



IDENTIFICATION

Department	Position Title	
Northwest Territories Health and Social Services Authority	DI/PACS Administrator	
Position Number(s)	Community	Division/Region(s)
17-12954	Yellowknife	ISSC/Stanton

PURPOSE OF THE POSITION

This position is responsible to lead and oversee the territory-wide operation, development and enhancement of the Northwest Territories (NWT) Picture Archiving and Communications System (PACS) in all specified locations of the NWT, including integration with other Health and Social Services information systems (eHSS), out-of-territory PACS for specific NWT contracted radiologists services and out-of-territory patient centered access of specialist consultation. Accuracy and availability of the information in the PACS is critical for NWT patient care and safety as it pertains to all NWT diagnostic imaging (DI) services.

The incumbent leads all functional support, system maintenance, implementation, upgrade, enhancement, and integration work involving the PACS system, as well as being the main contact/support for all day to day activities that ensure operational functionality of the NWT PACS, including training, vendor management, system maintenance, security, data integrity assurance and problem resolution.

SCOPE

The position will be located within Stanton and report directly to the Manager of Diagnostic Services, playing a lead role in a team that provides diagnostic imaging (DI) services to the entire population of the Northwest Territories. The incumbent will be the key subject matter expert and provide application development and support services to a variety of users in regards to NWT PACS and PACS integration to various other eHSS systems including Voice Recognition within Radiology, the NWT interoperable Electronic Health Record (iEHR) and Radiology Information System (RIS). These users depend on the integrity and availability of the PACS system, including the business functionality provided by the applications, and data collected and used through them.

The NWT PACS system serves as the information system foundation for all NWT DI services, an integral part of medical diagnostic services. It is a territory wide system including primary PACS systems in two hospitals and two large Health Centers in the NWT (Stanton, Inuvik Regional Hospital, H.H. Williams Memorial, and Fort Smith Health Centre), integrated with Radiology Information Systems (RIS) and multiple modalities (equipment and electronic data) within these facilities; secondary integrated systems in eighteen (18) Community Health Centres located across the NWT; integrated Voice Recognition; and integration to out-of-territory PACS systems for contracted radiologist services and patient-centered care access. All images captured through PACS and modalities at the various locations are transmitted electronically to the PACS at Stanton's DI Department and Stanton's contracted radiology services for interpretation of diagnostic images and reporting. The NWT produces approximately 45,000 Diagnostic Imaging examinations annually. As the information in the PACS is used for diagnosis and treatment in direct patient care, timeliness and availability of the application is of the essence, and could mean the difference between life and death.

The incumbent also provides application and systems expertise and leads 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 PACS 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. Additionally, the incumbent chairs the NWT PACS User Group and will ensure existing PACS application standards are developed and consistently applied and maintained across the territory.

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

In addition to working with the business user community, the incumbent will work closely with local PACS Administrators/Super Users and staff at the four PACS sites and 18 community health centres in the NWT to ensure standard procedural practice of the PACS, and to provide technical and functional support and systems management of the Computed Radiography Readers integrated with the PACS system.

The incumbent also provides radiology technical expertise to nurses and assigned personnel in remote communities with the production of basic x-rays (extremities and chest).

RESPONSIBILITIES

1. Responsible for leading all technical and functional integration, implementation, upgrade and enhancement activities for the NWT PACS application and Modalities (including computed radiography readers, ultrasound, CT scanners etc.), RIS and other applications as they pertain to the NWT PACS

- Monitors, investigates and resolves issues or problems arising within the application(s) directly impacting NWT PACS information, availability, and accessibility by end users.
- Manages all stages of NWT PACS issues resolution between end users, PACS application vendor (AGFA Global Support), out-of-territory PACS users and radiologist services providers, Stanton IS/IT support, the Department of Health and Social Services, and other Modality Vendor(s).
- Facilitates the ongoing development, upgrades and enhancements of the PACS application(s).
- Main support/contact for end users, Health and Social Services IS/IT staff, Technology Services Center (TSC) and PACS vendor or other third party vendors for issues related to PACS hardware and applications support.
- Plans, schedules, and leads the installation of PACS technical and business requirements for new DI equipment interfaces within Stanton Local Area Network (LAN) or GNWT Wide Area Network (WAN) as appropriate in collaboration with IS/IT support services.
- Initiates and schedules preventative maintenance.
- Subject matter expert for the NWT PACS, RIS, and integrated radiology Voice Recognition.
- Acts as backup for other local PACS super users as required.
- Ensures NWT PACS application standards, policies and procedures are developed, maintained and initiates review with territorial stakeholders as required.
- Evaluates the impact of changes within NWT PACS and recommends appropriate user actions based on current standards and best practice procedures.
- Keeps abreast of relevant changing technologies and assesses potential impacts to NWT PACS.
- Leads the interface activities between RIS and PACS vendor.

2. In conjunction with the user community, the position leads the provision of functional design and support for system updates and changes.

- Oversees and assesses business requirements.
- Investigates information flows and processes.
- Identifies opportunities for business process redesign.
- Undertakes impact analyses for alternatives.
- Works with vendor to develop and propose system and process solutions to the PACS User group, relevant stakeholders, and then senior management for approval.

3. Provides data integrity support for NWT PACS

- Proactively runs reports to monitor incomplete or incorrect records and contacts sites to assist in correction of data integrity issues.
- Validates linkages of patients and images within the PACS and takes appropriate action to link/unmerge patient information as necessary when linkages have occurred incorrectly within the system.
- Performs periodic data quality reviews and audits of the PACS as required and ensures requirements are met for data integrity and reporting. Follows up with appropriate stakeholders including the vendor.
- Identifies potential duplicate records and directs and provides support to sites to resolve record duplication.
- Provides assistance and advice to stakeholders to ensure data integrity. This includes ongoing site support and system maintenance.
- Creates and communicates proper privacy and security policies and procedures;
- Liaises with appropriate site manager/staff to ensure appropriate business practices/processes are being followed.
- Creates user policy and procedure manuals in an appropriate format to be available and up to date.
- Maintains an 'issues and problems' log associated with resolving data integrity issues and follows up with appropriate stakeholders system wide.
- Responsible to monitor the log, follow up with appropriate stakeholders to address chronic issues and report functionality issues to the vendor.

4. The PACS Administrator is responsible for all aspects of system operations, analysis and maintenance pertaining to the PACS.

- Contributes to development and maintenance of electronic information.
- Maintains accurate and comprehensive documentation.
- Promotes positive public relations between NWT PACS and user communities;
- Acts the main contact for relationship with PACS vendor as it pertains to support, implementation, integration, upgrade and enhancement activities.
- Utilizes writing skills to produce letters, reports, documentation and organization information.
- Responsible for preparing reports related to PACS application.
- Maintain applications documentation for the NWT PACS system.
- Responsible for coordination of all downtime events pertaining to PACS and RIS interface events.
- Responsible for the coordination of service events pertaining to the PACS including user notification and alternate planning.
- Responsible for maintaining service logs for the PACS.
- Investigates all potential opportunities to improve levels of service recognizing the needs and expectations of DI customers.
- Assesses all requests from on-site health professionals and off-site administrators and nursing staff at community health centres related to the technical operation of PACS, determine systematic response, keeping in mind the acuity and weighing options for timely and long-term solutions.

- Plans, schedules and performs Quality Assurance testing on NWT PACS equipment as required.
- Utilizes and maintains automated system monitoring application (s) to continually monitor the operational status of all NWT PACS systems and takes appropriate actions on notification of errors.
- Assists in preparing reports relating to implementation and function of PACS including system expansion impact analysis.
- Evaluates, designs and implements statistical report requests as required.
- Assist in performing Quality Utilization (QU) functions of the department for the PACS system.

5. Responsible for administering systems security and adding security as requested.

- This work involves deep knowledge of the different components of NWT PACS security including user profiles, roles, and permissions lists. Before administering security, research and analysis must be completed to ensure the access being requested is appropriate, conforms to Segregation of Duties, and is applicable to the job the employee is doing.
- Responsible for creating user profiles for new employees based on their position/job attributes which defines the individual users of the PACS system. This involves entering a set of data describing a particular user, including information such as e-mail address 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 PACS system.
- Set up new roles or altering existing roles as defined by the business unit. A role can be defined as a technologist, radiologist etc. As roles change, i.e. different hire or resign, the user role or access or access requirements must be updated.
- Create new or alter existing permissions and assigning to roles.
- Conduct research and analysis to define out of scope requests which is those requests for security access that are not predefined or are out of the ordinary, for example, out of Territory access.
- Removal of all access to the NWT PACS application upon the employee's termination of employment.

6. Facilitate NWT PACS User Group Committee for local PACS administrators

- Participates in facility, inter-facility, regional and inter-regional meetings that provide a forum for discussion of application/system issues.
- Liaises with other application specialists and local PACS administrators to assess the impact of application specific changes on other applications within NWT PACS.

7. Responsible for the education, applications support and marketing of PACS to staff, physicians and community members.

- Responsible for training Super Users, DI department staff, physicians/nurse practitioners/community health nurses and other relevant staff in the use of PACS.
- As principle key trainer, position evaluates, plans, and develops training sessions for local PACS Administrators and Community Health Centre CR users as required.

- Maintains a site-specific methodology to evaluate PACS training and implementation processes at every site where PACS is available (over 22 sites).

8. Responsible for monitoring and troubleshooting all aspects of the NWT PACS for NWT and out-of-territory NWT PACS users.

- Monitors and troubleshoots interfaces between PACS and Modalities, HIS/RIS and other DI applications; Assist in preparing reports relating to implementation and function of PACS including system expansion impact analysis.
- Communicates with all NWT hospitals and health centres to troubleshoot issues with DI modalities and NWT PACS equipment.
- Evaluates, designs and implements statistical report requests as required.
- Performs Quality Utilization (QU) functions of the department for the PACS system.

WORKING CONDITIONS

*(Working Conditions identify the **unusual and unavoidable**, externally imposed conditions under which the work must be performed and which create hardship for the incumbent.)*

Physical Demands

The incumbent has full authority to direct own activities in achieving objectives within the area and approved programs and services.

Prolonged sitting at a computer/desk and keyboarding.

Travel to the 3 hospitals and 18 community health centres may be necessary.

Limited call-back will be required for trouble-shooting PACS system non-operable or when performance of the system is jeopardized outside of work hours.

Continuous employment is an asset since administrative support is ongoing with health professionals in the north and southern consulting radiologist.

Environmental Conditions

Adverse environmental conditions may exist when the incumbent is traveling to off-site facilities or communities.

Sensory Demands

Work on several projects or requests simultaneously. Focus on entering of data into computer.

Mental Demands

Within the Diagnostic Imaging Department there is pressure to provide patient results to all the NWT communities within a set length of time. Occasionally there may be delays due to PACS downtime and/or connectivity issues.

Mental fatigue is common as a result of heavy workload, imposed unexpected competing demands often under tight deadlines frequently causing high levels of stress. The incumbent is required to address non-routine and non-recurring problems that require rapid response and immediate re-prioritization of workload.

The incumbent may be required to be away from home performing site visits in various communities up to 6 times per year for approximately 3 days each visit.

KNOWLEDGE, SKILLS AND ABILITIES

- A strong working knowledge of and an ability to efficiently operate a Radiology Information System (RIS) and keen interest for computerization and its potential for improving efficiency
- Knows and understands the principles and methodologies of diagnostic imaging
- Strong ability to translate business requirements into system requirements
- Strong analytical and problem-solving skills, and as such must have a strong understanding of modality specific workflow, radiologist reporting methodologies and image distribution requirements, as well as knowing how to seek solutions through research using sources with more technical knowledge, reviewing evidence based practice and interacting with others who can share expertise and knowledge.
- Strong computer skills and a good understanding of windows operating system, MS Office and computer hardware basics (reboots, server/client relationship). Knowledge of or at least an understanding of terminology- ADT (ATD), HL7, Dicom.
- Ability to work independently while able to set priorities, problem solving, research and seek viable solutions.
- Extensive knowledge DI operating policies and procedure and how DI activities interrelate with other health care disciplines and organizational services
- Understanding of other hospitals, health centres and clinics operations and limitations
- A strong knowledge of the geographic and demographic characteristics of the NWT to understand the potential for technical challenges
- The incumbent must be aware of the importance of confidentiality and be able to keep personal and medical information private and confidential at all times.
- Ability to multi-task and be able to successfully coordinate multiple projects simultaneously while working in tight timelines while being an integral part of patient care
- Superior interpersonal skills to interact with all levels of contacts: peers, senior management, vendors, end users, etc.
- Ability to logically and capably train users. This requires strong communication skills and patience.

- Strong communication and interpersonal skills. This includes being able to get one's point across to both medical and non-medical individuals.

Typically, the above qualifications would be attained by:

The successful completion of either a diploma/degree in Medical Radiation Technology, certification with the Canadian Association of Medical Radiation Technologists (CAMRT); a minimum of two years of medical radiology technologists experience; a minimum of two years of PACS administration experience; preferably 1 year of working in a northern/rural environment; and, advanced knowledge of other computer applications and operating systems such as: Windows, MS Office, Word Processing, Excel, PowerPoint, email and internet.

ADDITIONAL REQUIREMENTS

Stanton Regional Requirements

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

- WHMIS,
- Internet and E-mail application
- Fire training

Assets would include:

- Non-Violent Crisis Intervention

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)

- French required
- French preferred
- French not required