCR
- ➤ Hepatitis D-referred
- ➤ Hepatitis E-referred
- ➤ Herpes simplex virus microscopy, culture, serology, PCR
- ➤ HIV –serology, PCR
- ➤ HTLV I/II serology
- ➤ HHV-6, HHV-7, HHV-8, -referred
- ➤ HPV hybrid capture
- ➤ Influenza DFA, culture, PCR
- ➤ Legionella –antigen detection

- Lyme Disease –referred
- Measles –serology
- Meningococcus typing, susceptibility
- MRSA –ID, susceptibility
- Mumps serology, culture, PCR(referred)
- Mycobacteria –microscopy, culture, susceptibility, PCR
- ➤ Mycology(Fungus) microscopy, culture
- Mycoplasma –serology, culture
- ➤ Norovirus EIA
- > Parainfluenza DFA, culture
- Parasitology –microscopy, EIA, serology
- ➤ Parvovirus serology
- Pertussis –culture
- > Poliomyelitis- referred
- ➤ Rabies –referred
- Rickettsia reffered
- Rotavirus antigen detection
- ➤ RSV DFA, culture
- ➤ Rubella –serology
- Salmonella –typing
- ➤ Shigella –typing
- Syphilis serology
- > Tetanus- referred
- Toxoplasma –serology, PCR(referred)
- ➤ VZV serology, culture
- ➤ West Nile V serology, PCR(referred)
- Reference service for culture identification-various bacteria and fungi
- Water testing service for municipal, provincial and private agencies/individuals
- Dairy products- bacterial quality testing
- Bacterial culture media preparation for several laboratories.

APPENDIX B

ANNUAL STATISTICS: TESTS PERFORMED

Section	Tests Performed					
	2004-05	2005-06	2006-07			
SEROLOGY	73,794	79,666	81,671			
VIROLOGY	7,069	8,257	12,969			
BACTERIOLOGY MYCOLOGY PARASITOLOGY	19,352	23,879	18,711			
MYCOBACTERIOLOGY	1,873	2,073	2,140			
SANITARY	16,002	16,094	15,217			

Appendix C

Department of Health and Community Services Strategic Directions

The directions related to the Department of Health and Community Services are provided below. Each strategic direction is comprised of a number of components, or focus areas. These focus areas will be addressed through the various planning processes of the Department. As indicated in the table below, some have been addressed in this strategic plan while others are addressed in the operational and/or work planning processes.

	Focus Areas of the Strategic Direction	This Direction is:					
Strategic Direction		to be addressed by entities reporting to the department	Addressed in the department's strategic plan	Addressed in the department's operational plan	addressed in the work plan of a branch/ division within the department		
Improved population health	Obesity	*					
	Smoking rates and protection from environmental smoke	*					
	Dental health of children				*		
	Uptake of cervical screening	<			*		
	Uptake of flu vaccine of seniors and health care providers	*					
	Support for healthy aging	*					
	Injury prevention	*					
	Aboriginal health needs				*		
Strengthene d public health	Reorganize the provincial public health structure	*			!		
capacity	Resources for public health including fiscal and human resources	*					
	Surveillance for communicable disease	ak .					
	Health emergency plan for the HCS system	a)c					

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	Immunization		*		
	management including				
	vaccine inventory control				
	and immunization registry				
	Environmental health		*		
	policy				
	points		1		
Improved accessibility	Access to community				*
to priority services	based mental health and				
to priority services	addictions services				
	Access to appropriate			*	
	primary health services			"	
	primary health services				
	Home care and support				*
	services in the areas of				
	end of life care, acute				
	short term community				
	mental health case				
	management, short term				
	post discharge IV				
	medications and wound				
	management				
	Options to support choices		*		
	on individuals in need of				
	long term and community				
	supports				
	Access to quality early		*		
	learning and child care				
	Access to selected acute		*		
	services		↑		

	Access to appropriate				*
	medications				
Improved	Identify and monitor			*	
accountability and	outcomes for selected				
stability in the	programs				
delivery of health and	Alignment of regional		*		
	services				
community services	Achievement of balanced				*
within available	budgets				7
resources					ļ
	Stabilize human resources				*
	Identification and	_		*	+
	utilization of information			*	
	for evidence based				
	planning in service				
	delivery.				