

The Environmental Health placement is a 2 to 3-month core rotation which may be taken at the BC Centre for Disease Control or within a regional Health Authority. In the latter case, the resident is expected to have frequent interactions with the Division of Environmental Health Services at BCCDC. This rotation is under the direct supervision of a Public Health and Preventive Medicine Specialist and/or Medical Health Officer

This rotation will be of particular importance to residents planning to engage in:

- 1) The practice of public health at a local, regional, national or international level;
- 2) The assessment and control of occupation and environmental health problems.

The term ‘objectives’ relate to the knowledge and skills that a resident is expected to acquire during the rotation. The resident will discuss the objectives with the supervisor at the beginning of the rotation; will formally evaluate achievement of these objectives mid-rotation and again at rotation end. Note that the objectives listed here reflect those which are most likely to be met during this rotation. However, residents and supervisors may choose to focus on additional objectives and activities not listed here, depending on the learning needs of the resident and the learning opportunities which are available. No single rotation is intended to cover the entire set of learning objectives from the RCPSC. Similar objectives may be covered in the other core rotations.

All work and learning assignments during this rotation will reflect the principle of graded responsibility. The objectives are also aligned with CanMEDS specialist physicians’ essential roles and key competencies.

<i>Objectives:</i> 1-PRIMARY, 2-secondary, 3-For interest	ACTIVITIES RESIDENT’S NAME DATES	<i>Mastery:</i> 1-Exposed, 2-Familiar, 3-Conversant
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Medical Expert/Clinical Decision-Maker

General Requirements	Activity
<ul style="list-style-type: none"> • Demonstrate diagnostic and therapeutic skills for ethical and effective interventions at the individual, group, organization and population levels. 	<ul style="list-style-type: none"> • Participate in "mock oral" examinations.
<ul style="list-style-type: none"> • Access and apply relevant information to the practice of Public Health and Preventive Medicine 	
<ul style="list-style-type: none"> • Demonstrate effective consultation services with respect to assessment and interventions at the individual, group and population levels 	

Training Objective		Activity	
<ul style="list-style-type: none"> • Access and apply relevant information to the practice of Public Health and Preventive Medicine 			
<ul style="list-style-type: none"> • Demonstrate effective consultation services with respect to assessment and interventions at the individual, group and population levels 			
<ul style="list-style-type: none"> • Use a variety of methods to collect information relevant to the clinical setting and situation at hand. 			
<ul style="list-style-type: none"> • Identify and demonstrate an understanding of social and economic environmental factors, such as immigration policies and distribution of wealth. 			
<ul style="list-style-type: none"> • Identify and demonstrate an understanding of physical environmental factors, including noise, pollutants and hazardous industrial processes, that are relevant to the given clinical context (individual, local, regional, global). 		<ul style="list-style-type: none"> • Demonstrate knowledge of those factors in the physical environment representing the greatest sources of risk to the Canadian population. 	
<ul style="list-style-type: none"> • Use computers or information technology in epidemiological investigations and data analysis. 			
<ul style="list-style-type: none"> • Interpret epidemiologic studies and assess their validity and applicability to a particular situation. 		<ul style="list-style-type: none"> • Demonstrate a basic understanding of the types of epidemiologic study designs used in environmental health, their strengths and weaknesses. 	
<ul style="list-style-type: none"> • Describe and apply guidelines for determination of causality (Koch, Hill). 			
<ul style="list-style-type: none"> • Describe the major environmental health hazards and diseases, and the interaction of air, water and soil characteristics with them. 		<ul style="list-style-type: none"> • Give examples of global transport of pollutants and their significance for the Canadian population. 	
<ul style="list-style-type: none"> • Carry out a health risk assessment of an environmental hazard. 		<ul style="list-style-type: none"> • Conduct a simple risk assessment for a source of risk to human health in the physical environment, develop and evaluate risk control options. • Demonstrate familiarity with, and understanding of, basic toxicologic concepts. 	
<ul style="list-style-type: none"> • Use quantitative and qualitative methods including (but not limited to) participant observation, key informant surveys, nominal group, focus group and Delphi process, to explain differences in health and health related behaviours. 			

<i>Diagnostic and Therapeutic Skills Interventions</i>			
<ul style="list-style-type: none"> Describe the main methods of dealing with common environmental hazards, including (but not limited to) water and sewage treatment, milk hygiene, and quality control of water, soil, air and food. 		<ul style="list-style-type: none"> Demonstrate an understanding of monitoring methods and measures for air, water, food and soil as well as how to interpret these results. 	
<ul style="list-style-type: none"> Manage individually, or in a team, health risks from environmental or occupational exposures. 			
<ul style="list-style-type: none"> Understand and apply the principles of harm reduction, stages of change, health protection (including legal, technical, economic and educational approaches) and health promotion, in order to influence health behaviours of individuals, groups and populations. 		<ul style="list-style-type: none"> Demonstrate an understanding of Health Protection as an intervention strategy, and how this protects the health of the Canadian public. 	
<ul style="list-style-type: none"> Develop, implement and evaluate approaches to community health issues that incorporate health protection, disease prevention (primary, secondary and tertiary) or health promotion strategies as appropriate. 		<ul style="list-style-type: none"> For a source of risk to human health in the physical environment, develop and evaluate risk control options 	
<ul style="list-style-type: none"> Contribute to the development of a community emergency preparedness plan, including measures to prevent and manage biological, chemical and radiological agents. 		<ul style="list-style-type: none"> Demonstrate familiarity with emergency response plans and their development. 	

<i>Information Access</i>			
<ul style="list-style-type: none"> Identify, access and critically appraise data from a variety of sources, including individuals, administrative databases, the internet and health, epidemiological and social sciences literature. 			

<i>Effective Consultation</i>			
<ul style="list-style-type: none"> When called upon for advice, clarify the nature of the request and establish (negotiating where required) the desired deliverables. 		<ul style="list-style-type: none"> Manage requests for information on environmental health hazards from the public, EH officers, MHOs and physicians and follow-up. 	
<ul style="list-style-type: none"> Efficiently collect the information appropriate to the request. 			
<ul style="list-style-type: none"> Formulate clear and realistic recommendations. 			
<ul style="list-style-type: none"> Communicate the assessment and recommendations in a manner (oral and/or written) that is most suitable to the client and given circumstances. 			

Additional Medical Expert Objectives

Communicator

General Requirements			
<ul style="list-style-type: none"> Establish relationships with patients and families, groups and communities, and other physicians, health professionals and service providers, decision and policy makers and the media, appropriate to the setting. 			
<ul style="list-style-type: none"> Obtain and synthesize relevant information. 			
<ul style="list-style-type: none"> Listen effectively. 			
<ul style="list-style-type: none"> Convey information clearly in formats appropriate to the recipient (patient or other individual, family, group, other service provider, community and media) that is relevant to the purpose at hand. 			

Specific Requirements		Activity	
<ul style="list-style-type: none"> Interpret and present epidemiological data and risk information to affected individuals, the public, other professionals and the media using a variety of modalities. 			
<ul style="list-style-type: none"> Develop and implement a communication plan about a public health issue, including a media component. 		<ul style="list-style-type: none"> Demonstrate familiarity with Risk Communication concepts and theory 	
<ul style="list-style-type: none"> Respond effectively to public and media enquiries about specific health issues. 		<ul style="list-style-type: none"> Be able to present risk information to the public and media in a manner consistent with good risk communication practice. 	
<ul style="list-style-type: none"> Effectively communicate with members of an interdisciplinary team for the purpose of information exchange, conflict resolution, and the provision and receipt of feedback. 		<ul style="list-style-type: none"> Be able to communicate effectively with staff at various levels (within the BCCDC, at the health authority, and at provincial and national levels). 	
<ul style="list-style-type: none"> When called upon for advice, clarify the nature of the request and establish (negotiating where required) the desired deliverables. 		<ul style="list-style-type: none"> Be able to recognize urgent environmental health problems in need of immediate intervention and special resources; understand criteria for identifying such issues. 	
<ul style="list-style-type: none"> Efficiently collect the information appropriate to the request. 			
<ul style="list-style-type: none"> Formulate clear and realistic recommendations. 			
<ul style="list-style-type: none"> Communicate the assessment and recommendations in a manner (oral and/or written) that is most suitable to the client and given circumstances. 			

Additional objectives and activities related to the Communicator Role

Collaborator

General Requirements			
<ul style="list-style-type: none"> Consult effectively with other physicians, other health care professionals and service providers from other sectors. 		<ul style="list-style-type: none"> Consult and contribute to interdisciplinary team by assessment and work-up of questions and problems on environmental exposures and health risks referred to the rotation supervisor by Regional Health Authorities and other agencies 	
<ul style="list-style-type: none"> Contribute effectively to interdisciplinary team activities. 			

Specific Requirements		Activities	
<ul style="list-style-type: none"> Identify individuals, groups and other service providers who can contribute meaningfully to the definition and solution of an individual, group or community level public health issue, and education task or research question, including (but not limited to) social services agencies, mental health organizations, the not-for-profit sector, and volunteers. 			
<ul style="list-style-type: none"> Employ a variety of means to engage and enable the participation of identified key stakeholders. 			
<ul style="list-style-type: none"> Clearly articulate the goals and objectives of a given collaborative process. 			
<ul style="list-style-type: none"> Identify and describe the role, expected contribution and limitations of all members of an interdisciplinary team assembled to address a health issue, educational task or research question, and work effectively within such a team. 			

Additional objectives and activities related to the Collaborator Role

Manager

General Requirements			
<ul style="list-style-type: none"> Utilize resources effectively to balance professional demands, learning needs, and outside activities. 			
<ul style="list-style-type: none"> Allocate finite health care resources wisely and ethically. 		<ul style="list-style-type: none"> Assess personal and/or public health time/staff resource allocation to competing environmental health issues, based on health impact or cost-benefit analysis. 	
<ul style="list-style-type: none"> Work effectively and efficiently in a health care organization. 		<ul style="list-style-type: none"> Attend meetings of regional, provincial and national health protection agencies where problems are resolved and policies formulated 	
<ul style="list-style-type: none"> Utilize information technology to optimize patient care, life-long learning and other activities. 			

Specific Requirements			
<ul style="list-style-type: none"> Use knowledge of the Canadian health system defining legislation, funding and organizations, to analyse community health issues. 		<ul style="list-style-type: none"> Understand the roles and responsibilities of various levels of public health and other agencies, at the local (health authority), provincial, and national levels 	
<ul style="list-style-type: none"> Use an economic analysis in the assessment of a health issue and proposed intervention options. 			
<ul style="list-style-type: none"> Describe the public health legislation in at least one province and how it relates to other relevant legislation at the municipal, provincial and federal levels. 		<ul style="list-style-type: none"> Demonstrate familiarity with major pieces of legislation dealing with environmental health at the federal and provincial level, how they are developed and non-regulatory methods and mechanisms for policy development. 	
<ul style="list-style-type: none"> Develop and manage a budget. 			

Additional objectives and activities related to the Manager Role

Health Advocate

General Requirements			
<ul style="list-style-type: none"> Identify the important determinants of health affecting individuals and communities. 		<ul style="list-style-type: none"> Explain the concept of sustainable development, its uses and limitations 	
<ul style="list-style-type: none"> Contribute effectively to improved health of individuals and communities. 			
<ul style="list-style-type: none"> Recognize and respond to those issues where advocacy is appropriate. 			

Specific Requirements			
<ul style="list-style-type: none"> Describe the distribution and determinants of health status of a specific population. 			
<ul style="list-style-type: none"> Conduct a policy analysis. 			
<ul style="list-style-type: none"> Describe mechanisms of policy development and methods of implementation, including legislation, regulation and incentives. 		<ul style="list-style-type: none"> Describe the processes for developing environmental health policy and legislation. 	
<ul style="list-style-type: none"> Recognize situations where advocacy is required and define strategies to affect the desired outcome. 		<ul style="list-style-type: none"> Identify an important environmental health determinant for a community and contribute to an advocacy strategy. 	

Additional objectives and activities related to the Health Advocate Role

Scholar

General Requirements			
<ul style="list-style-type: none"> Develop, implement and monitor a personal continuing education strategy. 		<ul style="list-style-type: none"> Develop a learning plan for this rotation and monitor it. 	
<ul style="list-style-type: none"> Critically appraise sources of information relevant to the practice of Public Health and Preventive Medicine. 			
<ul style="list-style-type: none"> Facilitate learning of patients and clients, residents, other health professionals and the community. 			
<ul style="list-style-type: none"> Contribute to development of new knowledge. 		<ul style="list-style-type: none"> Review and critically appraise the literature on an environmental health issue, and produce a paper for submission to a medical/public health journal for publication. 	

Specific Requirements			
<ul style="list-style-type: none"> Pose a research question and participate actively in the complete research process from grant preparation through to dissemination of findings. 			
<ul style="list-style-type: none"> Describe the elements of quantitative, qualitative and action research, including study purpose, design, conduct, analysis, interpretation and reporting. 		<ul style="list-style-type: none"> Demonstrate a basic understanding of the types of epidemiologic study designs used in environmental health, their strengths and weaknesses. 	
<ul style="list-style-type: none"> Select and apply descriptive and analytical methods appropriately. 			
<ul style="list-style-type: none"> Recognize potential source of bias in research and describe methods to reduce the impact of such bias through design and/or analysis. 			
<ul style="list-style-type: none"> Adapt educational and training strategies to the needs of the learner(s). 			
<ul style="list-style-type: none"> Calculate and interpret measures of frequency (rate, ratio) and of risk (relative risk, attributable risk, odds ratio, etiologic fraction, preventive fraction). 			
<ul style="list-style-type: none"> Identify, access and critically appraise data from a variety of sources, including individuals, administrative databases, the Internet and health, epidemiological and social sciences literature. 			

Additional objectives and activities related to the Scholar Role

Professional

General Requirements			
<ul style="list-style-type: none"> • Deliver highest quality care with integrity, honesty and compassion. 			
<ul style="list-style-type: none"> • Exhibit appropriate personal and interpersonal professional behaviours. 			
<ul style="list-style-type: none"> • Practise medicine ethically consistent with obligations of a physician. 			

Specific Requirements			
<ul style="list-style-type: none"> • Continually evaluate one's abilities, knowledge and skills, and know one's professional limitations, seeking advice and assistance where appropriate. 			
<ul style="list-style-type: none"> • Identify ethical issues arising in the course of Public Health and Preventive Medicine practice, such as consent, confidentiality, privacy, resource allocation, conflict of interest, public safety and individual choice, and apply appropriate strategies to address them. 		<ul style="list-style-type: none"> • Review environmental health exposure situation regarding ethical considerations in terms of public right to know and risk communication strategy. 	

Additional objectives and activities related to the Professional Role
