





LISA TOTTON

CONTACT

-  New Brunswick, Canada
-  lisa.totton@gmail.com
-  itnurse.wixsite.com/itnurse
-  <https://www.linkedin.com/in/lisa-totton/>

SKILLS

- Healthcare Data Analysis
- Electronic Health Records
- Process Improvement
- Technical Project Leadership
- Power BI and Power Query
- SQL, VBA, Python
- ICD-10-CA, SNOMED CT-CA, LOINC
- HL7 v2, v3, CDA, FHIR
- IPS, PS-CA

CERTIFICATIONS

- CHIMA Controlled Terminology Standards Specialist (in progress)
- Microsoft Data Analyst Associate
- Lean Six Sigma Green Belt
- Registered Nurse

UNDERGRADUATE STUDIES

UNIVERSITY OF NEW BRUNSWICK

- Bachelor of Computer Science
First Class Honors
September 2001 – May 2006
- Bachelor of Nursing
Accelerated Program / Dean's List
September 2007 – December 2009

NATIONAL LEADERSHIP

Co-Lead of Canada Health Infoway
Health Analytics Community of Practice

AWARDS

Canadian Health Information
Management Association – Future of
Health Information Award (2024)

ABOUT

Health data professional with over 14 years of experience in clinical informatics, health data analysis, and CIS support across diverse healthcare settings. Extensive experience translating clinical and technical requirements into actionable solutions, training staff on new systems and processes, and communicating complex technical concepts in a clear, accessible way. Over the past five years, has developed deep expertise in clinical data through roles in business intelligence and data governance, with a focus on transforming complex clinical information into meaningful insights, supporting data migration efforts, and ensuring high data quality.

GRADUATE STUDIES

Graduate Certificate – Health Terminology and Interoperability Standards

University of Victoria | Sep 2024 – Aug 2025 (GPA 9.0/9.0)

- Mapped and aligned health data elements across SNOMED CT, HL7 FHIR, ICD-10-CA, LOINC, and other Canadian and international standards to support conceptual and logical model development.
- Created and validated SNOMED CT postcoordinated expressions using the International Postcoordination Browser and Expression Constraint Language (ECL) queries.
- Authored formal reports on SNOMED CT, HL7 v2, and International Patient Summaries (IPS), analyzing terminology governance, implementation, and integration challenges.
- Executed terminology mapping using Snap2SNOMED; designed SNOMED CT subsets and value sets aligned with emergency medicine and IPS use cases.
- Built FHIR-compliant patient bundles using Forge, clinFHIR, and Postman; uploaded data to HAPI FHIR servers and validated resource creation and data exchange.
- Created HL7 v2 immunization and diagnostic messages using 7Edit; performed structural validation and message correction per HL7 v2.5.1 specifications.
- Designed and published LOINC- and SNOMED CT-coded FHIR Questionnaires (e.g., PRAPARE) using LHC-Forms; executed \$expand queries via RESTful APIs.
- Researched and compared implementations of Pan-Canadian and International Patient Summary (IPS) standards, including document- and resource-based exchange using CDA and FHIR.
- Drafted an eLearning module proposal for undergraduate nursing students on terminology and interoperability standards (SNOMED CT, HL7 v2, FHIR), aligned with nursing informatics entry-to-practice competencies.

PROJECTS

- Power BI on FHIR: Visualizing Synthetic Patient Data (FHIR, Docker, Synthea, Power BI, Python)
- Excel-to-FHIR Pipeline with Power BI Visualization (FHIR, Python, Power BI, HL7 Standards)
- HL7 v2 Message Encoding and Decoding in Python (HL7 v2.3, Python, hl7apy, Excel)
- Pan-Canadian Patient Summary Sandbox (FHIR, Python, HL7 PS-CA, Power BI)

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WORK EXPERIENCE

DATA GOVERNANCE LEAD

Government of New Brunswick (June 2023 – August 2024)

- Led and supported a team of nine senior data governance analysts through a complex, multi-phase data migration effort as part of a province-wide ERP implementation. Oversaw data profiling, validation, cleansing, and ongoing quality checks to ensure accurate, trusted data across HR, finance, payroll, and procurement domains.
- Launched the groundwork for an enterprise Data Governance program by forming a steering committee and securing approval for a phased rollout. Facilitated data stewardship training and delivered an all-staff presentation on the value and principles of data governance.
- Coordinated governance activities across seven concurrent project releases, balancing shifting priorities and tight go-live timelines. Mentored new analysts, fostered team collaboration, and introduced automation improvement such as an address validation prototype using the Canada Post API.

SENIOR BUSINESS INTELLIGENCE ANALYST / DEVELOPER

Horizon Health Network (September 2002 – June 2023)

- Designed and developed human resource reporting solutions using Microsoft Power Platform and SQL.
- Conducted longitudinal trend analysis of employee sick leave, highlighting shift pattern behaviors through SQL and Power BI reports.
- Created an innovative Power BI solution to proactively monitor HR job posting data quality, enabling timely resolution and improved data accuracy.
- Established a standardized report development lifecycle and created supporting templates to enhance report quality and consistency.
- Developed training plans and provided mentorship for new hires.
- Presented projects at Business Intelligence Lunch and Learn events.

BUSINESS INTELLIGENCE ANALYST

Horizon Health Network (October 2020 – September 2022)

- Designed and developed interactive Power BI reports to visualize key metrics across emergency, inpatient, pharmacy, and mental health services.
- Partnered with CHIM professionals to develop Power BI reports aligned with CIHI indicators, such as Average Length of Hospital Stay (Days) and Emergency Department Wait Time for Inpatient Bed (Hours).
- Created a comprehensive Power BI report using a newly consolidated ED data model, featuring multi-year trend visualizations that compared current and previous fiscal years across a five-year rolling window.
- Enabled cross-hospital patient tracking by linking de-identified (hashed) patient identifiers across disparate systems to identify high-frequency ED users.
- Clearly communicated complex technical ideas in simple terms to assist report requesters with understanding the capabilities of Power BI. This allowed for the creation of innovative reporting solutions to challenging business problems.
- Served as a Horizon Champion in the GNB Business Intelligence Lunch and Learn group, delivering multiple presentations to share innovative reporting solutions.

PATIENT FLOW IMPROVEMENT COORDINATOR

Horizon Health Network (February 2018 – October 2020)

- Directed and tracked a portfolio of multiple initiatives, all containing IT components.
- Assessed discharge planning workflows in own region to identify non-value-added tasks and process variation. Collaborated with patient flow coordinators and discharge planners across all regions to design a standardized assessment tool for identifying discharge delays.
- Performed regular electronic and paper chart reviews to ensure accurate flagging of Alternate Level of Care (ALC) patients; collaborated with charge nurses to validate and correct patient status.
- Co-Chaired Patient Flow committees in the Fredericton and Upper River Valley areas of Horizon with Executive Directors and Medical Chiefs of Staff.

Key Projects:

- **Expected Date of Discharge Project:** Led the implementation of a standardized discharge planning process across two inpatient facilities, improving communication and coordination during patient transitions. Managed two parallel project

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streams with distinct workflows and stakeholder needs, facilitating collaboration between clinical teams and IT to ensure Meditech system updates reflected real-world practice. The work involved redesigning order entry workflows, updating user interface screens, and developing reporting tools to support compliance and adoption. Created training materials, visual aids, and workflow diagrams to support change management and engage staff. These efforts resulted in more consistent discharge planning practices and supported broader improvements in patient flow across the organization.

- **Chronic Obstructive Pulmonary Disease Electronic Flag Project:** Led the implementation of a standardized approach to identifying patients with confirmed Chronic Obstructive Pulmonary Disease (COPD) across four major hospitals, each using a different clinical information system (Meditech and Allscripts). Collaborated with the respiratory therapy department to define inclusion criteria, identified key data sources such as pulmonary function test results stored in vendor-specific systems, and worked with vendors to extract and integrate this data. Coordinated system modifications in Meditech and Allscripts to support flagging functionality, developed a reporting process to generate daily lists of admitted COPD patients, and supported both retrospective and prospective data entry workflows. The work included aligning workflows across facilities, engaging clinical and technical stakeholders, and ensuring the solution fit within existing operational practices. These efforts improved the visibility of COPD diagnoses across care settings and supported more consistent, proactive management of patients with chronic respiratory conditions.

BUSINESS ANALYST

Service New Brunswick (November 2012 – February 2018)

- Served as primary tier-two support analyst for the Meditech Order Entry (OE), Emergency Department Management (EDM), MedSURG (OR booking/documentation), and MedQM (incident reporting and clinician documentation) documentation modules.
- Provided on-call support for the modules listed above along with the Nursing, Patient Care Inquiry (PCI), and MIS (user profiles) Meditech modules and the Purkinje EMR as a member of the Patient Care Team. On call activities included triaging all incoming service requests, resolving issues, and completing access management tasks across supported modules.
- Gained hands-on experience with Meditech Admissions, Scheduling, and Laboratory modules through project work and testing activities.
- Created custom reports and data exports using the NPR reporting module to support clinical and administrative needs.
- Delivered one-on-one and group training for Physicians, Residents, and Medical Students on Meditech modules relevant to their clinical duties.
- Collaborated with vendors, IS staff, and clinical users to gather requirements, analyze workflows, coordinate enhancements, and develop training and educational materials.
- Authored comprehensive technical documentation to support knowledge transfer and onboarding.
- Demonstrated strong conceptual and problem-solving skills, with a proactive approach to learning system functionality and supporting clinical workflows.

Key Projects:

- **Specimen Collection Workflow Optimization Project:** Led the optimization of specimen collection workflows to improve the process of entering lab orders for scheduled outpatient visits. Worked with scheduling and specimen collection teams to understand current-state workflows and helped define future-state processes that leveraged new functionality in the Meditech clinical information system. The functionality enabled scheduling clerks to enter lab orders immediately after creating appointments. Collaborated with other IT staff, including the LIS coordinator and the primary LAB support analyst, as well as the vendor, to ensure the system was configured correctly, thoroughly tested, and functioning as intended. Developed and delivered training for staff and provided post-implementation support to assist with adoption. These efforts improved coordination between departments and increased the efficiency and accuracy of lab order entry.
- **GE Bedside Monitor Interface Project:** Participated in a cross-functional implementation project to integrate GE bedside monitor data into Meditech using HL7 v2 messaging, reducing manual data entry and improving access to real-time vital signs. Supported the configuration of two interfaces: one that sent ADT messages from Meditech to the monitors to maintain an up-to-date patient list, and another that transmitted vital sign data from the monitors back into Meditech every minute. Conducted extensive testing in the CIS test environment, registering patients, simulating monitor connections, and verifying data flow into the Emergency Department Management (EDM) module. Learned to interpret HL7 v2 messages, used the Non-Meditech Interfaces (NMI) module to monitor message traffic, and collaborated with both GE and Meditech to troubleshoot and resolve integration issues. These efforts enabled seamless data exchange between systems and improved the accuracy and timeliness of clinical documentation in the emergency department.

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BUSINESS ANALYST

Horizon Health Network (February 2012 – November 2012)

- Taught new Registered Nurses at the how to use the MOX, PCI, and Nursing modules of Meditech.
- Performed project management and business analysis functions as related to new technology initiatives within the Horizon Learning (HL) department on an ongoing basis.

Key Projects:

- **Learning Management System Design & Implementation:** Led a project to design and implement a new Learning Management System (LMS) to replace fragmented training record systems across four departments, enabling standardized tracking and reporting of both classroom-based and online learning for over 1,300 staff and volunteers. Collaborated with a developer and DBA from IT and led a small internal team to build a SQL Server–based backend with a custom ASP.NET web front end. Conducted stakeholder engagement across multiple facilities to gather requirements, define standardized learning data elements, and support change management during implementation. Designed the system to support compliance reporting for mandatory training across diverse user groups. Managed project timelines, facilitated team coordination, and oversaw user acceptance testing. The LMS launched successfully within eight months.
- **Introduction to Meditech for Managers eLearning Program:** Designed and produced an eLearning program for each area of Horizon which focused on the Payroll/Personnel and ESS modules of Meditech.

TECHNICAL ANALYST

Horizon Health Network (January 2011 – February 2012)

- Gathered data from the Payroll/Personnel module of each of Horizon's four Meditech systems for compilation into organization-wide reports. This required a strong understanding of the Meditech system and expert Microsoft Excel skills.
- Participated in the design of the Library and Employment/Benefits sections of the new corporate intranet.

REGISTERED NURSE

Horizon Health Network (January 2010 – October 2010)

- Provided exceptional nursing care to patients with a variety of medical and surgical diagnoses, many of whom required telemetry cardiac monitoring.
- Collaborated with the interdisciplinary health team to plan, implement, and evaluate patient care in consultation with patients and their families.
- Administered treatments and medications by a variety of routes while demonstrating competence with appropriate technology and equipment.
- Provided thorough documentation on patients' conditions in electronic and handwritten formats according to established policies and protocols.