

A clinical microbiologist in a Public Health Laboratory

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Objectives

- Describe the role of a PhD Clinical Microbiologist in a Public Health Laboratory
- Compare Public Health Laboratory settings across North America
- Discuss how you may be exposed to acute care microbiology even in a Public Health Laboratory
- Identify specific streams in your career as a Clinical Microbiologist

What are clinical microbiologists?

- PhD-level microbiologists who have typically completed a 2-3 year post-doctoral fellowship in clinical microbiology and have become board-certified by the Canadian College of Microbiologists (CCM) as Fellows of the CCM (FCCM).
- Clinical Microbiologists may practice in clinical/medical/public health laboratories, industry, and government settings.
- They are trained for the provision of clinical laboratory data, consultation with other healthcare professionals, training of medical allied health personnel, including medical technologists, undergraduate and graduate students, and residents within accredited training programs, as well as conducting academic research.

Recognized roles and responsibilities in Alberta are well defined

- In Alberta the College of Physicians and Surgeons has indicated (Section 3.2.1 of the Lab Standards and Guidelines that can be referenced at http://www.cpsa.ab.ca/Libraries/Pro_QofC_Laboratories/Standards_Basic_Laboratory.sflb.ashx) that Board certification is an acceptable qualification to allow Clinical Microbiologists, like their Medical Microbiologist colleagues, the stature to direct clinical microbiology and public health laboratories.
- Trainees should note roles and responsibilities of clinical microbiologists may vary from province to province.

CPHLN – Public Health Core Functions

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

Clinical microbiologists provide clinical and scientific leadership to support public health functions

- Clinical/scientific- as an expertise resource, specific consultation to individual clinicians, consultation to working groups
- Administrative- strategic planning, providing a clinical and scientific focus to leadership
- Academic- teaching, training
- Research- clinical, translational, basic

Roles and responsibilities may vary as not all public health laboratories have same focus

- US model- very tight definition of public health with very little acute care focus
- Canadian experience- public health laboratories may often have a significant acute care component (often virology) but may include significant microbiology
- This has often been a product of health care restructuring of historic factors in different provinces

What does this variability in laboratory scope mean to a clinical microbiologist in a provincial health laboratory?

- Your experience will vary depending on the services that your laboratory provides
- This mean the amount of clinical exposure you get may vary- e.g. do you have a significant “on-call” component
- You may have differing academic and organizational pressures to carry out publication quality research
- You may have a different leadership focus depending on where you work- e.g. how administrative are you? Or are you looked at as a scientific consultant during business decision making?

So what is my life like ?

- Provide clinical/scientific leadership and consultation to specific ProvLab programs (e.g. molecular diagnostics, respiratory infections)
- Provide consultation to clinicians and public health physicians (e.g. on call time, open laboratory investigations for outbreaks)
- Consult to public health working groups (e.g. communicable diseases surveillance, guidelines working groups)
- Communicate knowledge (e.g. teach graduate students, residents, give lectures, publish)
- Undertake publication quality research (clinical, translational and basic; publish and present to peers)
- Provide leadership and expertise in support of the Medical Director

From my experiences elsewhere- points of variation

- Clinical exposure- how much call do you get? And from whom?
- Administrative responsibilities- are you responsible for maintaining a budget and hiring or firing?
- Academic/research- are you expected to publish and/or teach and how much?
- Where do you fit in the organizational structure?

Even in a provincial laboratory I have significant clinical microbiology exposure

- ProVLab Alberta (Calgary) provides Mycobacteriology, STI clinic testing and most of the clinical virology in the southern part of the province
- ProVLab (North) has a significant acute care bacteriology component
- This means that a ProVLab microbiologist may have to address a wide range of clinical and scientific issues on a daily basis and over longer periods when administering programs
- Of course, this may vary depending on the structure of each health care system in each province
- My experience was distinctly different in other provinces

Pick your career pathway

- Careers pathways and experiences can vary over time
- How much of each skill set described today would you like to be exposed to?
- Do you want to start with a general experience early and then focus on specifics later? Or are you only interested in a specific component of clinical microbiology?
- Choose wisely as these choices will impact on your future career opportunities