



IDENTIFICATION

Department	Position Title	
Health and Social Services	Epidemiologist, Population Health	
Position Number	Community	Division/Region
49-15030	Yellowknife	Population Health / HQ

PURPOSE OF THE POSITION

The Epidemiologist, Population Health provides accurate, reliable and useable analysis essential to decision makers for evidence based programs and services for Northwest Territories residents. This position is critical for timely surveillance of population health indicators, and for improving the health and wellness of the population, reducing the burden of mortality and morbidity in the population, and improving the effectiveness and efficiency of health and social programs.

SCOPE

Located in Yellowknife, the Epidemiologist, Population Health (Epidemiologist) reports to the Territorial Epidemiologist and is appointed as a Public Health Officer under the NWT *Public Health Act*, with the statutory duty to enforce this *Act* and accompanying regulations as delegated by the Chief Public Health Officer (CPHO).

This position is critical to supporting the function of the Office of the CPHO. The CPHO relies on the information and analyses prepared by the position to make appropriate decisions related to the containment and prevention of communicable disease outbreaks and other public health protection issues.

The Epidemiologist provides expertise on data analysis and interpretation, surveillance systems, data visualization of health and social data and identifies and pursues opportunities for examining complex social and health issues. As well, the incumbent provides outbreak response support when epidemiologic investigation and data collection and management support is required.

The Epidemiologist provides information to other departments and organizations that have a mandate in health, community wellness and public safety programs and services, and will



provide essential health surveillance support to the broader mandate of the Department of Health and Social Services (DHSS). This position works in cooperation with other units and divisions within the Department as well as partners outside the Department and will be required to act for the Territorial Epidemiologist during absences.

The position works to strict, often competing deadlines, and the incumbent is routinely involved in several varied and complex statistical projects simultaneously, which requires prioritization of work to meet competing pressures. Close attention is required for development of statistical materials. Recommendations from the incumbent to senior management and clinical staff can have an impact on health outcomes and policy development.

The incumbent is expected to travel periodically and may be required to travel to outbreak locations within the territory and work in different office environments and health centers.

RESPONSIBILITIES

1. Analyze incidence morbidity, mortality and risk factor data for health events and social indicators under surveillance.

- Compile, analyze and interpret surveillance data on health events, risk factors, and trends (e.g. communicable diseases, immunization coverage).
- Conduct surveillance using data from a variety of sources and information systems (e.g. iPHIS, laboratory information systems, electronic medical records, etc).
- Apply established statistical and epidemiological methods to surveillance data and provide methodological and data-quality advice on analytical outputs.
- Perform literature searches, review and analyze territorial, provincial, national and global epidemiology for trends, determinants and emerging issues that may identify future public health issues of importance for NWT surveillance.
- Highlight, interpret and summarize key findings and make recommendations to the OCPHO, DHSS, health authorities, and other external partners to support public health decision-making and program planning.
- Act as a subject-matter expert on the content, strengths, and limitations of the surveillance data holdings used for analysis .

2. Develop and standardize surveillance indicators, methods, and data approaches to support statistical and epidemiological analysis and reporting.

- Define and document surveillance indicators, case definitions, calculation methods, and analytical code to produce them.
- Provide expertise and support in the area of data development, integration, and data management to generate quality surveillance outputs.
- Validate indicator outputs and produce recurring surveillance reports and data tables.



- Develop workflows, data collection procedures and reporting protocols using existing and new datasets.
- Develop and maintain reproducible, version-controlled analytical workflows (e.g. Git) to generate re-occurring surveillance indicator outputs efficiently and consistently.
- Identify and evaluate new analytical methods and tools that can strengthen surveillance outputs and improve decision-making for health programs and services.
- Support the design and implementation strategies for data collection, extraction and analysis procedures including the development of reporting standards.
- Specify data requirements and work with data systems staff to extract, clean, and prepare data for analysis.
- Recommend data integration strategies to enhance surveillance for the organization in partnership with the data systems staff and IT department.
- Integrate data into internal databases and maintain database integrity as needed.

3. Provide expert epidemiological and knowledge management support, and advise on data standards, quality assurance methodologies and reporting practices.

- Keep abreast of developments in epidemiological methods, data standards, and reporting practice to strengthen surveillance and reflect current standards of practice.
- Serve as a technical resource on epidemiological methods, analytical design, and interpretation for colleagues, program teams and others within DHSS.
- Make recommendations on data collection procedures and reporting methods to support improved data quality and timely surveillance outputs.
- Support knowledge transfer by sharing analytical methods, tools, and reproducible workflows within the unit to build team capacity and support staff transition and coverage.
- Engage with data producers and other internal stakeholders to convey the strategic importance of sharing information both internally and externally.
- Explore opportunities for open data within the NWT and articulate the innovation opportunities that can be realized.
- Coordinate the exchange of information and the development of data sharing within the Department and beyond.
- Provide epidemiology expertise and support on other projects/activities within the Office of the CPHO and within DHSS as required.

4. Develop intuitive data visualizations and text for websites, reports, presentations and ad hoc internal and external requests.

- Tailor communication products to diverse audiences, including the public, public health professionals, program teams, Indigenous governments, and senior leadership.
- Design and maintain dashboards and other visualization products on public health and other health events to ensure information gathered is used appropriately to drive public health action.



- Communicate strengths and limitations of data alongside findings to support responsible interpretation and use.
- Contribute to briefing notes, media responses, and public health messaging in support of OCPHO communications.

5. Conduct enhanced and applied epidemiological analyses to address emerging public health questions

- Use surveillance findings to identify signals, gaps, or patterns that warrant deeper investigation (e.g., an unexpected trend, an emerging risk group, a cluster).
- Formulate focused epidemiological questions and translate them into analytical or research proposals, specifying the appropriate study design, methods, and data sources.
- Conduct or lead enhanced analyses by applying appropriate epidemiological and statistical methods to answer priority public health questions that inform OCPHO priorities and program planning.
- Provide epidemiological advice on research proposed within or external to DHSS.

6. Represent DHSS in working groups or committees at federal, provincial, and territorial levels.

- Represent the OCPHO on federal, provincial, and territorial (FPT) surveillance networks, working groups, and technical committees, contributing the NWT perspective to national surveillance initiatives and standards
- Contribute to the development and harmonization of national case definitions, indicators, and reporting standards, advising on their applicability and feasibility in the NWT context
- Share NWT surveillance methods, findings, and small-population approaches with FPT counterparts; inform unit of national developments and best practices.
- Build and maintain working relationships with counterparts at the Public Health Agency of Canada, other jurisdictions, and partner organizations to support data sharing, mutual learning, and coordinated public health action
- Support other core functions of ESU, including assistance in routine reporting functions, unit correspondence, and other administrative duties as required (e.g. taking minutes, coordinating and consolidating internal responses on external requests).

7. Conduct epidemiological field work when assigned to support rapid outbreak response within the territory.

- Coordinate the data collection and management processes with on-site clinical health care providers to obtain case and contact information during the response.
- Identify when and where existing technologies and data systems can be modified to support the response or if temporary systems or processes need to be established.



- Meet regularly with response staff to identify additional data needs or modifications and ensure that data collection and management activities support the progressing response.
- Validate and coordinate the flow of epidemiologic data between the outbreak site and the OCPHO.
- Prepare and provide epidemiologic data reports and summaries to members of the outbreak response to support timely public health action and outbreak control.

WORKING CONDITIONS

Physical Demands

No unusual demands.

Environmental Conditions

No unusual conditions.

Sensory Demands

No unusual demands.

Mental Demands

No unusual demands.

KNOWLEDGE, SKILLS AND ABILITIES

- Knowledge in the field of human epidemiology including epidemiological concepts, principles and applications, with specific methodologies in cross-sectional studies, case control studies and health surveillance.
- Knowledge of and skills in communicable disease surveillance, statistics, disease control and public health and working with infectious and non-infectious diseases data sources, running surveillance systems, procuring data, preparing reports and editing reports with scientific rigor.
- Knowledge of statistical analysis software (R) including ability to manage and manipulate datasets, conduct data linkages, and write analytical code.
- Knowledge of data visualization software such as Power BI, and ability to develop interactive dashboards with health information.
- Knowledge of bio-statistical research and analytical methodologies.
- Knowledge of database query languages such as SQL, and information management principles.
- Knowledge of geographic information systems and mapping, including using maps in interactive dashboards.

- Knowledge of and/or the ability to acquire and apply knowledge of northern health care systems and structures, public health legislation, public health administration and northern cultures as they relate to health and social service issues.
- Knowledge of policy, ethical and legal issues related to confidentiality and data security.
- Knowledge of desktop publishing and presentation software.
- Ability to provide epidemiological support during an outbreak or public health emergency.
- Ability to work with relational databases to query, extract, and prepare data for analysis.
- Problem-solving and trouble-shooting skills.
- Verbal and written communications skills.
- Ability to commit to upholding and consistently practicing personal diversity, inclusion and cultural awareness, as well as safety and sensitivity approaches in the workplace.

Typically, the above qualifications would be attained by:

A master's level of qualification in epidemiology, public health or other biostatistics field, and three (3) years of relevant experience in epidemiological and statistical analysis, including one (1) year of experience in the analysis and interpretation of population health surveys, development of research protocols, and interpretation of research.

Equivalent combinations of education and experience will be considered.

ADDITIONAL REQUIREMENTS

Position Security

- ☐ No criminal records check required
- ☒ Position of Trust – criminal records check required
- ☐ Highly sensitive position – requires verification of identity and a criminal records check

French language (check one if applicable)

- ☐ French required (must identify required level below)
 - Level required for this Designated Position is:
 - ORAL EXPRESSION AND COMPREHENSION
 - Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐
 - READING COMPREHENSION:
 - Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐
 - WRITING SKILLS:
 - Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐
- ☐ French preferred

Indigenous language: Select language

- ☐ Required ☐ Preferred