

**Queen's University**  
**Public Health and Preventive Medicine**  
**Review Course**

**October 15 – October 19, 2018**

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## Overview and Objectives

Upon completion of training, the Public Health and Preventive Medicine (PHPM) resident is expected to be a competent specialist in Public Health and Preventive Medicine capable of assuming a public health leadership and management role in a health-related organization (RCPSC, 2014a). Residents must demonstrate broad and in-depth knowledge of Public Health and Preventive Medicine, and then must apply this knowledge to a dynamic and expansive range of population health issues in the contexts in which they occur.

A National Review Course for senior Public Health and Preventive Medicine residents (R4 & R5) was created as Royal College exam preparation has traditionally fallen on individual residency programs. The three-year average (2011-2013) pass rate for the Royal College exam has traditionally been low for Public Health and Preventive Medicine residents. As the pass rate was second lowest these past three years (2011-2013) across Canada at 88.9% (RCPSC, 2014b) a review course will provide necessary curricula review as well as exam preparation and support for senior residents.

The course curriculum is guided by end-of-training Entrustable Professional Activities (EPAs) developed for the PHPM residency program (Working Group on Entrustable Professional Activities, 2015). These 20 end-of-training EPAs were developed with the consultation and feedback of PHPM program directors across Canada and are intended to be used as a core set of National EPAs (Moloughney, 2015).

The objectives and core content for the National Review Course were created using the Objectives of Training in the specialty of Public Health and Preventive Medicine from the Royal College of Physicians and Surgeons (RCPSC, 2014a) and the Association of Faculties of Medicine of Canada Primer on Population Health. The American College of Preventive Medicine Review Course syllabus, Public Health Agency of Canada Core Competencies for Public Health in Canada (2008), and minimum competencies for Medical Officers of Health in Canada (MOH Competencies Working Group, 2009) were also consulted. Feedback on the objectives and core content was sought from Program Directors, Course Instructors, current PHPM residents, and recent graduates of the PHPM program.

The curriculum is organized by overarching topic themes which will be taught by expert instructors. Under each topic is listed the associated EPAs, objectives, and core content to be covered in the course. The curriculum is content based and does not focus on problem based learning or application to clinical practice. The purpose of this course is to act as a broad review of the core knowledge of Public Health and Preventive Medicine to help upper year residents prepare for the Royal College examination. This course should be used as a guide for further individual study, and may not include all material that will appear on the examination. It is the responsibility of participants to adequately prepare for their examination.

**Core Faculty**

<b>David Buckeridge</b> McGill University <a href="mailto:David.buckeridge@mcgill.ca">David.buckeridge@mcgill.ca</a>	<b>Surveillance and Epidemiologic Methods</b>
<b>Raymond Copes</b> Public Health Ontario <a href="mailto:ray.copes@oahpp.ca">ray.copes@oahpp.ca</a>	<b>Environmental Health</b>
<b>Shelley Deeks</b> Public Health Ontario <a href="mailto:Shelley.deeks@oahpp.ca">Shelley.deeks@oahpp.ca</a>	<b>Communicable Disease Prevention and Epidemiology</b>
<b>Sarah Funnell</b> University of Ottawa <a href="mailto:Sarah.funnell@ottawa.ca">Sarah.funnell@ottawa.ca</a>	<b>Population Health and Special Populations</b>
<b>Bonnie Henry</b> Province of B.C. <a href="mailto:bonnie.henry@gov.bc.ca">bonnie.henry@gov.bc.ca</a>	<b>Public Health Emergency Preparedness and Response</b>
<b>Matthew Hodge</b> University of Toronto <a href="mailto:m.hodge@utoronto.ca">m.hodge@utoronto.ca</a>	<b>Health Services Management and Leadership</b>
<b>Fareen Karachiwalla</b> York Region Public Health <a href="mailto:Fareen.karachiwalla@york.ca">Fareen.karachiwalla@york.ca</a>	<b>Public Health Law</b>
<b>Pamela Leece</b> Public Health Ontario <a href="mailto:Pamela.leece@oahpp.ca">Pamela.leece@oahpp.ca</a>	<b>Population Health and Health Promotion</b>
<b>Lawrence Loh</b> Peel Public Health <a href="mailto:Lawrence.Loh@oahpp.ca">Lawrence.Loh@oahpp.ca</a>	<b>Non-communicable Disease Prevention and Epidemiology</b>
<b>Barry Pakes</b> University of Toronto <a href="mailto:Barry.pakes@utoronto.ca">Barry.pakes@utoronto.ca</a>	<b>Ethics in Public Health Practice</b>
<b>Michael Rachlis</b> University of Toronto <a href="mailto:contact@michaelrachlis.com">contact@michaelrachlis.com</a>	<b>Health Policy</b>
<b>Michael Schwandt</b> University of Saskatchewan <a href="mailto:Michael.schwandt@usask.ca">Michael.schwandt@usask.ca</a>	<b>Non-communicable Disease Prevention and Epidemiology</b>
<b>Peter Tanuseputro</b> Institute for Clinical Evaluative Sciences <a href="mailto:ptanuseputro@ohri.ca">ptanuseputro@ohri.ca</a>	<b>Biostatistics</b>

**Schedule**

Monday October 15, 2018 8:30-5:00	Tuesday October 16, 2018 8:30-5:00	Wednesday October 17 2018 8:30-5:00	Thursday October 18, 2018 8:30-5:00	Friday October 19, 2018 8:30-4:00
<b>Biostatistics</b>  8:30-12:15 3.5 hours  <b>Dr. Peter Tanuseputro</b>	<b>Non-Communicable Disease</b>  8:30-12:15 3.5 hours  <b>Dr. Lawrence Loh and Dr. Michael Schwandt</b>	<b>Special Populations</b>  8:30-10:30 2 hours <b>Dr. Sarah Funnell</b>  <b>Epidemiology and Surveillance I</b>  10:45-12:15 1.5 hours <b>Dr. David Buckeridge</b>	<b>Environmental Health</b>  8:30-12:15 3.5 hours  <b>Dr. Ray Copes</b>	<b>Public Health Law</b>  8:30-10:00 1.5 hours  <b>Dr. Fareen Karachiwalla</b>  <b>Public Health Emergency Preparedness</b>  10:00-12:15 2 hours  <b>Dr. Bonnie Henry</b>
Lunch 12:15-1:00	Lunch 12:15-1:00	Lunch 12:15-1:00	Lunch 12:15-1:00	Lunch 12:15-1:00
<b>Population Health and Health Promotion</b>  1:00-4:45 3.5 hours  <b>Dr. Pamela Leece</b>	<b>Communicable Disease</b>  1:00-4:45 3.5 hours  <b>Dr. Shelley Deeks</b>	<b>Epidemiology and Surveillance II</b>  1:00-3:00 2 hours <b>Dr. David Buckeridge</b>  <b>Public Health Ethics</b>  3:00-4:45 1.5 hours  <b>Dr. Barry Pakes</b>	<b>Policy</b>  1:00-4:45 3.5 hours  <b>Dr. Michael Rachlis</b>	<b>Management &amp; Leadership</b>  1:00-3:00 2.5 hours  <b>Dr. Matthew Hodge</b>
<b>Review 4:45-5:00 pm</b>	<b>Review 4:45-5:00 pm</b>	<b>Review 4:45-5:00 pm</b>	<b>Review 4:45-5:00 pm</b>	<b>Review 3:30-4 pm</b>
<b>Oral Exam Session</b> 7:00-9:00		<b>Emergency Management Simulation</b> 7:00-9:00		
7 (+2) hours total	7 hours total	7 (+2) hours total	7 hours total	6 hours total

**Entrustable Professional Activities**

	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones
<b>Monitor and assess the health of the public</b>			
1	Conduct a population health status assessment	Manage all aspects of completing a health status assessment including: <ul style="list-style-type: none"> <li>• identifying the necessary human and other resources to complete the assessment</li> <li>• identifying community partners and their engagement</li> <li>• collecting, analyzing, interpreting and presenting data</li> <li>• preparing and presenting a final report.</li> </ul>	<ul style="list-style-type: none"> <li>• Define the issue, context, and stakeholders</li> <li>• Identify the necessary resources to complete the assessment</li> <li>• Identify community partners and how they would be engaged.</li> <li>• Profile a community’s characteristics, needs, and resources (see Health Indicators Frameworks)</li> <li>• Prioritize needs for action: size and severity of impact; changeable; effective and acceptable interventions</li> </ul>
2	Conduct a health needs assessment	Manage all aspects of completing a health needs/situational assessment including: <ul style="list-style-type: none"> <li>• Defining the issue and population</li> <li>• Considering social, political, and legal contexts</li> <li>• Identifying stakeholders</li> <li>• Profiling a community’s characteristics, strengths, needs and resources</li> <li>• Prioritizing needs for action</li> <li>• Preparing and presenting a final report.</li> </ul>	<ul style="list-style-type: none"> <li>• Defining the issue, population, context, and stakeholders</li> <li>• Profiling a community’s characteristics, needs, and resources (see Health Indicators Frameworks)</li> <li>• Prioritizing needs for action - size and severity of impact; changeable; effective and acceptable interventions</li> <li>• Preparing and presenting a final report</li> </ul>

	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones
3	Design and manage health surveillance systems	This EPA includes applying understanding of the epidemiology of conditions, and their determinants of public health importance, to the development, implementation and evaluation of health surveillance systems	<ul style="list-style-type: none"> <li>• Assess the development or improvement of a health surveillance system</li> <li>• Evaluate an existing health surveillance system</li> <li>• Improve the management of a surveillance system including the quality control of data</li> <li>• Analyze and interpret surveillance data</li> <li>• Communicate surveillance results to inform public health action.</li> </ul>
4	Conduct a health impact assessment	<p>Manage all aspects of conducting a health impact assessment including:</p> <ul style="list-style-type: none"> <li>• screening whether the policy/project could have impact</li> <li>• defining the scope of what information will be needed by whom and when</li> <li>• appraising the available information to determine positive and negative impacts.</li> </ul>	<ul style="list-style-type: none"> <li>• Screening whether the policy/project could have an impact that would merit completing an assessment</li> <li>• Defining scope in terms of what information will be needed, by whom and in what time frame</li> <li>• Appraising the available information to determine the positive and negative impacts</li> <li>• Preparing and presenting a final report</li> </ul>
5	Conduct an environmental health risk assessment	<p>The conduct of an environmental health risk assessment to characterize the nature and magnitude of health risks to humans from chemical contaminants and other stressors that may be present in the environment. This includes:</p> <ul style="list-style-type: none"> <li>• identifying a hazard and assessing exposure</li> <li>• characterizing and managing the risk</li> <li>• communicating the risk.</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying a Hazard</li> <li>• Exposure Assessment - assessing the magnitude and routes of exposure by person, place and time</li> <li>• Risk Characterization</li> <li>• Risk Management</li> <li>• Risk Communication</li> </ul>



	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones
	<b>Leadership/Management</b>		
6	Act as spokesperson to communicate about public health issues to the public, their elected representatives, inter-sectoral partners, and the health system	This EPA includes advising appropriate audience(s) about health concerns in the population, making recommendations for strategies to address them, and contributing to planning in the health system comprised of ‘public health’ and ‘healthcare’ systems.	<ul style="list-style-type: none"> <li>• Assess relevant information to be highly knowledgeable about the issue</li> <li>• Engage relevant partners for support and collaborative action</li> <li>• Identify the target audience(s) and their pertinent characteristics</li> <li>• Identify the purpose/objective of the communication</li> <li>• Frame the issue/problem from a public health perspective</li> <li>• Outline response options and the evidence to support them</li> <li>• Provide a recommended option with an analysis of opportunities and challenges</li> <li>• Tailor setting, messages and communication style for the relevant audience(s)</li> <li>• Evaluate the implementation and impact of the communication</li> </ul>
7	Lead and manage strategic planning	This EPA includes leading and managing the strategic planning process in an organization to define its direction and priorities that are supported by an implementation plan to achieve them. A priority for a new project or program will typically require a business case that provides a detailed, written argument to convince a decision maker to provide the required support and funding. As such, business case development is included as a nested EPA.	<ul style="list-style-type: none"> <li>• Commencing and getting an agreement upon a strategic planning process</li> <li>• Recognizing all organizational mandates relating to the organization i.e. laws, regulations, rules and procedures</li> <li>• Spelling out and making clear the organization’s mission statement and shared values</li> <li>• Conducting a SWOT analysis</li> <li>• Identifying any relevant issues that may impact the strategic planning process</li> <li>• Making plans to confront and manage issues facing the organization</li> <li>• Re-evaluating the foregoing strategic plan and come to agreement</li> <li>• Based on the adopted strategic plan, construct an appropriate vision statement</li> <li>• Putting together a logical and workable implementation plan (i.e.in Baldrige terms “action plans”)</li> <li>• Conducting a final reassessment of the strategic plan and the strategic process</li> </ul>

	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones
		<i>Nested EPA – Business case development</i>	<ul style="list-style-type: none"> <li>• Providing a Project/Program Description</li> <li>• Identifying the Objectives, Scope, Outcomes, and Stakeholders</li> <li>• Defining the Strategic Alignment</li> <li>• Providing an Opportunity Assessment</li> <li>• Assessing Alternatives</li> <li>• Defining Business and Operational Impacts</li> <li>• Assessing project/program risk</li> <li>• Completing a Cost/Benefit Analysis</li> <li>• Providing Recommendations</li> </ul>
8	Lead and manage the operational planning and evaluation of a public health program	<i>Nested EPA - Operational Planning</i>	<p>Providing the leadership for developing an operational plan for a public health program (e.g., establish priorities, goals and objectives, operational strategies, action plan communication plan, implementation plan, monitoring and evaluation plan). It also includes providing the leadership to conduct an evaluation of a public health program. A ‘public health program’ includes not only core public health programs, but also population based health services such as a provincial cancer screening program. As an ‘umbrella’-type EPA, fulfilment of this end-of-training EPA requires achievement of both nested EPAs.</p> <ul style="list-style-type: none"> <li>• Operational planning for a public health program in response to an emerging issue               <ul style="list-style-type: none"> <li>○ Defining the Problem</li> <li>○ Burden of illness of problem - incidence, prevalence, morbidity/mortality, economic burden</li> <li>○ Evaluating the need, appropriateness, capacity and impact of the Public Health Issue</li> <li>○ Selecting the prevention intervention or control options</li> </ul> </li> <li>• Annual operational planning for a public health program               <ul style="list-style-type: none"> <li>○ Establishing priorities (if not already dictated by strategic plan)</li> <li>○ Developing goals and objectives</li> <li>○ Develop strategies – SWOT, logic model</li> <li>○ Developing an action plan - actions, workplan, schedule, staffing, budget, policies and procedures</li> <li>○ Developing a communication plan - internal and external</li> <li>○ Developing an implementation plan</li> <li>○ Developing a monitoring and evaluation plan</li> </ul> </li> </ul>

	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones				
		<i>Nested EPA - Program Evaluation</i>	<ul style="list-style-type: none"> <li>• Engaging stakeholders - those involved, those affected, primary intended users</li> <li>• Describing the program - need, expected effects, activities, resources, stage, context, logic model</li> <li>• Focusing the evaluation design - purpose, users, uses, questions, methods, agreements.</li> <li>• Gathering credible evidence - indicators, sources, quality, quantity, logistics</li> <li>• Justifying conclusions - standards, analysis/synthesis, interpretation, judgment, recommendations.</li> <li>• Ensuring use and share lessons learned - design, preparation, feedback, follow-up, dissemination</li> </ul>				
9	Lead and manage a team and organization.	<p>This EPA includes providing the leadership role for managing a staff member, a team and an organization (e.g., develop and manage a budget, manage a project, manage/mediate a conflict, and hire/performance manage/discharge staff). Teams may either have a common reporting structure (e.g., the communicable disease control team) or be matrixed across an organization.</p>	<table border="1"> <tr> <td data-bbox="485 771 747 1144"><i>Nested EPA – Develop and manage a budget</i></td> <td data-bbox="747 771 1927 1144"> <ul style="list-style-type: none"> <li>• Assessing a Program's financial health based on information from financial statements: (Income statement; Balance sheet; Cash flow statement)</li> <li>• Managing the budget process                             <ul style="list-style-type: none"> <li>○ Selecting Budgetary Approach (Fixed; Rolling; Static; Flexible; Incremental; Zero Based; Top Down; Participatory; Kaizan)</li> <li>○ Setting budget goals</li> <li>○ Evaluating and choosing options</li> <li>○ Identifying budget impacts</li> <li>○ Coordinating departmental budgets into the master budget</li> </ul> </li> <li>• Prepare different types of budgets (Operating Budgets; Capital Budgets; Case Budgets).</li> </ul> </td> </tr> <tr> <td data-bbox="485 1144 747 1421"><i>Nested EPA – Manage a project</i></td> <td data-bbox="747 1144 1927 1421"> <ul style="list-style-type: none"> <li>• Initiating the Project                             <ul style="list-style-type: none"> <li>○ Developing the project idea</li> <li>○ Establishing the Project Authority</li> </ul> </li> <li>• Defining the Project                             <ul style="list-style-type: none"> <li>○ Developing the Project charter</li> <li>○ Developing the Project Design</li> </ul> </li> <li>• Planning the Project</li> </ul> </td> </tr> </table>	<i>Nested EPA – Develop and manage a budget</i>	<ul style="list-style-type: none"> <li>• Assessing a Program's financial health based on information from financial statements: (Income statement; Balance sheet; Cash flow statement)</li> <li>• Managing the budget process                             <ul style="list-style-type: none"> <li>○ Selecting Budgetary Approach (Fixed; Rolling; Static; Flexible; Incremental; Zero Based; Top Down; Participatory; Kaizan)</li> <li>○ Setting budget goals</li> <li>○ Evaluating and choosing options</li> <li>○ Identifying budget impacts</li> <li>○ Coordinating departmental budgets into the master budget</li> </ul> </li> <li>• Prepare different types of budgets (Operating Budgets; Capital Budgets; Case Budgets).</li> </ul>	<i>Nested EPA – Manage a project</i>	<ul style="list-style-type: none"> <li>• Initiating the Project                             <ul style="list-style-type: none"> <li>○ Developing the project idea</li> <li>○ Establishing the Project Authority</li> </ul> </li> <li>• Defining the Project                             <ul style="list-style-type: none"> <li>○ Developing the Project charter</li> <li>○ Developing the Project Design</li> </ul> </li> <li>• Planning the Project</li> </ul>
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<i>Nested EPA – Manage a project</i>	<ul style="list-style-type: none"> <li>• Initiating the Project                             <ul style="list-style-type: none"> <li>○ Developing the project idea</li> <li>○ Establishing the Project Authority</li> </ul> </li> <li>• Defining the Project                             <ul style="list-style-type: none"> <li>○ Developing the Project charter</li> <li>○ Developing the Project Design</li> </ul> </li> <li>• Planning the Project</li> </ul>						

	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones
			<ul style="list-style-type: none"> <li>○ Developing the Project Schedule</li> <li>○ Developing the Project Resource Plan</li> <li>• Executing the Project</li> <li>• Closing Out the Project</li> <li>• Evaluating the quality of the Project Management</li> </ul>
		<i>Nested EPA – Manage/mediate a conflict</i>	<ul style="list-style-type: none"> <li>• Select and apply relevant communication strategies, to prevent or de-escalate a variety of real or simulated conflicts.</li> <li>• Select and apply relevant conflict management strategies to resolve different forms of real or simulated conflicts.</li> <li>• Prepare for a real or simulated negotiation.</li> <li>• Lead a real or simulated negotiation</li> </ul>
		<i>Nested EPA – Hiring, performance managing and discharging staff</i>	<ul style="list-style-type: none"> <li>• Select and apply relevant strategies to manage difficult interactions with co-workers and/or managers.</li> <li>• Conduct a simulated employee coaching meeting, development meeting, and performance appraisal.</li> <li>• Prepare a simulated hiring (including job description, interview, and hiring selection).</li> <li>• Prepare a simulated dismissal (including documentation, planning appropriate timing, location, tone, and wording).</li> <li>• Lead a simulated hiring.</li> <li>• Lead a simulated dismissal.</li> </ul>
10	Lead and manage change within an organization	This EPA includes the leadership role for systematically applying the principles of change management to accomplish a strategic change within an organization.	<ul style="list-style-type: none"> <li>• Applying a framework to understand the organizational context</li> <li>• Prepare a change management plan</li> <li>• Prepare a human resource plan</li> <li>• Develop a communication strategy</li> <li>• Application of one or more of the above plans or strategies</li> </ul>
11	Lead and manage a quality improvement initiative	This EPA includes leading a quality improvement initiative to improve an existing process or service including:	<ul style="list-style-type: none"> <li>• Implement the Quality Improvement initiative                             <ul style="list-style-type: none"> <li>○ Investigate to understand the operations processes in detail.</li> <li>○ Distinguish points of variability and waste in the process</li> </ul> </li> </ul>

	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones
		<ul style="list-style-type: none"> <li>• defining the opportunity for improvement</li> <li>• building understanding for an improvement</li> <li>• acting to improve the problem</li> <li>• sustaining the results of a quality improvement project.</li> </ul>	<ul style="list-style-type: none"> <li>○ Identify and utilize quality improvement tools to aid in the improvement initiative</li> <li>○ Hypothesize the best solution for the improvement initiative and test the hypothesis</li> <li>○ Implement the necessary changes to improve the process</li> <li>○ Manage and monitor the initiative to ensure adherence to new protocols and overall success of the initiative</li> <li>○ Document the quality improvement initiative for future reference by relevant stakeholders.</li> <li>• Manage the Quality Improvement team.</li> <li>• Reflect on a quality improvement initiative identifying successes and areas for growth.</li> </ul>
<b>Protect the Public’s Health</b>			
12	Manage communicable diseases of public health importance	<p>This EPA includes the public health management of a report of a communicable disease or scenario of public health importance. This includes case investigation and management, investigation of potential exposures to a communicable disease, as well as the management of immunization-related issues.</p> <p>The generic milestones of this EPA are supplemented with a series of nested EPAs that address the details of specific diseases and scenarios. Fulfilment of this end-of-training EPA requires achievement of <b>all</b> nested EPAs.</p>	<ul style="list-style-type: none"> <li>• Case investigation of reportable diseases including:               <ul style="list-style-type: none"> <li>○ Determining whether the case definition is met including arranging for any diagnostic testing and/or case information required</li> <li>○ Report the case if notifiable as per the legislated reporting requirements</li> <li>○ Developing and documenting a case management plan</li> <li>○ Developing and documenting a contact management plan</li> <li>○ Communicating with relevant parties to access information and communicate management plans</li> <li>○ Follow the management of the case(s) and contact(s) to their conclusion and document the results of the investigation and interventions undertaken</li> </ul> </li> <li>• Investigate the potential exposure to a communicable disease (e.g., rabies, BBFE, IPC break)               <ul style="list-style-type: none"> <li>○ Assess the risk of exposure/transmission to a communicable disease</li> <li>○ Arrange any testing and/or case information required</li> <li>○ Develop a management plan</li> <li>○ Document and communicate the management plan</li> </ul> </li> </ul>

	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones
			<ul style="list-style-type: none"> <li>○ Arrange for implementation of the management plan</li> <li>○ Follow the management plan to their conclusion and document the results of the investigation and interventions undertaken</li> <li>• Manage immunization-related scheduling issues and reported adverse event following immunization.</li> </ul>
		<p><i>Nested EPAs</i></p> <ul style="list-style-type: none"> <li>• Manage an Animal Bite Exposure</li> <li>• Manage a Report of a Communicable Disease</li> <li>• Manage a Blood and Body Fluid Exposure</li> <li>• Manage an Infection Prevention and Control Break (Community)</li> <li>• Manage a Reported Case of a Sexually Transmitted Infection</li> <li>• Manage a Reported Case of Active or Latent Tuberculosis</li> <li>• Manage a Report of an Adverse Event Following Immunization</li> <li>• Provide Behind-Schedule or Off-Schedule Immunization recommendations.</li> </ul>	
13	Manage a communicable disease outbreak	<p>This EPA includes public health management of all aspects of outbreak investigations of reportable diseases including:</p> <ul style="list-style-type: none"> <li>• declaring an outbreak</li> <li>• planning and implementing the investigation</li> <li>• implementing control measures</li> <li>• making recommendations on case management</li> <li>• managing internal and external communications</li> <li>• coordinating and managing external assistance</li> <li>• providing final outbreak reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess available information to decide whether there is an outbreak</li> <li>• Declare an outbreak</li> <li>• Organize an outbreak team</li> <li>• Plan and implement the outbreak investigation including:                             <ul style="list-style-type: none"> <li>○ Investigations to be undertaken (Epidemiologic; Analytic; Laboratory)</li> <li>○ Standardizing and coordinating sample collection</li> <li>○ Coordinating environmental inspections</li> </ul> </li> <li>• Manage the implementation and monitoring of the control measures (e.g., exclusions, closures) to be used</li> <li>• Make recommendations on case management</li> <li>• Manage the implementation of a communication strategy including responding to media requests</li> <li>• Coordinate and manage external assistance</li> <li>• Provide the final outbreak reports</li> <li>• Assignment of more junior residents to support roles.</li> </ul>

	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones
14	Manage environmental health risks/exposures/incidents of public health importance	<p>This EPA includes the public health management of all aspects of environmental health risks, exposures, and incidents of public health importance including:</p> <ul style="list-style-type: none"> <li>• assessing available information to decide whether a risk to the public exists</li> <li>• deciding on and implementing a course of action</li> <li>• managing internal and external communications</li> <li>• coordinating and managing external assistance, as appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>• Assessing available information to decide whether air quality poses a risk to the public</li> <li>• Writing and issuing an air quality alert</li> <li>• Implementation of a communication strategy including responding to media requests.</li> </ul>
		<i>Nested EPA – Management of an air quality issue</i>	<ul style="list-style-type: none"> <li>• Assessing available information to decide whether air quality poses a risk to the public</li> <li>• Writing and issuing an air quality alert</li> <li>• Implementation of a communication strategy including responding to media requests.</li> </ul>
		<i>Nested EPA – Management of a drinking or recreational water quality issue</i>	<ul style="list-style-type: none"> <li>• Assessing available information to decide whether water quality poses a risk to the public</li> <li>• Writing and issuing:                             <ul style="list-style-type: none"> <li>○ a boil water order based on a municipal drinking water report</li> <li>○ a boil water advisory based on a private well water report</li> <li>○ a recreational water closure advisory based on a water quality report</li> <li>○ a blue green algae advisory based on a water quality report</li> </ul> </li> <li>• Manage the implementation of a communication strategy related to a water quality advisory or order.</li> </ul>
		<i>Nested EPA – Management of a food safety issue</i>	<ul style="list-style-type: none"> <li>• Assessing available information to decide whether food establishment safety issues pose a risk to the public</li> <li>• Writing and issuing a restaurant closure order based on PHI/EHO report</li> <li>• Manage the implementation of a communication strategy related to a restaurant closure order.</li> </ul>
15	Manage a cluster of cancer or other adverse health outcome	This EPA includes investigating and managing a potential cluster of cancer or other adverse non-communicable disease health events such as increased mortality, adverse birth	<ul style="list-style-type: none"> <li>• Determine whether to proceed with an investigation by obtaining and evaluating information from the inquirer and relevant available data</li> <li>• Application of risk communication principles with the inquirer and relevant stakeholders at all stages of the investigation</li> <li>• (If further assessment is warranted), determine whether the suspected excess of cancer or other health outcome is statistically significant</li> </ul>

	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones
		outcomes (e.g., stillbirths, birth defects), etc.	<ul style="list-style-type: none"> <li>• (If further assessment is warranted), determine feasibility of conducting an epidemiologic study linking health event/outcome to an exposure</li> <li>• (If the epidemiologic study is warranted), conduct an epidemiologic study to pursue the epidemiologic and public health issues that the cluster generated.</li> <li>• Prepare an investigation report.</li> </ul>
16	Prepare for and manage public health incidents and emergencies	The EPA includes leading all aspects of the planning for, and response to, public health incidents and emergencies. These can result from several types of hazards including infectious diseases, chemicals, radiation, as well as natural and technological disasters. The common element is that routine operations risk being overwhelmed by the emergency prompting the establishment of an incident command system.	<ul style="list-style-type: none"> <li>• Assume under minimal supervision any of the non-Incident Commander roles within a simulated or real public health emergency. These roles include:                             <ul style="list-style-type: none"> <li>o Operations</li> <li>o Logistics</li> <li>o Planning</li> <li>o Finance/Administration</li> </ul> </li> <li>• Assume under minimal supervision the Incident Commander role within a simulated public health emergency. (see Appendix 4 for list of responsibilities)</li> </ul>
<b>Promote Health and Prevent Diseases and Injuries</b>			
17	Conduct a health policy analysis	This EPA includes analyzing a public health/healthy public policy including: <ul style="list-style-type: none"> <li>• developing an understanding of the issue and context</li> <li>• generating policy options</li> <li>• selecting a policy option</li> <li>• developing a course of action to support the selected option</li> </ul>	<ul style="list-style-type: none"> <li>• Developing an understanding of the issue and context (descriptive and explanatory analysis)</li> <li>• Generating policy options</li> <li>• Selecting a policy option</li> <li>• Developing an implementation plan for the selected policy option</li> <li>• Developing a monitoring and evaluation plan for the implemented policy option</li> <li>• Preparing and presenting a policy brief.</li> </ul>



	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones
		<ul style="list-style-type: none"> <li>developing a monitoring and evaluation plan for the policy option.</li> </ul>	
18	Lead and manage strategies and programming to promote health and health equity	<p>This EPA includes applying health promotion principles and Ottawa Charter actions to promote health and health equity. This includes leading and managing strategies and programs to create supportive environments for healthy living across the lifespan and fostering community action. It also includes incorporating consideration of health equity across public health organizations and their programs, as well as the healthcare system (i.e., health equity audits).</p>	<ul style="list-style-type: none"> <li>Conduct a situational assessment of a health promotion or health equity issue</li> <li>Identify improvements to existing strategy and programming to address the health promotion or health equity issue</li> <li>Lead an existing collaborating relationship with community organizations and social services to identify and address a health inequity</li> <li>Implement a selected option for addressing an identified health inequity within a public health program</li> <li>Lead a health equity audit and design options to address identified inequities</li> </ul>
19	Advocate for the adoption and implementation of healthy public policies	<p>This EPA includes seeking to influence (i.e., advocate) for the adoption and implementation of healthy public policies including:</p> <ul style="list-style-type: none"> <li>Utilizing an existing health policy analysis to identify the desired policy change</li> <li>Engaging relevant stakeholders</li> <li>Developing and applying a communication strategy</li> <li>Creating/supporting capacity development to influence the policy agenda.</li> </ul>	<ul style="list-style-type: none"> <li>Utilize an existing policy analysis to identify the issue and desired policy solutions</li> <li>Plan a course of action including:                             <ul style="list-style-type: none"> <li>Look for signs that change is needed</li> <li>Frame issues and policy solutions effectively</li> <li>Analyze key stakeholders (position, needs, strategies)</li> <li>Identify policy levers and windows of opportunity</li> </ul> </li> <li>Take action including:                             <ul style="list-style-type: none"> <li>Build collective action and stimulate debate in various venues</li> <li>Lead a communication strategy regarding health policy adoption/implementation – use media strategically employing multiple tactics</li> <li>Identify and proactively address potential barriers to implementation</li> </ul> </li> <li>Evaluate actions and plan next steps.</li> </ul>

	EPAs	Brief Description	Senior Resident – Transition to Practice Milestones
20	Design and manage a population-based screening program	<p>This EPA includes developing and implementing a population-based screening program including:</p> <ul style="list-style-type: none"> <li>• development and/or alignment to policy and protocols frameworks</li> <li>• program planning and design</li> <li>• quality management plan</li> <li>• governance and management</li> <li>• monitoring, evaluation and review.</li> </ul>	<ul style="list-style-type: none"> <li>• Development and/or alignment to policy and protocols framework(s)</li> <li>• Program planning and design</li> <li>• Quality management plan</li> <li>• Governance and management</li> <li>• Monitoring, evaluation and review</li> <li>• Assignment of more junior residents to support roles.</li> </ul>

**Monday October 15, 2018**

## **Biostatistics**

**Dr. Peter Tanuseputro**

**End of Training EPAs:** none

### **Objectives:**

- 1. Describe and apply the principles of research and scholarly inquiry**
  - Discuss and apply sampling methods as well as the estimation of appropriate sample sizes, including study power, alpha and beta levels, and a consideration of type I and II error
  - Calculate and interpret measures of frequency including but not limited to counts, rates, ratios, and, as applicable, their standardization
  - Calculate and interpret measures of risk including but not limited to relative risk, risk difference, attributable risk, odds ratio, etiologic fraction and preventive fraction
  
- 2. Describe the analytic tests and methods used to explain differences in health and health related behaviours including but not limited to:**
  - Analysis of variance (ANOVA)
  - Chi-square
  - Kappa correlation
  - Life tables
  - Logistic regression
  - Modeling
  - Survival analysis
  - T-test
  
- 3. Apply and interpret appropriate quantitative methods and analytic tests to explain differences in health and health related behaviours, including but not limited to:**
  - Life tables
  - Survival analysis
  - T-test
  - ANOVA (Analysis of Variance)
  - Chi-square
  - Logistic regression
  - Kappa
  - Correlation

**Core Content:***Types of data**Describing data**Graphical representations of data**Shapes of distributions**Measures of the centre and spread of data*

- mean, median, mode, frequency, rates

*Sampling methods**Probability*

- Independence
- Additive law
- Conditional probability
- Sensitivity
- Specificity
- PPV, NPV
- Receiver operating characteristic (ROC) curve

*Hypothesis testing*

- Error
- Power
- One sample hypothesis testing
- Two sample hypothesis testing
  - Two sample t-test with unpooled variance

*Measures of risk*

- Relative risk
- Risk difference
- Odds ratio
- Preventive Fraction
- 2x2 tables
- Number Needed to Treat
- Attributable Risk
- Population Attributable Risk
- Etiologic Fraction

*Categorical data analysis*

- Chi square test
- Kappa statistic

*Linear regression**ANOVA**Logistic regression (interpreting regression co-efficients and  $R^2$ )**Life tables and survival analysis*

## Population Health and Health Promotion

Dr. Pamela Leece

### End of Training EPAs:

<b>EPA 2: Conduct a health needs assessment</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>Manage all aspects of completing a health needs/situational assessment including:</p> <ul style="list-style-type: none"> <li>• Defining the issue and population</li> <li>• Considering social, political, and legal contexts</li> <li>• Identifying stakeholders</li> <li>• Profiling a community’s characteristics, strengths, needs and resources</li> <li>• Prioritizing needs for action</li> <li>• Preparing and presenting a final report.</li> </ul>	<ul style="list-style-type: none"> <li>• Defining the issue, population, context, and stakeholders</li> <li>• Profiling a community’s characteristics, needs, and resources (see Health Indicators Frameworks)</li> <li>• Prioritizing needs for action - size and severity of impact; changeable; effective and acceptable interventions</li> <li>• Preparing and presenting a final report</li> </ul>

<b>EPA 4: Conduct a health impact assessment</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>Manage all aspects of conducting a health impact assessment including:</p> <ul style="list-style-type: none"> <li>• screening whether the policy/project could have impact</li> <li>• defining the scope of what information will be needed by whom and when</li> <li>• appraising the available information to determine positive and negative impacts.</li> </ul>	<ul style="list-style-type: none"> <li>• Screening whether the policy/project could have an impact that would merit completing an assessment</li> <li>• Defining scope in terms of what information will be needed, by whom and in what time frame</li> <li>• Appraising the available information to determine the positive and negative impacts</li> <li>• Preparing and presenting a final report</li> </ul>

<b>EPA 8: Lead and manage the operational planning and evaluation of a public health program</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>Providing the leadership for developing an operational plan for a public health program (e.g., establish priorities, goals and objectives, operational strategies, action plan communication plan, implementation plan, monitoring and evaluation plan). It also includes providing the leadership to conduct an evaluation of a public health program. A ‘public health program’ includes not only core public health programs, but also population based health services such as a provincial cancer screening program. As an ‘umbrella’-type EPA, fulfilment of this end-of-training EPA requires achievement of both nested EPAs.</p>	
<p><i>Nested EPA – Operational Planning</i></p>	<ul style="list-style-type: none"> <li>• Operational planning in response to an emerging issue                             <ul style="list-style-type: none"> <li>○ Defining the Problem</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Burden of illness of problem - incidence, prevalence, morbidity/mortality, economic burden</li> <li>○ Evaluating the need, appropriateness, capacity and impact of the Public Health Issue</li> <li>○ Selecting the prevention intervention or control options</li> <li>● Developing a monitoring and evaluation plan</li> </ul>
<i>Nested EPA – Program Evaluation</i>	<ul style="list-style-type: none"> <li>● Engaging stakeholders - those involved, those affected, primary intended users</li> <li>● Describing the program - need, expected effects, activities, resources, stage, context, logic model</li> <li>● Focusing the evaluation design - purpose, users, uses, questions, methods, agreements.</li> <li>● Gathering credible evidence - indicators, sources, quality, quantity, logistics</li> <li>● Justifying conclusions - standards, analysis/synthesis, interpretation, judgment, recommendations.</li> <li>● Ensuring use and share lessons learned - design, preparation, feedback, follow-up, dissemination</li> </ul>

<b>EPA 18: Lead and manage strategies and programming to promote health and health equity</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>This EPA includes applying health promotion principles and Ottawa Charter actions to promote health and health equity. This includes leading and managing strategies and programs to create supportive environments for healthy living across the lifespan and fostering community action. It also includes incorporating consideration of health equity across public health organizations and their programs, as well as the healthcare system (i.e., health equity audits).</p>	<ul style="list-style-type: none"> <li>● Conduct a situational assessment of a health promotion or health equity issue</li> <li>● Identify improvements to existing strategy and programming to address the health promotion or health equity issue</li> <li>● Lead an existing collaborating relationship with community organizations and social services to identify and address a health inequity</li> <li>● Implement a selected option for addressing an identified health inequity within a public health program</li> <li>● Lead a health equity audit and design options to address identified inequities</li> </ul>

**Objectives:**

**1. Identify and explore health issues effectively, including context, preferences, and values**

- Select, discuss and demonstrate an understanding of the socio-economic, political, and environmental factors, relevant to investigate a given context, including but not limited to:
  - Distribution of wealth and power
  - Urbanization
  - Industrialization
  - Social attitudes and values
  - Immigration policies
- Apply methods used to explore knowledge, attitudes, beliefs, behaviours, and public health interventions, including but not limited to:
  - Participant observation

- Key informant surveys
  - Nominal group
  - Focus group
  - Delphi process
  - Social network analysis and applicable approaches
- 2. Plan and design a health promotion intervention management plan in collaboration with individuals, families, groups, organizations, communities, or populations**
    - Discuss the theories of community development
    - Discuss the strengths and weaknesses of health promotion interventions directed at populations including but not limited to social marketing and healthy public policy
    - Develop a plan to address a health need in a defined community making clear the theoretical base for a proposal and developing a business case for an activity with consideration to the strengths and weaknesses of health promotion interventions
  - 3. Perform an assessment of the health impact of a policy or project for a defined population and make recommendations**
    - Discuss the processes for health impact assessment and analyze the health impact of public policy
  - 4. Demonstrate effective, appropriate, and timely performance of interventions relevant to Public Health and Preventive Medicine**
    - Lead or make a significant contribution to a major public health campaign demonstrating an understanding of appropriate theory and applications of social marketing and mass communication
    - Implement and evaluate a health promotion intervention, including assessment of outcomes, methods, and costs; identifying strengths and limitations of intervention, communicating findings and making recommendations
  - 5. Promote the health of individuals, families, communities, and populations to improve health equity**
    - Apply a determinants of health analysis to a policy or program question to assess the equity implications of policy or program options
    - Describe an approach to addressing a determinant of health of the population they serve, including identifying the roles of public health players
      - i. Apply the theoretical models of behaviour change to the general population, high risk and hard to reach groups
      - ii. Demonstrate an understanding of factors that influence the potential for change in a given context and population
    - Apply knowledge translation and social marketing strategies to the promotion of health to encourage the application of best practices

**Core Content:***Definitions*

- Health
- Illness and disease

- Disability, impairment, and handicap
- Public Health (definition and main functions)
- Population Health
- Equity and equality

*Population health assessment*

- Health needs assessment
- Health impact assessment
  - Health equity impact assessment
- Methods of assessment
- Context of assessment
- Determinants of Health
- Health Inequities

*Health promotion*

- Principles of health promotion
- Ottawa Charter for Health Promotion
- Theories of Behaviour Change
  - stages of change model
  - health belief model
  - theory of planned behaviour
- Areas of health promotion
  - Early Child Development
  - Maternal, infant health, and breastfeeding
  - School health
  - Healthy eating and active living
  - Oral health
  - Mental health

*Health promotion interventions*

- Planning health promotion interventions
- Implementing health promotion interventions
- Evaluating health promotion interventions
- Intervention management plan
- Methods of intervention
  - Social marketing
  - Healthy public policy
- Theories of Community Development
- Diffusion of Innovation Theory
- Organizational Change theory
- Precede/Proceed Model



**Tuesday October 16, 2018**

**Non-communicable Disease Prevention and Epidemiology**

**Dr. Lawrence Loh and Dr. Michael Schwandt**

**End of Training EPAs:**

<b>EPA 20: Design and manage a population-based screening program</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
This EPA includes developing and implementing a population-based screening program including: <ul style="list-style-type: none"> <li>• development and/or alignment to policy and protocols frameworks</li> <li>• program planning and design</li> <li>• quality management plan</li> <li>• governance and management</li> <li>• monitoring, evaluation and review.</li> </ul>	<ul style="list-style-type: none"> <li>• Development and/or alignment to policy and protocols framework(s)</li> <li>• Program planning and design</li> <li>• Quality management plan</li> <li>• Governance and management</li> <li>• Monitoring, evaluation and review</li> </ul>

**Objectives:**

- 1. Apply knowledge of the fundamental biomedical, clinical, and public health sciences to chronic disease and injury prevention in Public Health and Preventive Medicine practice**
  - Apply knowledge of the principles of disease and injury prevention and control
  - Use a range of methods to assess morbidity and burden of disease within and between populations
  - Use and interpret information from a range of sources, including but not limited to, mortality, hospital admission, census, primary care, communicable diseases, cancer registries, reproductive and sexual health data, and health surveys, to support public health activities in an evidence informed, resource-effective and ethical manner
  - Demonstrate effective problem-solving and judgment in addressing health problems, including interpreting available data and integrating information to develop and implement management plans
- 2. Assess the evidence for proposed or existing screening programs, using established criteria**
  - Assess the performance of screening tests including but not limited to sensitivity, specificity, predictive value, and number needed to screen
  - Monitor and appraise the impact of screening and other disease detection and prevention programs
- 3. Use an economic analysis including but not limited to cost-benefit, cost-effectiveness and cost-utility in the assessment of a health issue and proposed intervention options**
- 4. Describe the natural history, epidemiology, risk factors and health burden of the major non-communicable diseases of public health significance**

- Identify, select and interpret biological risk markers including but not limited to age, sex, race, genetic makeup
- Identify and explore health issues effectively, including context, preferences, and values
- Define, develop, select and interpret relevant social, demographic, and health indicators from a variety of data sources including but not limited to vital statistics, administrative databases, registries, and surveys.
- Identify and interpret the impact of health behaviours of individuals, groups and populations, with respect to participation in recommended chronic disease prevention and screening programs

### Core Content:

#### *Introduction to non-communicable disease*

- Definitions
- Epidemiology of non-communicable disease in Canada
- Top causes of mortality and morbidity across the life course

#### *The natural history, epidemiology, risk factors, health burden, and public health interventions of non-communicable diseases of public health significance*

- Cardiovascular and metabolic disease
- Cancer
- Mental health
- Substance abuse
  - Harm reduction

#### *Non-communicable disease analysis*

- Surveillance
- Economic modelling
- Economic analysis
  - Cost benefit analysis
  - Cost effect analysis
  - Cost utility analysis (QALYs)
  - Discounting

#### *Disease prevention*

- Natural history of disease
- Primary, secondary, and tertiary prevention
- Injury prevention
  - Haddon's matrix
  - Education, enforcement, and environment
  - Countermeasures/strategies for injury prevention

#### *Screening*

- Principles of screening
- Wilson and Jungner's criteria
- Recommended screening
- Newborn screening (PKU, Congenital hypothyroidism, TORCH, chronic diseases and genetic disorders)
- Developing a screening program
- Benefits and concerns with screening (ethics, costs, policies)

- Apply the principles of screening to a clinical scenario
- Interpretation of screening data
  - Sensitivity, specificity, numbers needed to treat
  - lead time bias, length time bias, and over-diagnosis bias

## Communicable Disease Prevention and Epidemiology

Dr. Shelley Deeks

### End of Training EPAs:

EPA 12: Manage communicable diseases of public health importance	
Description	Senior Resident – Transition to Practice Milestones
<p>This EPA includes the public health management of a report of a communicable disease or scenario of public health importance. This includes case investigation and management, investigation of potential exposures to a communicable disease, as well as the management of immunization-related issues. The generic milestones of this EPA are supplemented with a series of nested EPAs that address the details of specific diseases and scenarios.</p>	<ul style="list-style-type: none"> <li>• Case investigation of reportable diseases including:                             <ul style="list-style-type: none"> <li>○ Determining whether the case definition is met including arranging for any diagnostic testing and/or case information required</li> <li>○ Report the case if notifiable as per the legislated reporting requirements</li> <li>○ Developing and documenting a case management plan</li> <li>○ Developing and documenting a contact management plan</li> <li>○ Communicating with relevant parties to access information and communicate management plans</li> <li>○ Follow the management of the case(s) and contact(s) to their conclusion and document the results of the investigation and interventions undertaken</li> </ul> </li> <li>• Investigate the potential exposure to a communicable disease (e.g., rabies, BBFE, IPC break)                             <ul style="list-style-type: none"> <li>○ Assess the risk of exposure/transmission to a communicable disease</li> <li>○ Arrange any testing and/or case information required</li> <li>○ Develop a management plan</li> <li>○ Document and communicate the management plan</li> <li>○ Arrange for implementation of the management plan</li> <li>○ Follow the management plan to their conclusion and document the results of the investigation and interventions undertaken</li> </ul> </li> <li>• Manage immunization-related scheduling issues and reported adverse event following immunization.</li> </ul>
<p><i>Nested EPAs</i></p>	<ul style="list-style-type: none"> <li>• Manage an Animal Bite Exposure</li> <li>• Manage a Report of a Communicable Disease</li> <li>• Manage a Blood and Body Fluid Exposure</li> <li>• Manage an Infection Prevention and Control Break (Community)</li> <li>• Manage a Reported Case of a Sexually Transmitted Infection</li> <li>• Manage a Reported Case of Active or Latent Tuberculosis</li> <li>• Manage a Report of an Adverse Event Following Immunization</li> <li>• Provide Behind-Schedule or Off-Schedule Immunization recommendations.</li> </ul>

### Objectives:

1. **Lead or take a major role in the management of the response to a report of a communicable disease of public health significance**
  - Reporting notifiable diseases
  - Managing contact tracing where appropriate

- Managing infection prevention and control interventions
2. **Demonstrate the ability to investigate and manage immunization-related scenarios**
    - Know the national immunization schedule and how to manage patients who are off-schedule
    - Understand vaccine safety and how to manage adverse events
  3. **Describe the natural history, epidemiology, risk factors and health burden of the major communicable diseases of public health significance**
  4. **Describe the principles of infection prevention and control and their application to effective and appropriate procedures and policies to reduce risk**

**Core Content:***Management of immunization-related issues*

- Post exposure prophylaxis
- Off-schedule immunization recommendations
- Adverse events following immunization

*Characteristics of communicable disease*

- Host, agent, environment interaction
- Reproductive number
- Case, carrier, contact
- Transmission
- Case fatality ratio
- Terms and concepts

*Communicable disease control*

- Levels of control (control, elimination, eradication, re-emergence)
- Index case, source, contacts
- Notifiable diseases

*Managing communicable diseases of public health importance*

- Case investigation
  - Reporting notifiable diseases
- Case management
- Exposure investigation
  - Exposure risk assessment
- Manage an animal bite exposure
- Manage a blood and body fluid exposure
- Manage an infection prevention and control break

*The natural history, epidemiology, transmission, reservoir, risk factors and health burden of communicable diseases of public health significance*

- Enteric infections (campylobacter, botulism, listeria, shiga toxin producing E. coli, salmonella, giardia, norovirus)
- Sexually transmitted infections (Chlamydia, gonorrhoea, syphilis, and herpes)

- Travel related infections (Dengue Fever, Malaria, and Ebola)
- Tuberculosis (PPD, Interferon Gamma, BCG, LTBI, active TB, and TB control)
- Hepatitis C
- HIV
- Lyme disease
- West Nile Virus
- SARS
- MERS

#### *Infection prevention and control interventions*

- Principles of IPAC
- IPAC Practices (hand washing, PPE, environmental, etc)
- Nosocomial infections and Antibiotic Resistant Organisms (MRSA, C. difficile, VRE)
  - epidemiology, transmission, reservoir, risk factors
  - impact on individual health and health system
  - Surveillance (CNISP) and reporting
  - Control measures (Antibiotic Stewardship, etc)

#### *Vaccines and immunizations*

- Vaccines types
- Qualities of a good vaccine
- Vaccine approval processes
- Efficacy and effectiveness calculations
- Vaccine Preventable Disease Framework
- Components of a national immunization program
  - Erickson framework for immunization programs in Canada
- National and Provincial Immunization schedules
  - Off schedule recommendations
- Role of the National Advisory Committee on Immunization

#### *Vaccine safety and adverse events*

- Vaccines in pregnancy
- Adverse events following immunization
- Safety monitoring
- Communicating risk
- Immunization competencies
- Cold chain

#### *Vaccine preventable diseases and their associated vaccines*

- Diphtheria
- Hepatitis A
- Hepatitis B
- Herpes Zoster
- Human papillomavirus (HPV)
- Influenza
- Invasive *Haemophilus Influenzae* Disease

- Invasive Meningococcal Disease
- Invasive Pneumococcal Disease
- Measles
- Mumps
- Pertussis
- Poliomyelitis
- Rabies
- Rotavirus
- Rubella
- Smallpox
- Tetanus
- Tuberculosis (BCG Vaccine)
- Typhoid
- Varicella

Wednesday October 17, 2018

**Population Health and Special Populations**

Dr. Sarah Funnell

End of Training EPAs:

<b>EPA 1: Conduct a population health status assessment</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
Manage all aspects of completing a health status assessment including: <ul style="list-style-type: none"> <li>• identifying the necessary human and other resources to complete the assessment</li> <li>• identifying community partners and their engagement</li> <li>• collecting, analyzing, interpreting and presenting data</li> <li>• preparing and presenting a final report.</li> </ul>	<ul style="list-style-type: none"> <li>• Define the issue, context, and stakeholders</li> <li>• Identify the necessary resources to complete the assessment</li> <li>• Identify community partners and how they would be engaged.</li> <li>• Profile a community’s characteristics, needs, and resources (see Health Indicators Frameworks)</li> <li>• Prioritize needs for action: size and severity of impact; changeable; effective and acceptable interventions</li> </ul>

**Objectives:**

**1. Respond to individual, family, community and population health needs and issues**

- Identify the health needs, concerns, and assets of individuals, families, communities, and populations served
- Identify opportunities for advocacy, health promotion and disease prevention with individuals, families, communities and populations served
- Demonstrate an appreciation of the possibility of competing interests and implement processes for decision making to resolve competing interests incorporating an ethical approach

**2. Identify the determinants of health for the population served**

- Identify determinants of health for a population and describe an approach to addressing a determinant of health of the population, including identifying the roles of public health players
- Recognize situations where advocacy is required and define strategies to effect the desired outcome
- Identify vulnerable or marginalized sub-populations within those communities and populations served and respond appropriately
- Engage and involve vulnerable or marginalized sub-populations to address health inequities, including but not limited to:
  - Indigenous peoples
  - New immigrants and refugees,
  - And socio-economically disadvantaged persons and groups

**3. Identify and explore health issues effectively, including context, preferences, and values**



- Define, develop, select and interpret relevant social, demographic, and health indicators from a variety of data sources including but not limited to vital statistics, administrative databases, registries, and surveys.
  - Identify and interpret the impact of health behaviours of individuals, groups and populations, particularly with respect to nutrition, physical activity, use of tobacco and other substances, sexuality, risk taking, immunization, and participation in recommended prevention and screening programs
- 4. Perform a health needs assessment for a defined population for a specific purpose.**
- Analyze population level data in order to assess health status, health inequalities, determinants, and different needs to support prioritization of action
  - Use appropriate methods (qualitative, quantitative or both) that are relevant, concise and reflective of context and preferences.
  - Describe the results of the health needs assessment and make recommendations for action
  - Communicate the need for health promotion strategies in a defined community, presenting a case for action/inaction in response to the presenting health problem
  - Identify the health needs, concerns, and assets of individuals, families, communities, and populations served

### Core Content:

#### *Population health*

- Assess health status, health inequalities, determinants, and needs
- Methods of population health status assessment
- community engagement
- advocacy
- prioritize needs for action
  - size and severity of impact
  - changeable
  - effective and acceptable interventions

#### *Population groups*

- terminology (vulnerable, marginalized, equity seeking)
- priority populations
- high risk populations
- specific populations in Canada

#### *Culture*

- terminology (awareness, sensitivity, competence, safety)
- addressing culture in public health practice

#### *Indigenous health:*

- epidemiology and statistics
- determinants of health and health concerns
- policies and legislation
- approaches to community well-being
- approaches to community engagement
- approaches to address the determinants of health

*Refugee health:*

- epidemiology and statistics
- determinants of health and health concerns
- policies and legislation
- approaches to address the determinants of health

## Surveillance and Epidemiologic Methods

Dr. David Buckeridge

### End of Training EPAs:

<b>EPA 3: Design and manage health surveillance systems</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
This EPA includes applying understanding of the epidemiology of conditions, and their determinants of public health importance, to the development, implementation and evaluation of health surveillance systems	<ul style="list-style-type: none"> <li>• Assess the development or improvement of a health surveillance system</li> <li>• Evaluate an existing health surveillance system</li> <li>• Improve the management of a surveillance system including the quality control of data</li> <li>• Analyze and interpret surveillance data</li> <li>• Communicate surveillance results to inform public health action</li> </ul>

<b>EPA 13: Manage a communicable disease outbreak</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>This EPA includes public health management of all aspects of outbreak investigations of reportable diseases including:</p> <ul style="list-style-type: none"> <li>• declaring an outbreak</li> <li>• planning and implementing the investigation</li> <li>• implementing control measures</li> <li>• making recommendations on case management</li> <li>• managing internal and external communications</li> <li>• coordinating and managing external assistance</li> <li>• providing final outbreak reports.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess available information to decide whether there is an outbreak</li> <li>• Declare an outbreak</li> <li>• Organize an outbreak team</li> <li>• Plan and implement the outbreak investigation including:                             <ul style="list-style-type: none"> <li>○ Investigations to be undertaken (Epidemiologic; Analytic; Laboratory)</li> <li>○ Standardizing and coordinating sample collection</li> <li>○ Coordinating environmental inspections</li> </ul> </li> <li>• Manage the implementation and monitoring of the control measures (e.g., exclusions, closures) to be used</li> </ul>

### Objectives

1. **Design, implement and evaluate surveillance systems that inform public health programs**
  - Be aware of different approaches to surveillance
  - Understand reporting and responding to surveillance data and who is responsible
  - Apply knowledge of the epidemiology, risk factors, and health burden of diseases of public health significance to the development and interpretation of surveillance system data.
  - Use a framework for evaluating surveillance systems

- 2. Understand the application of surveillance data from a variety of data sources including but not limited to vital statistics, administrative databases, registries, and surveys to maintaining population health**
  - Define, develop, select, and interpret relevant social, demographic, and health indicators
  - Identify important sources of surveillance data and understand the advantages, disadvantages, and limitations of these sources
  - Appraise the validity and relevance of data and data systems in order to assess quality and appropriateness for purpose
  - Integrate different types of data, using complex data sets or data from a variety of sources, to draw appropriate conclusions
  
- 3. Apply the principles of infectious disease epidemiology to the investigation and management of communicable disease outbreaks in individuals, families, groups, organizations, communities and populations**
  - Understand how to use epidemic curves to recognize an outbreak
  
- 4. Apply and interpret appropriate quantitative methods and analytic tests to explain difference in health and health related behaviours, including but not limited to:**
  - Modelling
  - Forecasting
  - Geospatial analysis
  
- 5. Discuss and apply the principles of quantitative, qualitative, and action research/scholarly inquiry, including but not limited to study question/objective, design, conduct, analysis, interpretation, and reporting**
  - Pose a scholarly question and participate in the research process,
  - Select and apply appropriate methods to address the question
  - Discuss and apply guidelines for assessing causality, using Koch's postulates and Bradford-Hill criteria
  - Disseminate and mobilize the findings of a study appropriately
  
- 6. Conduct a systematic search for and review of relevant evidence including but not limited to systematic review, meta-analysis**
  - Recognize potential sources of bias and confounding in research and discuss methods to reduce the impact of these through study design or analysis
  - Discuss interaction, including but not limited to additive, multiplicative, synergism and antagonism, and effect modification in research and discuss methods for their identification and interpretation
  
- 7. Critically evaluate health and other information and its sources, and apply this appropriately to practice decisions**
  - Describe the principles of critical appraisal
  - Identify, access and critically appraise data from a variety of sources, including individuals, administrative databases, the Internet and health, epidemiological and social sciences literature
  - Integrate critical appraisal conclusions into professional practice

**Core Content:***Measuring health*

- individual and population level indicators
- incidence
- prevalence
- mortality rates
- health measurement scales
- reliability and validity
- establishing cut-points
- Case fatality
- YPPL, DALY, QALY

*Epidemiological studies*

- Qualitative and quantitative research
- Assessing and appraising evidence (evidence hierarchy)
- Interventional and observational studies (methods, sources of bias, advantages/disadvantages)
- Research study design (case-control, RCT, cohort)
- Establishing causality (Bradford-Hill criteria)
- Bias
- Confounding and effect modification
- Sampling methods
- Sampling error

*Types of surveillance*

- Active
- Passive
- Sentinel
- Syndromic
- Early warning systems
- Event-based surveillance

*Sources of surveillance data*

- Hospital and billing data
- Vital statistics
- Health surveys (CHMS)
- The census

*Framework to evaluate surveillance system**Applications of surveillance*

- modelling
- forecasting
- geospatial analysis
- situational awareness

*Outbreaks*

- Definition of an outbreak, epidemic, pandemic
- Detecting, managing, and controlling
- Steps in an outbreak
- Epidemic patterns (cluster, endemic, sporadic)
- Epidemic curves
- CDC Outbreak framework

## Ethics in Public Health Practice

Dr. Barry Pakes

End of Training EPAs: none

Objectives:

1. **Debate the relative importance of individual and societal decisions for health and ethical issues related to public health**
2. **Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity, reciprocity, and idealism**
3. **Describe the principles of research ethics**
  - Ensure appropriate informed consent is obtained for therapeutic and preventive interventions
  - Consider the legal and ethical aspects of data collection, manipulation, retention, and release in order to balance societal benefit with individual privacy
4. **Demonstrate knowledge and understanding of the professional, legal and ethical codes of practice**
  - Understand the regulatory and legal obligations required of current practice in public health and preventive medicine
  - Demonstrate accountability to professional regulatory bodies
  - Distinguish among the roles of provincial and national licensing bodies, medical associations, and specialty societies
  - Recognize and respond appropriately to others' unprofessional behaviours in practice
  - Participate in peer review
5. **Recognize, discuss, and apply the principles and limits of confidentiality, privacy, and access to information as defined by professional practice standards and applicable laws**
6. **Identify and appropriately respond to relevant ethical issues arising in the care of individuals, families, groups, organizations, communities and populations**
  - Recognize and appropriately respond to ethical issues encountered in practice
  - Recognize and manage real or perceived conflicts of interest
  - Understand and respect confidentiality, privacy, and autonomy
7. **Demonstrate a commitment to ethical practice**
  - Exhibit appropriate professional behaviours in practice, including accountability, honesty, integrity, commitment, compassion, respect, and altruism
  - Demonstrate a commitment to delivering the highest quality practice and maintenance of competence
  - Maintain appropriate relations with individuals, families, groups, organizations, communities, and populations
8. **Demonstrate a commitment to physician health and sustainable practice**
  - Balance personal and professional priorities to ensure personal health and a sustainable practice
  - Strive to heighten personal and professional awareness and insight

- Recognize other professionals in need and respond appropriately

**Core content:***Ethical foundations*

- Utilitarianism, Liberalism (libertarian, liberal egalitarian), Communitarianism, Paternalism, Social contract  
Public Health Principles: Precautionary principle, reciprocity, stewardship, transparency,
- (Avoid) Four principles of biomedical ethics (autonomy, beneficence, non-maleficence, justice)
- Libertarian paternalism, justice, social justice.

*Public health ethics frameworks*

- Kass Framework – Critical questions
- Upshur Framework – 4 Principles (Harm, Least restrictive/coercive, Reciprocity, Transparency)
- Roberts/Reich – Political Theory
- Pakes Framework - Public Health Ethical Reflection Matrix (PHERM)
- Nuffield Framework – Stewardship Model + Ladder.
- JCB Pandemic Ethics Framework\*
- +/- Childress framework
- Gostin Framework – Steps in Evaluation of Public Health Regulation

*Applied public health ethics*

- Application in a population health emergency
- Application during outbreaks, health promotion activities, ‘illegal activities’.
- Ethics of: harm reduction, mask/vaccinate policies, etc...
- Relationship between ethics, law, and policy

*Research ethics and/vs. public health research ethics*

- Public Health Research vs. Public Health Practice
- Confidentiality, Privacy, Security, Personal health information
- Conflict of interest, Informed consent, Tri-council policy statement (TCPSII)



Thursday October 18, 2018

## Environmental Health

Dr. Ray Copes

### End of Training EPAs:

<b>EPA 5: Conduct an environmental health risk assessment</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>The conduct of an environmental health risk assessment to characterize the nature and magnitude of health risks to humans from chemical contaminants and other stressors that may be present in the environment. This includes:</p> <ul style="list-style-type: none"> <li>• identifying a hazard and assessing exposure</li> <li>• characterizing and managing the risk</li> <li>• communicating the risk.</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying a Hazard</li> <li>• Exposure Assessment - assessing the magnitude and routes of exposure by person, place and time</li> <li>• Risk Characterization</li> <li>• Risk Management                             <ul style="list-style-type: none"> <li>○ Risk Communication</li> </ul> </li> </ul>

<b>EPA 6: Act as spokesperson to communicate about public health issues to the public, their elected representatives, inter-sectoral partners, and the health system</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>This EPA includes advising appropriate audience(s) about health concerns in the population, making recommendations for strategies to address them, and contributing to planning in the health system comprised of 'public health' and 'healthcare' systems.</p>	<ul style="list-style-type: none"> <li>• Assess relevant information to be highly knowledgeable about the issue</li> <li>• Engage relevant partners for support and collaborative action</li> <li>• Identify the target audience(s) and their pertinent characteristics</li> <li>• Identify the purpose/objective of the communication</li> <li>• Frame the issue/problem from a public health perspective</li> <li>• Outline response options and the evidence to support them</li> <li>• Provide a recommended option with an analysis of opportunities and challenges</li> <li>• Tailor setting, messages and communication style for the relevant audience(s)</li> <li>• Evaluate the implementation and impact of the communication</li> </ul>

<b>EPA 14: Manage environmental health risks/exposures/incidents of public health importance</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>This EPA includes the public health management of all aspects of environmental health risks, exposures, and incidents of public health importance including:</p> <ul style="list-style-type: none"> <li>• assessing available information to decide whether a risk to the public exists</li> <li>• deciding on and implementing a course of action</li> </ul>	

<ul style="list-style-type: none"> <li>managing internal and external communications</li> <li>coordinating and managing external assistance, as appropriate.</li> </ul>	
<p><i>Nested EPA – Management of an air quality issue</i></p>	<ul style="list-style-type: none"> <li>Assessing available information to decide whether air quality poses a risk to the public</li> <li>Writing and issuing an air quality alert</li> <li>Implementation of a communication strategy including responding to media requests.</li> </ul>
<p><i>Nested EPA – Management of a drinking or recreational water quality issue</i></p>	<ul style="list-style-type: none"> <li>Assessing available information to decide whether water quality poses a risk to the public</li> <li>Writing and issuing:                             <ul style="list-style-type: none"> <li>a boil water order based on a municipal drinking water report</li> <li>a boil water advisory based on a private well water report</li> <li>a recreational water closure advisory based on a water quality report</li> <li>a blue green algae advisory based on a water quality report</li> </ul> </li> <li>Manage the implementation of a communication strategy related to a water quality advisory or order.</li> </ul>
<p><i>Nested EPA – Management of a food safety issue</i></p>	<ul style="list-style-type: none"> <li>Assessing available information to decide whether food establishment safety issues pose a risk to the public</li> <li>Writing and issuing a restaurant closure order based on PHI/EHO report</li> <li>Manage the implementation of a communication strategy related to a restaurant closure order.</li> </ul>

EPA 15: Manage a cluster of cancer or other adverse health outcome	
Description	Senior Resident – Transition to Practice Milestones
<p>This EPA includes investigating and managing a potential cluster of cancer or other adverse non-communicable disease health events such as increased mortality, adverse birth outcomes (e.g., stillbirths, birth defects), etc.</p>	<ul style="list-style-type: none"> <li>Determine whether to proceed with an investigation by obtaining and evaluating information from the inquirer and relevant available data</li> <li>Application of risk communication principles with the inquirer and relevant stakeholders at all stages of the investigation</li> <li>(If further assessment is warranted), determine whether the suspected excess of cancer or other health outcome is statistically significant</li> <li>(If further assessment is warranted), determine feasibility of conducting an epidemiologic study linking health event/outcome to an exposure</li> <li>(If the epidemiologic study is warranted), conduct an epidemiologic study to pursue the epidemiologic and public health issues that the cluster generated.</li> <li>Prepare an investigation report.</li> </ul>

**Objectives:**

- Perform a complete and appropriate assessment of physical environmental factors at the individual, family, group, organization, community, and population levels, including but not limited to:**
  - Hazardous emission and spills

- Noise
  - Air and water pollutants
  - Natural disasters
  - Effects of climate change that are relevant to investigate a given health context (individual, local, regional, provincial, national, global)
2. **Perform a health risk assessment integrating hazard identification, risk characterization, and exposure assessment into an estimate of the adverse events likely to occur in a population, based on a hazard found in that population**
    - Characterize the hazard identified, both quantitatively and qualitatively
    - Assess the degree of risk associated with exposure to a hazard found in a population
    - Identify known or potential health effects associated with a particular hazard relevant to health protection in a population, drawing on expertise as appropriate
  3. **Elicit and synthesize relevant information on a health risk and perspectives of individuals, families, groups, organizations, communities, and populations, including colleagues and other professionals**
    - Gather information about a health situation, including the beliefs, concerns, expectations, and experiences of all those involved
    - Seek out and synthesize relevant information from other sources and stakeholders
  4. **Develop, implement and evaluate health protection programs applying knowledge of common environmental hazards, including but not limited to water and sewage treatment and quality control of water, soil, air and food**
  5. **Develop a common understanding of health risks with individuals, groups, communities, and populations, including colleagues and other professionals, to develop a shared plan**
    - Identify and explore problems to be addressed, including stakeholders' context, responses, concerns, and preferences
    - Respect diversity and differences, including but not limited to the impact of gender, religion and cultural beliefs on decision-making
    - Encourage discussion, questions, and interaction in the encounter
    - Engage all stakeholders in shared decision-making to develop a plan
    - Address challenging communication issues effectively, such as obtaining informed consent, delivering bad news, and addressing anger, confusion, misunderstanding, and conflicting priorities
  6. **Accurately convey relevant information and explanations of risks to individuals, families, groups, organizations, communities, and populations, including colleagues and other professionals**
    - Deliver information in a humane manner and in such a way that it is understandable, and encourages discussion and participation in decision-making
    - Convey oral and written information effectively
    - Present reports of encounters and plans
    - Maintain clear, concise, accurate, and appropriate records of encounters and plans

- Convey medical information appropriately to ensure safe transfer of care

**7. Present health information effectively to the public or media about a health issue**

- Present epidemiological data and risk information to affected individuals, the public, other professionals, and the media using a variety of modalities
- Apply risk communication theory, and communication styles
- Respond effectively to public and media enquiries about specific health issues using various media channels, as indicated
- Evaluate the effectiveness of different types of media, including but not limited to print, broadcast and web-based, for reaching the intended audience

**8. Develop and implement a communication plan, with a media component, about a public health issue that frames the issue, gives response options and recommendations, analyzes opportunities and challenges, and is supported by evidence**

**Core Content:**

*Introduction to environmental health*

*Toxicology*

- Toxicokinetics and toxicodynamics
  - Absorption, distribution, metabolism, excretion
- Dose and exposure
  - Dose response relationship and calculations
  - LD50/ED50, thresholds, NOAEL/LOAEL, TDI and EDI, RfC/RfD
  - Routes of exposure
- Hazard index and hazard quotient
- Carcinogenesis
  - Cancer potency slope

*Risk assessment*

- Risk assessment framework
- hazard identification
- Dose and exposure assessment
- risk characterization
- risk management
- Risk Communication
  - Communication Frameworks (e.g. Sandman, etc)
  - Communicating an air quality alert
  - Communicating a boil water advisory
  - Communicating a restaurant closure order

*Environmental health impact assessment*

- Screening

- Scoping
- Assessing impact
- Reporting
- Monitoring (CHMS and Biomonitoring)

*Cancer cluster investigation*

- Cancer cluster criteria
- Investigation framework
- Feasibility assessment
- Analytic epidemiology
- Etiologic investigation

*Health risk exposures*

- Environmental
  - Extreme heat
  - Extreme cold
  - Electromagnetic spectrum
  - Radiation
  - Noise pollution
- Water
  - Drinking water
  - Drinking water advisories
  - Recreational water
  - Blue-green algae
- Food
  - Food contamination
  - Hazard Analysis and Critical Control Points
  - Prevention of foodborne illness
  - Public Health interventions (i.e. restaurant closures)
- Soil
  - Pesticides
  - Contaminants
- Air
  - Indoor Air pollution (mould, radon, carbon monoxide, smoke)
  - Sick building syndrome and building related illness
  - Outdoor Air pollution (criteria, gradients of exposure, policies to reduce exposure)
  - Acid precipitation
  - Climate Change
  - Air Quality Index/Air Quality Health Index
  - Issuing an air quality alert
- Waste
  - Solid waste
  - Sewage
  - Biosolids
  - Energy from waste
  - Hazardous waste

*Specific hazards and environmental contaminants*

- Hydrocarbons (halohydrocarbons, polycyclic aromatic hydrocarbons)
- Hydrogen fluoride/fluoride/CFCs
- Bisphenol A
- PCBs, PBDEs, Dioxins, and DDT
- Volatile Organic Compounds (VOCs)
- PFOA, PFOS, Phthalates
- Solvents
- Metals (arsenic, lead, mercury, cadmium, aluminum, manganese)
- Asbestos
- Carbon monoxide
- Nitrites and Nitrates
- International Agency for Research on Cancer (IARC) Classification of agents

*Occupational Hazards*

- Define Occupational Health
- Surveillance and screening (consider biomarkers)
- Material Safety Data Sheets and WHMIS
- Specific Health Outcomes from Occupational risks (contact dermatitis, asthma, low back pain, cumulative trauma disorders/repetitive strain injuries)

## Health Policy

Dr. Michael Rachlis

### End of Training EPAs:

<b>EPA 17: Conduct a health policy analysis</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>This EPA includes analyzing a public health/healthy public policy including:</p> <ul style="list-style-type: none"> <li>• developing an understanding of the issue and context</li> <li>• generating policy options</li> <li>• selecting a policy option</li> <li>• developing a course of action to support the selected option</li> <li>• developing a monitoring and evaluation plan for the policy option.</li> </ul>	<ul style="list-style-type: none"> <li>• Developing an understanding of the issue and context (descriptive and explanatory analysis)</li> <li>• Generating policy options</li> <li>• Selecting a policy option</li> <li>• Developing an implementation plan for the selected policy option</li> <li>• Developing a monitoring and evaluation plan for the implemented policy option</li> <li>• Preparing and presenting a policy brief.</li> </ul>

<b>EPA 19: Advocate for the adoption and implementation of healthy public policies</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>This EPA includes seeking to influence (i.e., advocate) for the adoption and implementation of healthy public policies including:</p> <ul style="list-style-type: none"> <li>• Utilizing an existing health policy analysis to identify the desired policy change</li> <li>• Engaging relevant stakeholders</li> <li>• Developing and applying a communication strategy</li> <li>• Creating/supporting capacity development to influence the policy agenda.</li> </ul>	<ul style="list-style-type: none"> <li>• Utilize an existing policy analysis to identify the issue and desired policy solutions</li> <li>• Plan a course of action including:                         <ul style="list-style-type: none"> <li>○ Look for signs that change is needed</li> <li>○ Frame issues and policy solutions effectively</li> <li>○ Analyze key stakeholders (position, needs, strategies)</li> <li>○ Identify policy levers and windows of opportunity</li> </ul> </li> <li>• Take action including:                         <ul style="list-style-type: none"> <li>○ Build collective action and stimulate debate in various venues</li> <li>○ Lead a communication strategy regarding health policy adoption/implementation – use media strategically employing multiple tactics</li> <li>○ Identify and proactively address potential barriers to implementation</li> </ul> </li> <li>• Evaluate actions and plan next steps.</li> </ul>

**Objectives:**

- 1. Describe the structure and function of the health care system as it relates to Public Health and Preventive Medicine, including the roles of physicians**
  - Compare and contrast the different models of public health structures in Canada
  - Discuss the organization of workplace health services in at least one part of Canada
  - Describe the roles and responsibilities of the Public Health and Preventive Medicine specialist, especially in circumstances involving legislative authority
  - Identify points of influence in the health care system and its structure that impact population health
  
- 2. Conduct a policy analysis and policy evaluation**
  - Describe how public policy impacts the health of the populations served
  - Analyse the health impact of public policy
  - Advise on and coordinate public health action in the light of existing local, provincial, and national policies and guidelines
  
- 3. Contribute to the formulation of healthy public policy or legislation at local, provincial or federal level**
  - Incorporate relevant legal and ethical frameworks into assessment of evidence
  - Integrate public health and preventive medicine and social science evidence into strategies for healthy public policy
  - Discuss mechanisms of policy development and methods of implementation including legislation, regulation, and incentives
  - Demonstrate an understanding of how competing values affect policy decision making including but not limited to, liberty of the individual, equality, common good of the community and prosperity
  
- 4. Perform a consultation effectively, including the presentation of well-documented assessments and recommendations in written and/or oral form, in response to a request from a variety of sources**
  - Clarify the nature of the request and establish, negotiating where required, the desired deliverables when called upon for advice
  - Collect and interpret information efficiently and appropriate to the request
  - Formulate clear and realistic recommendations
  - Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony and advising governments
  
- 5. Formulate a balanced, evidence-informed recommendation explaining key public health concepts using appropriate reasoning, judgment and analytic skills for a public health setting**
  - Communicate the assessment and recommendations in a manner that is most suitable to the given circumstances (oral, written or both)
  - Ascertain, in a timely fashion, key public health information from a range of documents, including but not limited to briefings, policies, and news reports, and use it appropriately and in relation to wider public health knowledge
  - Assess the implementation or impact of recommendations



**Core Content:***Policy formation*

- Health policy and healthy public policy
- Health impact of public policy
- The policy cycle
- Methods of implementation (legislation, regulation, and incentives)
- Competing values

*Health policy analysis*

- Understanding Issue and context
- Generating policy options
- Selecting policy options
- Developing an implementation plan
- Evaluating policy
- Writing a policy brief

*Influencing public policy*

- Making policy recommendations
- Adoption and implementation of healthy public policy
  - The policy window
  - Engaging stakeholders
  - Applying a communication strategy
  - Barriers to implementation
- Developing capacity
- Influencing policy agenda

*Policy driven interventions*

- Tobacco controls
  - Epidemiology of use in Canada
  - Framework for control
  - Healthy public policy interventions
- Alcohol controls
  - Epidemiology of use in Canada
  - Short-term and long-term health risks
  - Healthy public policy interventions interventions

*Health system structure and function*

- Models of public health structures in Canada
  - Regional Health authorities and Local Health Integration Networks
- Primary care models
- Role of public health in the health system

*Federal role of public health (Health Canada and Public Health Agency of Canada)*

**Friday October 19, 2018**

## **Public Health Law**

**Dr. Fareen Karachiwalla**

**End of Training EPAs:** none

### **Objectives:**

- 1. Be familiar with the Canadian legal system including the constitution and the roles and responsibilities at the federal, provincial, and local levels.**
- 2. Understand and be able to apply major public health law concepts**
  - Be familiar with the federal and provincial statutes regulating public health
  - Be aware of other health-relevant statutes including but not limited to emergency management, employment, and environmental statutes
  - Be aware of international health regulations
- 3. Discuss and analyze health law and common law relevant to public health policy and healthy public policy**
- 4. Be familiar with privacy legislation at the federal, provincial, and local levels**
  - Ensure appropriate informed consent is obtained for interventions consistent with public health legal and regulatory framework

### **Core Content:**

#### *Legal terminology and concepts*

##### *Canadian legal system*

- structure
- constitution
- types of law
- Charter of Rights and Freedoms
- Division of powers in Canada and constitution (federal, provincial, municipal)

##### *Federal system and jurisdiction*

- Canada Health Act
- Health care regulation for drugs, devices and vaccines
- food and drugs act
- narcotics control act
- quarantine act
- tobacco act
- National legislation enforcing the International Health regulations

##### *Provincial system and jurisdiction*

- Provincial public health legislation
- Provincial privacy legislation
- Public health protection
  - Health hazards
  - Communicable disease
  - Issuing orders

*Public health law concepts*

- Policy to law
- Privacy and personal health information
  - Health information custodian
  - Privacy breaches
- Consent
- Medical delegation
- Legal duties to disclose

## Public Health Emergency Preparedness and Response

Dr. Bonnie Henry

### End of Training EPAs:

EPA 16: Prepare for and manage public health incidents and emergencies	
Description	Senior Resident – Transition to Practice Milestones
<p>This EPA includes leading all aspects of the planning for, and response to, public health incidents and emergencies. These can result from several types of hazards including infectious diseases, chemicals, radiation, as well as natural and technological disasters. The common element is that routine operations risk being overwhelmed by the emergency prompting the establishment of an incident command system.</p>	<ul style="list-style-type: none"> <li>• Assume under minimal supervision any of the non-Incident Commander roles within a simulated or real public health emergency. These roles include:                             <ul style="list-style-type: none"> <li>o Operations</li> <li>o Logistics</li> <li>o Planning</li> <li>o Finance/Administration</li> </ul> </li> <li>• Assume under minimal supervision the Incident Commander role within a simulated public health emergency. (see Appendix 4 for list of responsibilities)</li> </ul>

### Objectives:

1. Describe the general principles of emergency planning and incident management
2. Contribute to the development and utilization of a community, provincial, or federal emergency preparedness plan.
  - a. Develop a plan to prevent and manage exposure to biological and chemical agents, and radiation-emitting agents and devices
3. Lead or take a major role in the investigation and management of a significant incident, including but not limited to a communicable disease outbreak, non-infectious disease incident, or a look back
  - Describe the roles and responsibilities of the Public Health and Preventive Medicine specialist, especially in circumstances involving legislative authority or emergency situations
4. Investigate and intervene when a potential health hazard is identified in a clinical setting
5. Integrate the available best evidence and best practices to enhance the quality of care and patient and program safety in Public Health and Preventive Medicine

**Core Content:***Emergencies of concern to public health*

- Infectious disease preparedness
- Weapons of mass destruction
- Chemical hazard exposure (population)
- Biological weapons (Class A/B/C agents, surveillance, response)
- Pandemic Preparedness

*The emergency management cycle*

- Framework for emergency management
- Goals of Public Health emergency response
- Regulatory frameworks

*Hazard Identification and risk assessment*

- Developing an emergency preparedness plan
- Public health preparedness capabilities
- Planning for mass gatherings
- Conducting a HIRA

*Managing a public health incident/emergency (Incident Management System)*

- IMS Structure
- IMS Principles
- Developing an Incident Action Plan
- Incident Command
- Role of MOH/incident manager
- Communication (MOH and PHPM professional responsibilities)
- Collaboration with stakeholders (outside agencies and organizations)
- Accountability

*Public health emergencies of international concern*

- IHR
- Role of WHO
- Role of Public Health and PHPM professionals

*Patient safety and medical errors*

- Patient safety terminology
- Incidence and prevalence of medical error in Canada
- Incident Analysis framework
- Ishikawa or fishbone analysis

## Health Services Management & Leadership

Dr. Matthew Hodge

### End of Training EPAs:

<b>EPA 7: Lead and manage strategic planning</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>This EPA includes leading and managing the strategic planning process in an organization to define its direction and priorities that are supported by an implementation plan to achieve them. A priority for a new project or program will typically require a business case that provides a detailed, written argument to convince a decision maker to provide the required support and funding.</p>	<ul style="list-style-type: none"> <li>• Commencing and getting an agreement upon a strategic planning process</li> <li>• Recognizing all organizational mandates relating to the organization i.e. laws, regulations, rules and procedures</li> <li>• Making clear the organization’s mission statement and shared values</li> <li>• Conducting a SWOT analysis</li> <li>• Identifying any relevant issues that may impact the strategic planning process</li> <li>• Making plans to confront and manage issues facing the organization</li> <li>• Re-evaluating the foregoing strategic plan and come to agreement</li> <li>• Based on the adopted strategic plan, construct an appropriate vision statement</li> <li>• Putting together a logical and workable implementation plan</li> <li>• Conducting a final reassessment of the strategic plan and process</li> </ul>
<p><i>Nested EPA – Business case development</i></p>	<ul style="list-style-type: none"> <li>• Providing a Project/Program Description</li> <li>• Identifying the Objectives, Scope, Outcomes, and Stakeholders</li> <li>• Defining the Strategic Alignment</li> <li>• Providing an Opportunity Assessment</li> <li>• Assessing Alternatives</li> <li>• Defining Business and Operational Impacts</li> <li>• Assessing project/program risk</li> <li>• Completing a Cost/Benefit Analysis</li> <li>• Providing Recommendations</li> </ul>

<b>EPA 8: Lead and manage the operational planning and evaluation of a public health program</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p><i>Nested EPA – Operational Planning</i></p>	<ul style="list-style-type: none"> <li>• Annual operational planning for a public health program                             <ul style="list-style-type: none"> <li>○ Developing goals and objectives</li> <li>○ Develop strategies – SWOT, logic model</li> <li>○ Developing an action plan - actions, workplan, schedule, staffing, budget, policies and procedures</li> <li>○ Developing a communication plan - internal and external</li> <li>○ Developing an implementation plan</li> </ul> </li> <li>• Developing a monitoring and evaluation plan</li> </ul>

<b>EPA 9: Lead and manage a team and organization</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
<p>This EPA includes providing the leadership role for managing a staff member, a team and an organization (e.g., develop and manage a budget, manage a project, manage/mediate a conflict, and hire/performance manage/discharge staff). Teams may either have a common reporting structure (e.g., the communicable disease control team) or be matrixed across an organization.</p>	
<p><i>Nested EPA – Develop and manage a budget</i></p>	<ul style="list-style-type: none"> <li>• Assessing a Program's financial health based on information from financial statements: (Income statement; Balance sheet; Cash flow statement)</li> <li>• Managing the budget process                             <ul style="list-style-type: none"> <li>○ Selecting Budgetary Approach (Fixed; Rolling; Static; Flexible; Incremental; Zero Based; Top Down; Participatory; Kaizan)</li> <li>○ Setting budget goals</li> <li>○ Evaluating and choosing options</li> <li>○ Identifying budget impacts</li> <li>○ Coordinating departmental budgets into the master budget</li> </ul> </li> <li>• Prepare different types of budgets (Operating Budgets; Capital Budgets; Case Budgets).</li> </ul>
<p><i>Nested EPA – Manage a project</i></p>	<ul style="list-style-type: none"> <li>• Initiating the Project                             <ul style="list-style-type: none"> <li>○ Developing the project idea</li> <li>○ Establishing the Project Authority</li> </ul> </li> <li>• Defining the Project                             <ul style="list-style-type: none"> <li>○ Developing the Project charter</li> <li>○ Developing the Project Design</li> </ul> </li> <li>• Planning the Project                             <ul style="list-style-type: none"> <li>○ Developing the Project Schedule</li> <li>○ Developing the Project Resource Plan</li> </ul> </li> <li>• Executing the Project</li> <li>• Closing Out the Project</li> <li>• Evaluating the quality of the Project Management</li> </ul>
<p><i>Nested EPA – Manage/mediate a conflict</i></p>	<ul style="list-style-type: none"> <li>• Select and apply relevant communication strategies, to prevent or de-escalate a variety of real or simulated conflicts.</li> <li>• Select and apply relevant conflict management strategies to resolve different forms of real or simulated conflicts.</li> <li>• Prepare for a real or simulated negotiation.</li> <li>• Lead a real or simulated negotiation</li> </ul>
<p><i>Nested EPA – Hiring, performance managing and discharging staff</i></p>	<ul style="list-style-type: none"> <li>• Select and apply relevant strategies to manage difficult interactions with co-workers and/or managers.</li> <li>• Conduct a simulated employee coaching meeting, development meeting, and performance appraisal.</li> <li>• Prepare a simulated hiring (including job description, interview, and hiring selection).</li> <li>• Prepare a simulated dismissal (including documentation, planning appropriate timing, location, tone, and wording).</li> <li>• Lead a simulated hiring and a simulated dismissal.</li> </ul>



<b>EPA 10: Lead and manage change within an organization</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
This EPA includes the leadership role for systematically applying the principles of change management to accomplish a strategic change within an organization.	<ul style="list-style-type: none"> <li>• Applying a framework to understand the organizational context</li> <li>• Prepare a change management plan</li> <li>• Prepare a human resource plan</li> <li>• Develop a communication strategy</li> <li>• Application of one or more of the above plans or strategies</li> </ul>

<b>EPA 11: Lead and manage a quality improvement initiative</b>	
<b>Description</b>	<b>Senior Resident – Transition to Practice Milestones</b>
This EPA includes leading a quality improvement initiative to improve an existing process or service including: <ul style="list-style-type: none"> <li>• defining the opportunity for improvement</li> <li>• building understanding for an improvement</li> <li>• acting to improve the problem</li> <li>• sustaining the results of a quality improvement project.</li> </ul>	<ul style="list-style-type: none"> <li>• Implement the Quality Improvement initiative                             <ul style="list-style-type: none"> <li>○ Investigate to understand the operations processes in detail.</li> <li>○ Distinguish points of variability and waste in the process</li> <li>○ Identify and utilize quality improvement tools to aid in the improvement initiative</li> <li>○ Hypothesize the best solution for the improvement initiative and test the hypothesis</li> <li>○ Implement the necessary changes to improve the process</li> <li>○ Manage and monitor the initiative to ensure adherence to new protocols and overall success of the initiative</li> </ul> </li> </ul>

**Objectives:**

- 1. Manage a project or program including human, financial and material resources**
  - Hire, support and guide staff, monitor performance, receive and give constructive feedback
  - Develop and manage a budget including but not limited to alignment of activities and accountabilities with resources, assessment of results against objectives, and flexible budgeting
  - Develop and implement a plan to secure necessary material resources
  
- 2. Participate in service planning, resource allocation, and program evaluation at the community, regional or provincial level**
  - Allocate finite public health resources appropriately and recognize the importance of just allocation of health care resources balancing effectiveness, efficiency and access with optimal patient care
  - Allocate finite health resources using evidence informed and ethical concepts
  - Describe principles of health care financing, including physician remuneration, budgeting and organizational funding
  - Document and disseminate information related to interventions and their outcomes and ensure adequate follow up and evaluation after interventions
  
- 3. Manage one’s practice and career effectively**

- Set priorities and manage time to balance professional responsibilities, outside activities, and personal life
- Manage a practice, including finances and human resources and apply evidence and management processes for cost-appropriate care
- Maintain and enhance professional activities through ongoing learning by recognizing learning issues in practice, interpreting relevant evidence, and integrating new learning into practice
- Implement processes to ensure personal practice improvement and evaluate the impact of any change in practice
- Continually evaluate one's abilities, knowledge, skills, and professional limitations, seeking advice, feedback and assistance where appropriate

**4. Work collaboratively with others in their organizations including health professionals, community partners, and population served and other stakeholders.**

- Demonstrate a respectful attitude towards other colleagues and members of an inter-professional team
- Reflect on inter-professional and interdisciplinary team function
- Demonstrate the ability to work on initiatives with non health sector organizations and staff/volunteers
  - Enter into interdependent relationships with stakeholders/experts in other sectors for the assessment and application of responses to issues impacting the determinants of health or other services outside of health care including but not limited to school boards, water services, municipal planners, and ministries or other government departments outside of health
  - Demonstrate an ability to meaningfully engage with the public/clients/community members in the identification of issues and solutions that impact them
- Demonstrate insight into one's own limits of expertise and effective, appropriate, and timely consultation of another health professional as needed for optimal practice

**5. Develop rapport, trust, and ethical relationships with individuals, families, groups, organizations, communities, and populations**

- Recognize that being a good communicator is a core skill for physicians, and that effective communication can foster improved outcomes
- Establish constructive relationships characterized by understanding, trust, respect, honesty, and empathy and facilitate all encounters effectively
- Respect confidentiality, privacy, and autonomy
- Listen effectively and be aware of and responsive to nonverbal cues

**6. Serve in administration and leadership roles**

- Chair and participate effectively in committees and meetings
- Lead or implement change in health systems
- Develop a vision, implement a strategic plan, and communicate that effectively to other key stakeholders
- Negotiate and influence in a multi-agency arena
- Demonstrate effective team participation including but not limited to team leadership utilizing the principles of team dynamics including but not limited to the dyad model of physician-manager integration.

7. **Demonstrate critical self-appraisal and reflective practice with regards to administration and leadership roles**
  - Demonstrate insight into one's own leadership style, personality style, and preferences in different circumstances
  - Discuss and apply different approaches to leadership development
  - Use effective and appropriate leadership styles in different settings and organizational cultures taking account of the differences between elected and appointed roles
8. **Work with other professionals to prevent, negotiate, and resolve inter-professional and other conflicts**
  - Respect differences and address misunderstandings and limits of scope of practice in other professions
  - Recognize one's own differences, misunderstandings, and limitations that may contribute to inter-professional and interdisciplinary tension
  - Employ collaborative negotiation to resolve conflicts
  - Discuss and use the techniques of conflict management, including negotiation and arbitration
9. **Participate in quality improvement initiatives to enhance the quality of care and patient safety in Public Health and Preventive Medicine, integrating the available best evidence and best practices**
  - Develop, implement and critically appraise relevant practice guidelines
  - Investigate and intervene when a potential health hazard is identified in a clinical setting
  - Design and implement data collection for a defined service question and integrate with other routinely available and relevant data
  - Implement quality improvement techniques as appropriate to the organization and setting

#### **Core Content:**

##### *Leadership and management*

- Working with people
- Emotional intelligence
- Performance management
- Hiring and dismissals
- Risk management strategy

##### *Developing and managing budgets*

- Approaches to budgeting
- Types of budgets (operating, capital, case budgets)
- Assessing financial statements
  - Income statements, balance sheets and cash flow statements
- Managing the budget process
- Priority setting
  - Program budgeting and marginal analysis framework

##### *Project management*

- Initiating a project
- Defining a project

- SMART indicators
- Planning a project
  - GAANT Chart
- Closing out and evaluating a project

*Conflict resolution*

- Conflict management strategies
- Communication strategies
- Leading a negotiation

*Strategic planning*

- Define priorities
- Mission vision and values
- SWOT analysis
- Implementation plan

*Business case*

- Business case definition and purpose
- Identifying objectives, scope, outcomes, and stakeholders
- Business case development
- Assessing alternatives
- Assessing risk
- Providing recommendations

*Change management*

- Frameworks for change management
- Developing a change management plan
  - Human resources plan
  - Communication strategy
- Application of change management

*Quality improvement*

- Opportunities for improvement
- Quality improvement tools and frameworks
- Implementing quality improvement initiatives
- Sustainability

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