Government of
Northwest Territories

IDENTIFICATION

Department	Position Title	
Northwest Territories Health and Social Services Authority	Territorial Laboratory Information System Administrator	
Position Number(s)	**Community**	**Division/Region(s)**
17-14777	Yellowknife	Laboratory Services/Stanton

PURPOSE OF THE POSITION

This position works within a small operations team to lead and oversee the territory-wide operation, development and enhancement of the Northwest Territories (NWT) Laboratory Information System (LIS) in all four hospital locations of the NWT, including integration with other Health and Social Services Information systems (eHSS), i.e. Medipatient, the Interoperable Electronic Health Record (IEHR) and the Electronic Medical Records system (EMR). Accuracy and availability of the information in the LIS is critical for NWT patient care and safety as it pertains to all NWT Laboratory services.

SCOPE

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 Tłı̨chǫ regions, covering 1.2 million square kilometers and serving approximately 43,000 people, including First Nations, Inuit, Metis, and non-aboriginals. 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 1,400 health and social services staff.

While the Tłı̨chǫ Community Services Agency (TCSA) will operate under a separate board and Hay River Health and Social Services Agency (HRHSSA) will in the interim, the NTHSSA will set clinical standards, procedures, guidelines and monitoring for the entire Northwest Territories. Service Agreements will be established with these boards to identify performance requirements and adherence to clinical standards, procedures, guidelines and policies as established by the NTHSSA.

Under the direction of the Minister of Health and Social Services, the NTHSSA is established to move toward one integrated delivery system as part of the government's transformation strategy.

Stanton Territorial Hospital is an accredited facility, located in Yellowknife, Northwest Territories (NWT). Stanton is the referral center for approximately 43,000 NWT residents and 5,900 residents from the Kitikmeot Region of Nunavut. Stanton provides health care services to adults and children on an inpatient/outpatient and outreach basis in order to restore health with dignity. Stanton maintains a tobacco free environment within the building and throughout the property, recognizing the health hazards associated with tobacco in the workplace, both to smokers and non-smokers alike.

The Territorial LIS Administrator reports directly to the Manager, Laboratory Services and is located in Yellowknife. This position is responsible for the highly specialized territory-wide systems and supports all Northwest Territories Health and Social Services Authority (NTHSSA) users. The Territorial LIS Administrator is the territorial subject matter expert with respect to laboratory terminology, messaging and technical standards for the NWT LIS.

Governance for the LIS and program oversight is provided through the Northwest Territories Laboratory Advisory Committee (LAC) which is a standing committee of the Joint Senior Management Committee. The LIS Administrator is a full member of LAC.

While there are no positions reporting to the LIS Administrator, the position provides leadership and critical support to LAC with regards to territorial LIS implementation, planning, maintenance, updates, customization, and training as well as operational support activities, including inbound and outbound interfaces to instruments and eHSS systems such as the territorial iEHR and EMR. The LIS Administrator is also responsible for recommending policy changes and process improvements to gain LIS efficiencies and effectiveness on an ongoing basis to LAC.

The centralized LIS in the NWT provides NTHSSA laboratory sites with an application that supports all current functional areas of the laboratory system, including Core Laboratory, Microbiology, and Transfusion Medicine. The NTHSSA users of the LIS have the ability to order laboratory tests, enter and receive results from analytical instruments, monitor and manage quality, and distribute reports to clinicians; as well as send electronic results to the IEHR and EMR applications. Since the LIS is one single database for the NWT, all laboratory data generated by any of the NWT laboratories is viewable by users with approved access and permission. Key LIS infrastructure is located in Yellowknife and is utilized by Stanton Territorial Hospital, Inuvik Regional Hospital, H.H. Williams Health and Social Services Authority, and Northwest Territories Health and Social Services Authority laboratories. The LIS currently has the capacity to expand to additional NWT based sites, as required.

This position is responsible to ensure continued operation, system maintenance, customization, functional support, upgrade, enhancement and integration work involving the LIS. This position is the territorial subject matter expert with respect to laboratory

terminology, messaging and technical standards for the NWT LIS and is the main contact/support for all day to day activities that ensure operational functionality of the NWT LIS, including training, vendor management, security, data integrity assurance and problem resolution. Additionally the LIS Administrator supports the entire business user community by engaging in and understanding their business needs and targeting system enhancements, business process changes, and analysis that provide the best possible information for reporting, planning, analyzing and implementing activities.

This position works within a small operations team to lead day to day operations, including all problem/incident resolution that cannot be resolved at the user or the local level, system maintenance, change management, key user education and training, equipment interfacing, development, upgrade, and implementation work for LIS application(s). This work will include integration testing, privacy, security, data integrity, system administration and coordination amongst a broad group of NWT users, system technical experts and out-of-territory users and support staff. Additionally, the incumbent co-chairs the NWT LIS User Group and will ensure existing LIS application standards are developed and consistently applied and maintained across the territory.

In addition to working with the business user community, the incumbent will work closely with local LIS Super Users and staff at the four LIS sites to ensure standard procedural practice of the LIS.

The incumbent acts as a lead in design, development, and enhancement projects to implement solutions that support the strategic direction of NWT Laboratory and NTHSSA service delivery, and policies and practices that affect the business processes as they pertain to the NWT LIS.

The incumbent will be required to provide some administrative and operational support to other diagnostic services information systems. This will include the Picture Archiving Communications System (PACS) and working closely with the PACS administrator and other key diagnostic imaging services stakeholders across the NWT to ensure daily operations and key service enhancements are successfully implemented.

RESPONSIBILITIES

1. **Oversees system operations including day to day activities to ensure system integrity, and leads all problem resolution including critical incident coordination.**
   - Responsible for first level support and the daily operations of the LIS.
   - Monitors, investigates and resolves issues or problems arising within the application(s) directly impacting NWT LIS Information availability, and accessibility by end users.
   - Manages all stages of NWT LIS issues resolution between end users, LIS application vendor, IT support at the four hospital locations, Technology Services Centre (TSC), the Department of Health and Social Services (DHSS), EMR and iEHR vendors (as required), and other Laboratory equipment vendors.

- Consults and serves as the relationship manager, with the TSC, IT staff at the NWT laboratory sites, and the LIS vendor regarding system performance, Improvement, enhancement and troubleshooting hardware/software issues.
- Facilitates the ongoing development, upgrades and enhancements of the LIS application(s).
- Plans, schedules, and leads the installation of LIS technical and business requirements for new Laboratory equipment interfaces.
- Provides management of the NWT LIS operations including: security, privacy, data Integrity, resolution of system errors and issues ensuring optimal system functionality;
- Coordinates testing and validation for software service packs and version upgrades;
- Coordinates and liaises with end-users, LIS user groups and LIS support team members regarding LIS issues that may have an impact on business operations.
- Documents and escalates adverse system events to vendor for resolution and provides situation report to LAC in a timely manner.
- Is the territorial relationship manager/liaison with the LIS vendor in regards to daily operations and support activities.

2. **Oversees system functionality providing quality assurance checks and maintaining quality control of system inputs, processing and outputs, and provides management direction to mitigate risks and maintain system integrity including privacy and security of health information.**
   - Responsible for maintaining database integrity, content, functionality and structure;
   - Provides support to auditing agent for periodic system use audits.
   - Facilitates adherence to security guidelines in operations and notifies appropriate parties of possible security breaches.
   - Responsible for authorizing and administering user access and security in accordance with established access table and rules.
   - Responsible for creating user profiles for new employees based on their position/job attributes which defines the individual users of the LIS system. This involves entering a set of data describing a particular user, including information such as username and password. Then assigning process profiles and business unit security at the User Profile level. User Profiles are then linked to roles to grant access to specific areas within the LIS system.
   - Provides information to management in support of risk aversion decision making.
   - Oversees creation of reports for lab managers at LIS locations regarding workload, statistics and Quality Assurance/Quality Control (e.g., test volumes, trends).
   - Participates in the development of disaster recovery plans and acts as a key liaison with internal and external stakeholders in the LIS disaster recovery plan and business continuity plan.
   - Responsible to maintain best practices related to patient information privacy and security.

3. **Develops and maintains system documentation and directs operations and change management activities as required meeting or exceeding requirements of Accreditation and best practices in lab information management.**
   - Contributes to development and maintenance of electronic information.
   - Develops/updates data dictionary and mapping to facilitate test analyze and programming statistical reports for workload, performance indicators and basic epidemiology reports.
   - Maintains accurate and comprehensive documentation.
   - Utilizes writing skills to produce letters, reports, documentation and organization information.
   - Assists in preparing reports relating to implementation and function of the LIS including system expansion impact analysis.
   - Evaluates, designs and implements statistical report requests as required.
   - Develops and maintains pertinent LIS procedures used in daily operations and necessary to ensure system functionality.
   - Develops and maintains pertinent LIS documentation necessary to ensure system functionality, and is required to meet accreditation and best practice standards.
   - Responsible to oversee and perform as necessary, vendor-authorized modifications and maintenance to the LIS database.
   - Oversees ongoing system audits for verification of consistency and accuracy of LIS functionality and data integrity.
   - Executes modifications and resolution of database definition deficiencies.
   - Responsible to ensure LIS reference manuals are maintained and updated.
   - Monitors databases interface status to the LIS as well as interfaces between the LIS, various Biomedical Lab instrumentation and other eHSS systems including territorial IEHR, EMR and systems supporting key hospital functions.
   - Processes system change requests and completes, organizes and maintains file documentation.
   - Participates in the development and leads in the adoption of territorial LIS standards (including Laboratory Information Systems dictionary standardization) and relevant standard operating procedures in collaboration with stakeholder groups.

4. **Advises LAC on functionality and operations of LIS to facilitate decision making, as well as drafts policies and procedure required for successful operations of the LIS.**
   - Is a key member of the LAC Committee.
   - Acts on behalf of the LAC as the territorial liaison with clinicians regarding concerns and needs for LIS reports and service requirements.
   - Provides Input through LAC for OHSS and NTHSSA strategic planning activities to ensure that the LIS strategic Plan aligns with DHSS plans.
   - Advises the LAC and participates in standards, policy, and program development required for operation of the LIS.
   - Researches and analyses system and workflow processes for optimal system design, use and organization.
   - Oversees creation of management reports on system functionality and integrity.
   - Generates query reports as required by laboratory management.

5. **Advise and provides decision making support to staff and management to ensure ancillary systems are integrated appropriately with the LIS system.**
   - Acts as the key territorial liaison with territorial and provincial laboratories, the LIS vendor and national LIS groups.
   - Supports NWT project teams during implementation or updates by assisting in the interpretation of technical architecture, functional specifications and determination of required laboratory business processes as they relate to LIS.
   - Participates in the identification of current standards, desired future state and the development of appropriate migration plans for ancillary systems as they relate to LIS.
   - Ensures that appropriate resources are aware of maintenance decisions and/or new standards releases and how they may Impact on the ancillary systems.
   - Ensures accurate and timely communication with key stakeholders regarding changes to ancillary standards, operations and processes that impact the LIS.
   - Provides support in resolving data Integrity issues of ancillary systems as they relate to the LIS.
   - Responsible for analyzing and resolving application issues and printer functionality. issues including configuration of printers serving the LIS system.
   - Responsible for monitoring integrity and activities of ancillary systems interfaces.
   - Participates in the development of testing scenarios and testing of ancillary systems.

6. **Facilitates NWT LIS User Group Committee for local LIS Super Users.**
   - Participates in facility, inter-facility, regional and inter-regional meetings that provide a forum for discussion of application/system issues.
   - Liaises with application specialists and local LIS Super Users to assess the impact of application specific changes within the NWT LIS.

7. **Responsible for LIS education to end users and staff.**
   - Identifies training needs, establishes training objectives/standards, participates in the design and modification of vendor developed training modules, and provides overall coordination of training activities including, where required, provision of training to Super Users of the LIS.
   - Maintains a site-specific methodology to evaluate LIS training and implementation processes at the four hospital laboratories.

WORKING CONDITIONS

Physical Demands

The incumbent has full authority to direct own activities. This position involves prolonged sitting at a computer/desk and keyboarding as well as frequent periods of walking within a health care facility.

Environmental Conditions

The incumbent will have significant levels of exposure, with limited frequency, to hazardous agents, body fluids, and toxic sterilization solutions that could result in significant health risks.

The incumbent will be exposed to adverse conditions when traveling by air, including but not limited to weather and temperature extremes, small enclosed fuselages, aviation fuel fumes, loud engine noise, for several hours duration, between 1-3 trips per year that could result in moderate to significant health risks.

Sensory Demands

The position requires attention to detail and prolonged intense concentrated focus on critical data, as well as the use a computer for lengthy periods of time each day. The incumbent continuously coordinates several activities and handles multiple requests at the same time on a daily basis. Computer work will be performed 4- 5 hours at a time. This leads to eyestrain and headaches.

Mental Demands

As the sole territorial resource, the incumbent will be required to be on-call and work unscheduled overtime or work outside normal business hours as and when required to meet the operational needs of the LIS and to support scheduled and unscheduled downtimes of the system. A moderate number of non- standard hours of between 1-4 hours in duration per week are expected as a normal condition of this position. Semi-annual system optimization and upgrades will require the incumbent to work uninterrupted overtime of between 1-7.5 hours, for a period of 2-4 days. The incumbent will be required to travel for a period of 2-5 days, between one and three trips per year, to NWT hospitals, health centres and community sites.

KNOWLEDGE, SKILLS AND ABILITIES

- Knowledge and understanding of the SCC Soft Computer Software Lab Information system, including but not limited to, the following key components: Biochemistry, Hematology, Coagulation, Urinalysis, Microbiology and Transfusion Medicine.
- Knowledge and understanding of HL7 Messaging standards, Standardized Nomenclature of Medical Clinical Terms (SNOMEO CT), Logical Observation Identifiers Names and Codes (LOINC), International Organization of Standards (ISO) and accreditation standards.
- Previous exposure to and a basic understanding of alternate diagnostic services information systems such as Radiology Information Systems (RIS) and DICOM based programs would be an asset.
- Database management technical and operational knowledge and skills as well as advanced computer skills and knowledge, including word processing, spreadsheet, database applications electronic mail systems
- Knowledge of LIS application configuration files.
- Knowledge of personal computers (PCs), data networks and associated governing standards and protocols.
- Knowledge of the relevant NWT data network and supporting infrastructure and support services and stakeholders.
- Awareness and comprehension of relevant GNWT policies, directives and procedures governing GNWT Health Information and Laboratory Services.

- Knowledge and awareness of the legal, ethical and professional responsibilities regarding health information privacy and data security.
- Knowledge of the NTHSSA Laboratory Services and GNWT priorities impacting Laboratory Services.
- Familiarity with research and analysis methodologies to facilitate data collection and interpretation.
- Ability to use electronic information sources to conduct research and to provide accurate data analyses based on sorted and non-sorted data.
- Ability to conceptualize, technical information and abstract concepts.
- Ability to clarify or translate and provide targeted system information for management decision making.
- Ability to anticipate, recognize, interpret, assess and identify appropriate solution(s) to issues and system errors in a timely manner.
- Ability to provide quality control functions including monitoring and succinctly evaluating system functionality.
- Project management, including planning, problem solving, decision making, time management and organization skills.
- Team leadership experience and small group leadership abilities.
- Ability to work unsupervised and without direction in all duties, and In order to meet scheduled deadlines and manage priorities to address emergent and priority tasks.
- Ability to work cooperatively with local and remotely located teams.
- Ability to independently identify and solicit appropriate additional resource assistance, to adapt and improvise in order to resolve issues in a timely manner.
- Knowledge of and familiarity with NWT-wide laboratory operations and awareness of NTHSSA operations.
- Ability to use appropriate, clear, concise written, graphic, verbal and oral communication, including reports and presentations with a wide range of stakeholder and agency audiences, including explaining complex technical concepts to non-technical management and end- users.
- Ability to identify, establish and maintain professional relationships with key internal and external agencies and stakeholders.
- Ability to develop and make recommendations to management and committees
- Ability to understand the basic learning requirements of adult learners, to develop training and educational materials appropriate for non-technical learners

Typically, the above qualifications would be attained by:

This level of knowledge is typically acquired through the successful completion of a diploma from a recognized Medical Laboratory Technology Program.

A minimum of 2 years' experience as a Medical Laboratory Technologist utilizing an electronic Laboratory Information System with functionality in the following disciplines: Chemistry, Hematology, Coagulation, Urinalysis, Microbiology and Transfusion Medicine. Incumbent must maintain active registration with the Canadian Society of Medical Laboratory Science as a Registered Medical Laboratory Technologist throughout the term of employment.

ADDITIONAL REQUIREMENTS

Stanton Regional Requirements

Within Stanton, all health care providers must be able to acquire within a reasonable time frame and remain current with the following mandatory certifications:

- Workplace Hazardous Materials Information System Internet and E-mail application
- Fire training Fit Testing
- Transportation of Dangerous Goods,
- Workplace Bullying/Respectful Workplace
- Experience in the provision of support services within diagnostic services information systems and proven capacity to work within multidisciplinary teams.
- Registration with the Canadian Society of Medical Laboratory Sciences (CSMLS) as a General Medical Laboratory Technologist is a requirement

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

Aboriginal language: To choose a language, click here.

☐ Required
☐ Preferred