



IDENTIFICATION

Department	Position Title	
Northwest Territories Health and Social Services	Territorial Manager, Biomedical Engineering	
Position Number	Community	Division/Region
48-11042	Yellowknife	Stanton P3 & Facility Operations/Territorial Operations

PURPOSE OF THE POSITION

The Territorial Manager, Biomedical Engineering is responsible and accountable for the strategic planning, development, implementation, oversight and delivery of health technology management program and services for the Northwest Territories Health Social Services Authority (NTHSSA), Hay River Health and Social Services Authority (HRHSSA), Tlicho Community Service Agency (TCSA), the Government of Nunavut's Kitikmeot and Kivalliq Regions and other individually contracted governmental, non-governmental and private organizations. The position is responsible for providing health technology management services in accordance with Northwest Territories Acts, legislation, policies and procedures, as well as Accreditation Canada and National standards to ensure the safe, timely and effective delivery of healthcare services.

SCOPE

The Territorial Manager, Biomedical Engineering (Territorial Manager) is based in Yellowknife and reports to the Director, Stanton P3 and Facility Operations. The Territorial Manager provides expert professional engineering and system level health technology management support on health technology devices for two (2) hospitals, six (6) in-patient health centre facilities, thirty-five (35) health centers and over twenty (20) long term care facilities, clinics, health stations and other government clients in the Northwest Territories and Nunavut.

The Northwest Territories Health and Social Services Authority (NTHSSA) is the single provider of all health and social services in the Northwest Territories (NWT), with the exception of Hay River and Tlicho regions, covering 1.2 million square kilometers and serving approximately 43,000 people, including First Nations, Inuit, Metis, and non-indigenous peoples. Health and social services includes the full range of primary, secondary and tertiary health services and social services including family services, protection services, care placements, mental health,



addictions, and developmental activities, delivered by more than 1,600 health and social services staff.

Under the direction of the Minister of Health and Social Services, the NTHSSA was established to move toward one integrated delivery system as part of the government's transformation strategy. Coordinated and strategic health technology management is a key enabler of this vision and is critical to the successful delivery of health and social services programs.

While the Biomedical Engineering program and the Territorial Manager are located within the NTHSSA, they support many cross-system initiatives and are equally accountable to provide Health Technology Management Services to the HRHSSA and TCSA, as well as supplying Health Technology Management Services to the Government of Nunavut in Kivalliq and Kitikmeot Regions and other governmental and non-governmental contracted entities.

The Territorial Manager works closely with and provides knowledge, resources and expertise to the Department of Health and Social Services (DHSS) Infrastructure Planning Division's Health Technology Planning (HTP) team. The Territorial Manager, in collaboration with the DHSS Manager of Health Technology Planning, co-chairs the Territorial Health Technology Management Committee (HTMC). This committee is responsible for the oversight and prioritization of the NWT's health technology replacement and provides recommendation and review of standardized health technology models to be used in all NWT health facilities and programs.

The position is seen as the NWT health technology management expert and provides expert engineering, technical and system advice to NTHSSA, HRHSSA and TCSA leadership. Due to the territorial and inter-territorial role, this position reports to the Director, Stanton P3 and Facility Operations but must interact directly with Managers/Directors/Executive Directors/Chief Information Officers/Assistant Deputy Ministers/Chief information Officers in health care and other government departments. The Territorial Manager must communicate effectively at all levels and all aspects of health technology management services to meet system needs.

The position is accountable to provide direct input on capital equipment planning for all NWT Health Authorities and to the GNWT DHSS. The position is responsible for an Operations and Maintenance budget of over \$4,000,000 per year and managing over \$900,000 in revenue recoveries. In addition, the position has a direct impact on the availability, safe use and replacement planning of over 10,000 health technology assets with a replacement value of approximately \$88,000,000 with the direct management and accountability on approximately \$2,000,000 in external service contracts. The position's responsibility in the management of these assets can directly affect the procurement and operation costs of these assets and the operating costs to the health system (i.e., increased air ambulance costs due to non-functional health technology). Many of these health technologies are mission and life critical to the delivery of patient care.



The broad scope of health technology management services provided, the overall size of geographic area supported and the non-standard health technology environment (i.e., extreme temperatures, humidity, power, etc.) combine together to create a unique environment in the Canadian Health system and globally. This unique scope of responsibility requires the Territorial Manager to have a high degree of system understanding and often limited to no known information, precedence, or theory to guide decision making. Consequently, as both an allied healthcare professional and the primary NTHSSA registered Professional Engineer in the field of Biomedical Engineering, the Territorial Manager is also uniquely and professionally accountable for health technology management decisions, investigations and solutions which could have both mission critical and life consequences to NTHSSA, HRHSSA and TCSA programs and patients.

The position has management responsibility for the Chief Biomedical Engineering Technologist (Chief BMET) as well as Senior BMETs, BMETs, casual BMETs, Intern BMETs, assistant BMETs, Health Technology Management Officers, and/or Practicum Health Technology Management Officers. The position has direct supervision and mentoring responsibilities to the Chief BMET, Senior BMET, and Health Technology Management Officer.

RESPONSIBILITIES

1. Health Technology Management Program Development and Support

- Accountable for day-to-day Biomedical Engineering program services being provided to the NTHSSA, TCSA, HRHSSA, GNU and all other contracted entities.
 - Accountable to work with the Chief BMET to ensure staff prioritize and complete work orders and tasks to meet all user and system needs as well as program metrics.
- Accountable for the creation, and continued updating of all Policies, Standard Operating Procedures (SOPs), Protocols and Guidelines to define and direct the health technology service support program.
 - Accountable and responsible for creating, managing and enhancing a health technology service support program that meets all Accreditation, National and Industry best practice standards for the NWT and contracted regions in Nunavut.
- Accountable and responsible to assess new health technology service support needs and ensure they are supported correctly and effectively within the unique Northern healthcare environment.
- Responsible to meet annually with all Regional Executive, Leadership and Managers to review the scope of Biomedical Engineering services and elicit feedback to enhance these services.
- Accountable and responsible to maintain and enhance the Territorial Health Technology Management database so that it provides both service history and health technology planning information to the NWT healthcare system.
 - Accountable for periodic inventory and assessments of all health technology assets to ensure inventory of health technology is accurate and sufficient details are documented.



2. Staff Management and Development

- Accountable and responsible to recruit and retain all approved positions.
 - Works with NTHSSA Staff Development to proactively develop methods of guiding NWT residents into Biomedical Engineering fields.
 - Accountable to proactively solicit, screen, train and maintain a pool of potential future staff resources to meet future system and project resource needs.
- Accountable and responsible to ensure all necessary standard mandatory training is completed by staff.
 - Accountable and responsible to ensure the development and budgeting of required health technology factory service training for all staff to ensure a critical mass of trained in-house expertise to meet health technology service needs.
 - Note: NTHSSA BMET staff must become proficient and maintain proficiency on x-ray, dialysis, anaesthesia, ventilators, physiological monitoring systems and some laboratory technology – this is a unique training challenge compared to other jurisdictions in Canada where BMET staff are generally focused on exclusively one specialized area.
- Accountable and responsible to provide ongoing staff development feedback and complete staff annual performance reviews.
- Accountable and ultimately responsible for all Biomedical Engineering staff discipline and corrective actions.
- Accountable and responsible to meet changing technology, skill requirements and organizational structure needs by creating and updating all Biomedical Engineering job descriptions and organizational structure.

3. Service Contract Management

- Accountable and responsible for both budget, financial and contract management of all Territorial health technology devices under service contract.
- Accountable and responsible to ensure vendor compliance with terms of their service contracts.
- Responsible to work with NTHSSA Finance and GNWT Procurement Shared Services to define and negotiate performance metrics, and key terms and conditions on health technology service contracts.
- Accountable and responsible to create business cases where changing the level of health technology service contracts will improve service response time, offer system efficiencies, and reduce costs.
 - Note: up to and including cancelling service agreements and creating business cases for the resourcing and training to bring the work in-house and off contract.

4. Risk Management and Incident Investigation

- As the primary Professional Engineer accountable for Health Technology in the NWT and the Kivalliq and Kitikmeot Regions in Nunavut, the Territorial Manager is fully



professionally accountable to Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (NAPEG) in addition to the NTHSSA and partners to provide professional engineering investigations and assessments of any health technology issues and incidents.

- Accountable to process and review all Health Canada Mandatory Medical Device Reports for health technology related incidents and issues in the NWT.
- Accountable to process and review all health technology related recalls and alerts sent by governmental, non-governmental and vendors for NWT health technology.
- Accountable and responsible to work with Health Canada, non-governmental entities (i.e., such as ECRI) and vendors when flaws, risks or issues related to health technology designs or safety are identified.
- Responsible to represent the NWT and participate on the Health Canada Federal Provincial Territorial (FPT) health technology related committees (e.g., Health Canada's Canadian Medical Devices Sentinel Event Network (CMDNet) or Health Canada's Medical Device Technical Task Group).
- Maintain professional network and ties with professional Biomedical Engineering organizations to allow access to secondary professional expert resources and insight.

5. Health Technology Assessment and Health Technology Replacement Planning

- This position acts as the Co-chair of the Territorial Health Technology Management Committee which defines the priority of health technology evergreening replacement done by DHSS as well as validates and prioritizes the DHSS health technology management plan.
 - Upon request by DHSS, assess and where feasible within staffing constraints and core duties, assign expert BMET resources to support DHSS evergreening initiatives.
 - Upon request by DHSS, assess and where feasible within resource constraints and core mandate, complete some or part of the planning, purchasing and/or install of DHSS health technology evergreening project(s) on behalf of DHSS.
 - Review and provide expert health technology advice on all DHSS health technology procurement documents to ensure they align with NTHSSA, HRHSSA, TCSA technical and clinical requirements.
- Accountable and responsible for net new health technology purchases, planning, and installations in the NWT (i.e., outside that done by DHSS evergreening projects).
- Accountable and responsible for maintaining key fields in the Territorial Health Technology Management database to allow data mining for the purpose of health technology assessment and replacement planning.
- Accountable and responsible to maintain and enhance the Medical Equipment Replacement Score System used to complete all initial prioritization and financial analysis of NWT and Nunavut health technology assets.
- Accountable to ensure service agreements and service plans are in place for all replaced or new equipment,



- Note: this includes ensuring Right to Repair clauses are included in all appropriate health technology purchases.

6. Engineering Project Management

- Accountable to identify health technology project needs and opportunities; and when identified to create business cases, seek funding and approval.
- Accountable for any approved, assigned and resourced health technology projects.
- Accountable and responsible to directly manage or recruit and supervise required health technology management resources to manage health technology projects.
- Accountable and responsible to ensure all NTHSSA required security threat risk assessments, privacy impact assessments, information management agreements and project management documentation and communication follow all NTHSSA and GNWT requirements.

7. Other Special Duties

- Maintain professional relationships and communications with professional counterparts and leadership positions in the Yukon and Nunavut Territories.
 - Host and maintain monthly tri-territorial meetings on Health Technology Management.
- Accountable and responsible to develop, enhance and maintain any intergovernmental health technology management agreements, governmental health technology management agreements and inter-authority health technology service agreements.
- Accountable to maintain expertise to identify and coordinate any health technology informatics and security needs with linked informatics systems.
 - Accountable and responsible to maintain highly cooperative relationships with GNWT Technical Services Centre management and leadership and DHSS Information Systems management and leadership.
- Act as the primary expert resource for rapid health technology planning, redeployment and procurement during emergencies (e.g., Pandemic, Fires, Floods, etc.).
- Act as a professional expert and champion within North American professional organizations (CMBES, ACCE, etc.) to promote and bring forward critical health technology management issues for the unique Northern environment.
- When funded and approved, expand health technology management program and services to support other Territories, governmental entities, non-governmental entities and specialized health technologies (e.g., dental technology, etc.).
- Upon request, have the skills and capability to act as Director, Stanton P3 and Facility Operations for short and protracted periods as required.

WORKING CONDITIONS

Physical Demands



No unusual demands.

Environmental Conditions

While primarily office based, the position is located in the healthcare environment and is exposed occasionally to electrical, chemical, mechanical, thermal, and radiation hazards.

Sensory Demands

No unusual demands.

Mental Demands

Demands by internal and external stakeholders to quickly develop health technology service and support solutions to meet needs can cause levels of mental stress. The position travels within the NWT and to Nunavut remote communities on approximately a bi-monthly basis.

KNOWLEDGE, SKILLS AND ABILITIES

- Leadership and management skills required to manage technologist and engineering staff as well as contractors.
- Financial management, contract management and budgetary abilities.
- Negotiation skills, including ability to develop and represent complex positions in adversarial situations.
- Interpersonal skills to maintain effective and lasting working relationships with senior managers and staff from other departments and Health and Social Services regions.
- Communication and interpersonal skills in order to develop and maintain necessary industrial relationships with device vendors, professional engineering associations, and biomedical engineering associations and societies to ensure proactive development of health technology management programs.
- Ability to communicate both orally and in writing with senior managers, technical staff, employees and stakeholders. This includes the ability to maintain professional relationships in difficult circumstances.
- The position is a highly specialized engineering field and requires mastery of many varied principles within multiple traditionally separate engineering fields, as well as knowledge of theories of other fields (e.g. human anatomy, electrical, mechanical, chemical, laboratory environment, diagnostic imaging environment, clinical workflow and practices, etc.).
- Knowledge of human physiology in order to clearly understand the operation of health technology and its interaction with patients.
- Knowledge of computers, networking, information systems and applications at a high level (i.e., health technology management database organization and data mining, specialized health technology informatics interfaces, and unique health technology linked IT applications).



- Political awareness and ability to operate in a complex matrix management professional environment.
- Ability to manage diverse activities that are often only broadly or generally defined.
- Strong human resources skills for recruiting, developing and retaining technical and engineering staff.
- Aware of the geographical and cultural diversity of the Northwest Territories.
- Ability to commit to actively 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 diploma in Biomedical, Electronics, Instrumentation or Mechanical Technology from an accredited program and five years of relevant experience in a hospital setting, including factory service training courses and one year leading the service support in a complex health technology area.

Equivalent combinations of education and experience will be considered.

ADDITIONAL REQUIREMENTS

Must maintain a valid class 5 driver's license.

For Mechanical Electronics or Instrumentation Technology Diploma graduates: a Certified Biomedical Engineering Technologist (CBET) certification will be required or demonstrated ability to qualify for it within 1 year.

Position Security (check one)

- ☐ 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