VP Medicine Portfolio Three-Year Strategy

2016/17 – 2018/19

Version 1.6: March 14, 2019

northern health
the northern way of caring

Table of Contents

Acknowledgements:

Successful implementation requires cooperation and collaboration across various NH portfolios. We would like to thank NH Executive and relevant leaders and staff who were involved in the VP Medicine portfolio work over the past three years - without your tireless efforts and dedication we would not have been able to accomplish our goals and achieve the many successes, including those not represented in this report. We would also like to thank everyone who was involved in the development of this report, including the Administrative and Medical Leads, project and program affiliated team members, Dr. Ronald Chapman and Crystal Rollings.

Executive Summary

In 2016, the Vice President (VP) Medicine portfolio commenced work towards the goals set out in their Three-Year Strategy, which was aimed towards achieving the goals of the Northern Health Strategic Priorities: healthy people in healthy communities, coordinated and accessible care, quality, our people and communications, technology and infrastructure.

Work within the VP Medicine portfolio includes several key program and service areas (Diagnostic Services, Medical Affairs, Pharmacy Services, Physician Quality Improvement, Regional Chronic Diseases). In addition, the VP Medicine portfolio also takes on 'special' projects in collaboration with other key stakeholders and supports a variety of clinical program projects. Examples of this work includes the Northern Health Telehealth Five-Year Plan, supporting physicians in Primary Care Homes to work in partnership with Primary Care Nurses & Inter-Professional Teams, developing a strategy to improve opioid substitution services across the North, and the Health Human Resource Plan for Surgical Services. Team members have been working diligently over the past three years towards developing, implementing and evaluating goals and objectives in each of these areas, making significant strides towards their goals.

This document was developed, in collaboration with key stakeholders, to highlight some of the accomplishments of the VP Medicine portfolio over the past three fiscal years.

Background and Purpose

> "We documented what we wanted to achieve three years ago, and many thought it was too much and that we would not be able to achieve it. However, spreading the work over the three years, with many people working on each area, allocating appropriate resources, and ensuring accountability we have been able to make significant progress on the three-year plan. Kudo's to all who was involved."
>
> ~ Dr. Ronald Chapman, Vice President Medicine

The VP Medicine portfolio is comprised of several programs, teams and working groups, who report to Dr. Chapman[i] - see **Appendix A** for the organizational structure. In 2016, the VP Medicine portfolio began work towards achieving the goals of the Northern Health Strategic Priorities within Northern Health several programs/areas of service: Diagnostic Services, Medical Affairs, Pharmacy Services, Physician Quality Improvement, and Regional Chronic Diseases, in addition to various 'special' and clinical program projects. This report reflects the goals and accomplishments of the second cycle three-year plan for the VP Medicine portfolio, covering the 2016/17 – 2018/19 fiscal years.[ii]

Development of a Three-Year Strategy

Each of the programs, teams and working groups working under the VP Medicine portfolio are responsible for collaborating with key stakeholders to develop and implement strategic priorities and action plans in their area(s) of focus. Key activities for the VP Medicine portfolio for the 2016/17 to 2018/19 fiscal years were planned according to the five components of the Northern Health Strategic Priorities:

[i] Dr. Ronald Chapman was appointed the position of Vice President (VP) Medicine in 2013, bringing to this position his extensive experience in the health and public sectors and a thorough understanding of Northern Health processes, people and populations. He has full registration as a Community Medicine Specialist with the College of Physicians and Surgeons of BC and has completed both the Licentiate of Medical Council of Canada (LMCC) and Royal College of Physician and Surgeons of Canada Fellowship exams.

[ii] The first three-year cycle covered the 2012/13 – 2015/16 fiscal years.

1) **Healthy people in healthy communities.**
   - e.g., develop communication channels and engage physicians.
2) **Coordinated and accessible services.**
   - e.g., develop chronic diseases service flow, reduce wait-times for surgical services and diagnostic procedures and develop chronic disease strategies/business cases/business plans.
3) **Quality.**
   - e.g., develop the infrastructure (i.e., data access and education) to support physician engagement in continuous quality improvement, develop and reinforce forums that celebrate success and support physician recognition and continue to develop and foster co-leadership culture.
4) **Our people.**
   - e.g., implement the 5-Year Physician Recruitment and Retention Strategy to meet the physician human resources plan, facilitate clinical pharmacists training and involvement in prescribing decision-making process and strengthen the physician leadership education programs.
5) **Communications, technology and infrastructure.**
   - e.g., implement a Northern Health physician communication strategy and use technology to deliver a range of clinical and diagnostic services across all levels of care.

A list of the activities can be found in **Appendix B**.

Key Accomplishments

The VP Medicine portfolio was very successful in accomplishing the goals set out in 2016, with the majority of the goals completed or in progress, as shown in **Appendix C**. The following sections highlight some of the key accomplishments for each of the programs and areas of service under the VP Medicine portfolio (i.e., Diagnostic Services, Medical Affairs, Pharmacy Services, Physician Quality Improvement, Regional Chronic Diseases, and other 'special' and clinical program projects).

Diagnostic Services

The VP Medicine three-year strategy was focused on several priority areas for diagnostic services: 1) improved access, 2) Diagnostic Accreditation Program (DAP), 3) Medical Imaging 10-Year Plan, 4) BC Laboratory Agency, 5) optimization and expansion of services and 6) equipment planning. The following sections highlight some of the key accomplishments towards these areas.

Improved access to Magnetic Resonance Imaging (MRI), Computed Tomography (CT) and diagnostic and screening mammography.

Work to-date to improve access to these services across the North has been largely successful with ongoing work to see further improvements. Northern Health is on target to complete 13,500 MRI exams for the 2018/19 fiscal year, a 79% increase in the number of scans completed over the 2017/18 fiscal year. We successfully procured three MRI for the North, one placed in each of the following communities: Ft St John, Terrace and Prince George. CT services are on track to expand in the Northwest (NW), with a new CT scanner opening in Smithers this spring - this new service will deliver approximately 3,000 scans annually. Access to screening mammography services continues with Fast Track patient pathways being developed.

Diagnostic Accreditation Program (DAP) compliance complete for Pulmonary Function at all sites, complete for Neurology at Univeristy Hospital of Northern BC (UHNBC) and on track for all Laboratory and Medical Imaging departments.

Most areas of diagnostics continue to demonstrate progress for improved compliance with DAP standards and strategies are in place to meet new standards in the Laboratory coming into effect February 1st, 2019. The Laboratory Services Quality Team has completed a detailed assessment of the amount of time and effort to achieve 100% DAP compliance with 15 sites to be surveyed in 2019. The Medical Imaging 2016-2019 DAP cycle has seen an overall 48% reduction in outstanding requirement.

A full service delivery review for Fort St John laboratory.

The review of the Laboratory Service at Fort St. John Hospital & Peace Villa was conducted with a focus on balanced services for the patient's health, the patient experience and overall service value. Objective consideration was also given to staffing roles and responsibilities including daily

workload plus any supervisory oversight. Opportunities to improve efficiencies and recommendations where implemented with a few more to be completed in 2019.

Development of lab Key Performance Indicators (KPIs).

A project to develop KPIs was completed yielding a reporting dashboard to monitor test reporting time and a number of service indicators. This reporting dashboard along with a Lab Services Satisfaction Survey, also completed this year, provides our end users with excellent information for delivering services to our patients.

Additional accomplishments of Northern Health Diagnostic Services.

- Upgrade to digital mammography units at Prince Rupert Regional Hospital, Mills Memorial Hospital, Bulkley Valley District Hospital, UHNBC, Dawson Creek District Hospital and G.R. Baker Hospital.
- Creation of a single Integrated Breast Imaging Centre at UHNBC incorporating the provincial screening and an improved diagnostic pathway.
- New digital x-ray rooms at Queen Charlotte Hospital, Kitimat General Hospital, Bulkley Valley District Hospital, Mills Memorial Hospital, and Stewart hospital.
- Expanded scope of service at Fort St. James Hospital with two new resident radiologists.
- New cutting-edge ultrasound liver elastography/fibrosis service at UHNBC and now being rolled out to Mills Memorial, Fort St. John and Prince Rupert Regional hospitals.
- Collaboration with the College of New Caledonia to establish a new Ultrasound Tech training program in Prince George.
- Onsite training of radiologists and US techs at Fort St. John Hospital in neonatal hip US and US guided joint injections.
- Implemented on-site rapid molecular flu testing for inpatients at UHNBC, Mills Memorial Hospital, Fort St. John Hospital, and Prince Rupert Regional Hospital – this new technology greatly decreased turnaround times and improved service by offering testing 7 days a week.
- Actively participate on the Antimicrobial Stewardship (AMS) Committee; collaborating on with Pharmacy services, Infectious Diseases specialists and health care providers to improve lab services in regard to antimicrobial testing and reporting.

- Released improved antibiogram - better formatting, accessibility, higher profile to providers and lab staff as compared to pre-2016.
- Implemented new gram-negative antimicrobial susceptibility testing panels regionally, expanding third generation cephalosporin testing, improved ESBL and CPO screening.
- Provided support for the implementation of MALDI-TOF technology at UHNBC, which allows high-quality rapid bacterial ID.
- Helped to facilitate a region-wide equipment refresh of all microbiology labs in Northern Health, ensuring all major micro equipment will be replaced at all sites in the next 5 years; maintaining capacity in the Northern labs.
- Helped to facilitate automatic reporting of communicable diseases to regional Public Health.
- Facilitated collaboration between a number of laboratories and reduced red cells redistribution rates up to 55%.
- Launched the Glucose Meter Learning Module on the Learning Hub.
- Introduced a new cardiac instrument at smaller rural centers which will improve patient care with more accurate and precise cardiac markers results.
- Created and distributed customer surveys across Northern Health to gain feedback from our patients and health care providers on how labs could improve service. This information will be useful in future quality improvement projects.
- Implemented internal audits with a pre-determined set of quality indicators in conjunction with the Provincial Laboratory & Pathology Agency that are reportable to the BC Ministry of Health and the public.
- Implemented a test comparability program across all labs in Northern Health that compares sets of results from over 100 tests 2-3 times per year to ensure that results are reported within established parameters from all sites and all instruments reporting a specific test.
- The following projects are nearing completion: new regional picture archiving and communication system (PACS) install and the development of a local prostate biopsy service at Mills Memorial Hospital.

> "Implementing the latest technology across the north has provided the tools required to deliver Diagnostic Services. It is the dedicated staff and physicians that transforms that technology into meaningful and effective care"
>
> ~ Ken Winnig, Regional Director, Diagnostic Services

Medical Affairs

The Medical Affairs portfolio is concerned with ensuring a medical staff have a positive experience and solid working relationship with Northern Health. The Medical Affairs portfolio includes work related to medical staff recruitment, onboarding and orientation, credentialing and privileging, compensation, supporting medical leadership and communications.

Improvements to reporting and billing processes.

During the past 3 years, Medical Affairs has worked closely with IT to design and implement several software solutions to support improvements in reporting and billing processes. Improvements to the eSuite of modules (eContracts, eRP, eSessions) has enabled the team to record, track and report on key operational activities, giving medical leaders ready access to key data and information for current operations. Medical Affairs has also integrated this data into decision making processes and improved the turn-around and currency of reports being prepared for senior leaders and the Board.

Northern Health Medical Affairs has partnered with Island Health to migrate the Northern Health made eContracts system onto a newer platform and combine efforts to further enhance the software. The end result will be the same software operating in both health authorities improving contract management functions.

Implementation of the Blended Billing guide is well underway, meeting the reporting guidelines from the BC Ministry of Health and promoting optimal utilization of sessional funds. Northern Health staff have helped pioneer this implementation and have developed resources that are being adopted provincially.

Bringing nurse practitioners under the Medical Affairs portfolio and expanding the focus of work from physicians to "medical staff".

Nurse Practitioner recruitment has transitioned over from Northern Health Human Resources to Medical Affairs commensurate with Nurse Practitioners becoming members of the Medical Staff.

The process of adding Nurse Practitioners includes consultative and administrative steps such as updating the Medical Staff Bylaws and Rules through Northern Health Medical Advisory Council (NHMAC), the Northern Health Board and the Minister of Health and business process work transitioning roles and functions to medical affairs staff. The next phase of this work includes a rebranding effort and further integration with Medical and Operational Leadership.

Development of a physician communication plan.

Northern Health is committed to fostering collaborative and effective relationships with physicians in order to support the delivery of high-quality care to northerners. As part of the broader organizational context, we needed to foster communication with physicians to address the urgent, emergent and strategic sharing of information. Bringing intention to how we communicate with physicians helps to facilitate greater physician engagement and fosters relationship building.

It is important to understand that physicians are inundated with information. Although it is critical that we relay important information, we can use effective tactics to streamline information and reduce “noise.” We can build effective communication channels if we are listening to the needs of our physicians, engaging them in the process and responding to their feedback.

In order to achieve these goals, Northern Health Medical Affairs worked with physicians to identify priorities and principal channels for communicating with physicians. Northern Health continues to work on developing unique approaches for sharing information and improving existing channels to ensure that messages match the most appropriate communication channel.

Organizing and commencing work towards developing a simplified, streamlined medical staff onboarding process.

Working and hearing from physicians, Medical Affairs has learned that there was opportunity for significant improvement during the onboarding process. Our goal is to ensure that all medical staff have a welcoming and efficient experience coming into Northern Health facilities and programs and are set up for success in their clinical work as part of the team. Using a customer service approach, the project team is working to:

- Design and implement an effective and efficient process that meets all requirements but also identifies and provides for the needs of the individual.

- Create and implement a system(s) to maintain accurate physician information (i.e., source of truth) to enable:
    - Reduced requests for information from the provider,
    - Correct access to Northern Health and provincial Clinical Information Systems (facility/community and specialty specific access), and
    - Correct distribution of electronic results.

The Medical Staff Onboarding project is in the early stages and has been successful in gaining organizational support across all of the departments involved in the onboarding process and provincial funding to support physician leadership and engagement.

Increased medical staffing for Indigenous communities.

Northern Health has partnered with First Nations Health Authority (FNHA), Carrier Sekani Family Services (CSFS), community leaders, partners, the BC Ministry of Health and others to create unique opportunities for physician services in Indigenous communities. This includes the creation of several alternate payment program (APP) positions with priority focus on primary care in indigenous communities including a commitment to culture safety and humility. For example:

- In partnership with CSFS, 2 new physician positions
- In partnership with Fort St. James Primary Care Society, the Tl'azt'en Nation and Nak'azdle Whut'en Nation, 2 new physician positions.

Support of physician services in various communities.

In Terrace we have moved from a community in crisis due to a lack of primary care physicians, where they had a reduction from 22 to 8 Family Practitioners over a period of a year and the remaining physicians were unable to fill the Emergency Room (ER) shifts. Medical Affairs negotiated Physician Alternative Payments Program (APP) contracts from the BC Ministry of Health to cover ER services and we successfully negotiated with the help of the Health Employees Association of BC with the physicians and 25 physicians signed and participating in covering ER shifts. Medical Affairs worked collaboratively with the three newly established primary clinics and successfully recruited 10 additional primary care physicians by the end of Feb 2019. Other accomplishments include:

- In Fort St. John, successful recruitment of a Paediatrician, Gynaecologist, 2 Surgeons, 2 Radiologists and 2 Internists.
- Worked on a sustainability plan for Internal Medicine across the NE and submitted an APP application for the BC Ministry of Health's consideration.
- Submitted a detailed application of APP funding for 2 additional Intensivists at UHNBC (Prince George).

Increased physician supply to the North.

As a result of the various Medical Affairs projects, we have seen an increase in the supply and stability of primary care physicians (GPs) and an increase in the number of Specialists in the North, see **Table 1**. Since 2016, when the Medical Affairs portfolio commenced their work, there has been a 64.3% decrease in GP postings and 10% decrease for Specialist postings and a 16.7% increase in GPs in practice and a 6.0% increase in Specialists in practice.

Table 1. Summary of Physician Postings and Current FTE's in Practice January 1 to October 31, 2018.

Northern Health Medical Staff Human Resources as of December 31, 2018
Reporting for January 01, 2018 to December 31, 2018

NP = Nurse Practitioner; SP = Specialist Physician
GP = General/Family Physician and GPs with sub-specialities (GPA, GPO, GP ER);

	Current In Practice (FTE)			Current Postings (FTE)			Arrivals	Departures
Northeast HSDA	**NP**	**GP**	**SP**	**NP**	**GP**	**SP**	**ALL**	**ALL**
Chetwynd	1	5	N/A	0	1	N/A	1	0
Dawson Creek	0	17	12	1	1	3	0	0
Fort Nelson	0	5	N/A	0	0	N/A	1	0
Fort St. John	1	28	13	1	4	0	5	5
Hudson's Hope	0	1	N/A	0	0	N/A	0	0
Taylor	0	0	N/A	0	0	N/A	0	0
Tumbler Ridge	0	2	N/A	0	0	N/A	1	1
Total NE HSDA	**2**	**58**	**25**	**2**	**6**	**3**	**8**	**6**
Northwest HSDA	**NP**	**GP**	**SP**	**NP**	**GP**	**SP**	**ALL**	**ALL**
Atlin	0	0	N/A	0	0	N/A	0	0
Dease Lake	0	2	N/A	0	0	N/A	0	0
Hazelton	1	7.5	N/A	1	0	N/A	5	4
Houston	1	2.2	N/A	0	0	N/A	0	0
Kitimat	0	8	2	0	0	0	0	0
Masset	0.8	4	N/A	0	0	N/A	0	1
Prince Rupert	1	16.5	6	0	1	0	1	0
Queen Charlotte City	0	4	N/A	0	0	N/A	2	0
Smithers	1	16.95	1.95	0	0	2	3.6	0
Stewart	0	1	N/A	0	0	N/A	0	0
Terrace	1	22	13.85	0	5	8	7	2
Total NW HSDA	**5.8**	**84.15**	**23.8**	**1**	**6**	**10**	**18.6**	**7**
Northern Interior HSDA	**NP**	**GP**	**SP**	**NP**	**GP**	**SP**	**ALL**	**ALL**
Burns Lake	1	4.5	N/A	0	1	N/A	1	2.75
Fort St. James	1	8	N/A	1	0	N/A	4	0
Fraser Lake	1	3.6	N/A	0	0	N/A	2.9	2
Granisle	0	N/A	N/A	0	N/A	N/A	0	0
Mackenzie	1	5	N/A	0	0	N/A	0	0
McBride	0	2.4	N/A	0	0	N/A	0	1
Prince George	9	97.4	96.55	1	2	22	22.85	10.9
Quesnel	1.2	22.15	6	2.28	3	1	4	4
Valemount	0	3.5	N/A	0	0	N/A	0	0
Vanderhoof	0	11.25	N/A	0	2	N/A	1	1
Total NI HSDA	**14.2**	**157.8**	**102.55**	**4.28**	**8**	**23**	**35.75**	**21.65**
TOTAL NH	**22**	**299.95**	**151.35**	**7.28**	**20**	**36**	**62.35**	**34.65**

"It has been a pleasure joining the Medical Affairs team and VP Medicine portfolio. The work of the team puts the people, processes, systems and supports in place to ensure sustainable quality services are available in each of the communities we serve. As a team, we are looking forward to supporting medical staff and medical leadership in addressing the specific needs of their communities, implementing additional resources to support the clinical work of the medical staff and working with our community partners to plan and prepare for the next 5 years of retention and recruitment activities."

~ Gregory Marr, Regional Director, Medical Affairs

Pharmacy Services

Pharmacy Services provides leadership for medication management in Northern Health. Pharmacy departments staffed with Pharmacists, Pharmacy Technicians and Pharmacy Assistants are located in 9 facilities: Prince Rupert, Kitimat, Terrace, Vanderhoof, Smithers, Quesnel, Prince George (UHNBC), Dawson Creek and Fort St John, with additional services provided by Technicians in Fort Nelson, Burns Lake, Queen Charlotte City and Hazelton. Pharmacy Technicians and Assistants provide the majority of medication distribution services, both patient-specific and as general ward stock supplies, ensuring medications are provided to all acute care clinical areas, as well as Northern Health-run primary care clinics and long-term care beds under the hospital act. Pharmacy Services also provides compounding of sterile IV preparations and medication orders for inpatients and outpatients, including chemotherapy. Clinical services are provided to patients by our Clinical Pharmacists, optimizing medication therapy and providing education to patients and their health care team regarding medications.

Developing a Northern Health Medication Safety and Quality Strategic Action Plan (MSQSAP) report.

Over the last few years, Northern Health has been exploring and implementing strategies to ensure the provision of quality medication services across the entire continuum of care and improve the experiences and outcomes of people who use medications. This led to the development of a multi-year Northern Health MSQSAP intended to summarize these strategies and provide insight into progress made.

The MSQSAP has several goals, developed in collaboration with key stakeholders, organized under the following areas of focus: 1) ensure medication reconciliation at all transitions in care, 2)

ensure optimal medication prescribed, 3) improve antimicrobial stewardship, 4) ensure medications are accurately and appropriately dispensed, 5) increase standardization to reduce arbitrary variation, 6) minimize inventory costs and 7) ensure medications are accurately and appropriately administered. The MSQSAP document will available in the Spring of 2019. The following sections highlight some of the important work that has been done towards accomplishing the goals in the MSQSAP.

Ensure medication reconciliation at all transitions in care.

Best possible medication history (BPMH) and medication reconciliation had not yet been incorporated into the usual clinical workflow for admission, transfer and discharge. Quality assurance and evaluation through health records tracking had identified pockets of high-quality medication reconciliation for admission but demonstrated most sites across northern BC needed further support. A region-wide project has been under way since June 2017 to support these improvements, with expected completion in early fall of 2019. Progress to-date includes development of communication tools and education modules, revision to the tools for BPMH and reconciliations, development of a patient information website (Know Your Medications) and implementation of new processes in eight sites.

Since Pharmacists started tracking their clinical interventions in July 2018, they have completed over 1400 medication reconciliations and have resolved over 800 drug therapy problems attributed to inaccurate or incomplete medication reconciliation. Many of the identified problems were relatively complex, supporting the need for pharmacist clinical services to support medication reconciliation beyond the basics.

Ensure optimal medication prescribed.

Past assessments have demonstrated that there is room for improvement in adherence to the Safe Medication Order Writing policy in Northern Health. Unclear orders are estimated to be responsible for at least 10-15% of medication related errors. We have taken several key steps to ensure optimal medication is prescribed.

Since March 2018, Pharmacy Techs and Pharmacists have been assessing every order received for adherence (i.e., illegible order, unapproved abbreviation, missing or unclear dose, missing or unclear frequency, missing date or time, unable to identify prescriber, missing route of administration, missing prn reason, other) and noting this in a custom-built Cerner field. Early

reporting revealed that there is a wide range of adherence when all the elements of a safe and effective order are included. The most frequent reasons for non-adherence are the inability to identify the prescriber (16% of orders), lack of date and time (12% of orders) and missing reason for as needed medications (10% of orders). On a positive note, only 2.5% of orders, on average, were linked to use of unapproved and unsafe abbreviations. The reporting is currently under revision in collaboration with the Medical Directors & Pharmacy team and are anticipated to continue by late spring.

Pharmacists have been collecting Key Pharmacist Interventions and Drug Therapy Problems (DTPs) in a custom-designed app since July 2018. In a 6-month time frame including 14,000 admissions, pharmacists reported approximately 4100 DTPs. Assigned categories of problems revealed 1742 interventions due to unsafe or unnecessary drugs, 988 ineffective drugs. Approximately 20% of DTPs were attributed to inaccurate or incomplete medication reconciliation and 36% of DTPs were related to Antimicrobial Stewardship (AMS). Overall, Pharmacists resolved 1 DTP for every 3 patients admitted. Clinical training for Pharmacists in Northern Health without pharmacy residencies has been implemented regionally and has led to steady increases in clinical skills, ensuring that pharmacists are able to better support prescribers in managing medication therapy.

Medication order sets help support best practice but require substantial investment for development and review. A major initiative in 2018 has been to eliminate out of date order sets. Our order set pool has moved from less than 40% current to over 81% current over the last 2 years. The remaining 19% are being actively reviewed and the goal is to reach target of 100% this year. A SharePoint site on ourNH was built to support easier access to existing order sets and allow easy searching by name or therapeutics, cross referenced to formulary agents and printing directly from this site. By increasing the ease of electronic just-in-time access, printing of multiple copies or storing photocopies will be reduced and version integrity will be improved.

Improve antimicrobial stewardship (AMS).

An interdisciplinary committee provides oversight to AMS matters in the health authority and services are coordinated through the AMS Pharmacist Coordinator and the Medical Co-Lead. Northern Health has implemented a number of strategies to improve antimicrobial management including prospective audit and feedback by pharmacists, clinical tools development such as empiric dosing cards, education modules online and in person, development of order sets and

clinical practice standards in areas of infectious disease. Evaluation metrics are also being tracked, following standards from programs in other health authorities.

Ensure medications are accurately and appropriately dispensed.

Ensuring that the preparation of intravenous products in pharmacy meet compliance to new standards for sterile compounding is a challenging facing all pharmacies in BC, including those in Northern Health. The pharmacy management team is leading the work needed to ensure compliance by the (College of Pharmacists of BC 2021 deadline). Implementation of the new standards is particularly challenging due to the need for major capital investments and the high requirements for quality assurance testing that is not yet readily accessible in BC.

In early 2016, leaders from Pharmacy, IT, Nursing and Quality Improvement came together to discuss the future of medication technology in Northern Health. Northern Health has been investing in automated medication dispensing cabinets for over a decade and has developed a regional comprehensive approach to guide implementations. Automated medication dispensing units provide advantages in inventory management and safety for medication administration.

Minimize inventory costs.

As medications become more and more expensive, particularly for cancer patients, increased attention to inventory processes are required in order to reduce the risk of expiries. A region-wide inventory management project is underway which will ensure robust processes are implemented to better manage costs. Drug shortages have risen by 30% over 2018 (to over 700 active drugs on back order) with an increased number of clinically important medications being involved. Despite the high numbers, the pharmacy team has devoted many hours to managing the shortages and have successfully minimized the impact on patient care.

Best practices for inventory management utilizing data related to frequency of use, safety stock considerations from WHO practices, delivery lag times and prioritizing based on highest expenses have been established. Following these processes, we have achieved a 12% reduction in inventory value on hand, despite an increase of 25% of expenditures, largely related to oncology drugs. We have also seen a reduction in expired drugs in proportion to the total expenditures. Inventory improvement work will continue over the coming years as it is necessary to continually monitor for improved performance.

Ensure medications are accurately and appropriately administered.

A clinical practice standard outlining Safe Medication Administration practices has been available for several years, however, gaps exist in current and best practice, thus requiring ongoing monitoring and education support. Focused attention has been around high-risk medications and narcotic handling. Infusion pumps with master drug libraries are considered best practice and Northern Health has implemented these pumps in the majority of care areas and has completed the conversion of all sites to a regional standard pump. Compliance to use of the master drug library (safest) is monitored and reported to nursing leadership. Currently all areas are meeting targets. Drug information resource supports are provided by Northern Health Pharmacy through the Parenteral Drug Manual and the Neonatal Parenteral Manual (completed in 2017). In addition, a formulary management site and order set management site have been launched on ourNH.

> "The Medication System is very complex, and that complexity is increasing every year. Everyone has been dedicated over the past few years to achieving system improvements as well as providing excellence in direct patient care. While there is lots of work still to do, we should all be very proud of the progress that has been made."
>
> ~ Dana Cole, Regional Director, Pharmacy Services

Physician Quality Improvement (PQI)

PQI was established to ensure a collaborative, team-based approach to quality improvement and guided by the Northern Health Strategic Plan and Quality Framework, ensuring internal and external advocates for our facility, specialist and primary care physicians. The goals of the PQI portfolio are to:

1. Collaborate with internal Northern Health stakeholders to reach our Northern Health quality improvement goals;
2. Work closely with our external partners to ensure a cohesive approach to quality improvement in our region; and
3. Support our physicians, both locally and regionally, to work with their teams to make the improvements that they want to see in the health care system and co-lead our organization.

Completion and final report for the sustainable primary care project in Burns Lake.

The Burns Lake Community sustainable primary care project was a three-year project completed in December 2018. The intended purpose of the project was to create a sustainable healthcare environment in the Lakes District that could support the attraction, recruitment and retention of healthcare providers. Thanks to the medical leadership and project team, as well as local physicians and care providers, we were able to achieve many of the goals identified in the project charter. Some of the highlights include:

- The development and expansion of the Lakes District Primary Care Clinic - recruiting 4 new physicians and retaining 3 to-date.
- Focusing on bringing Continuing Medical Education (CME) to the community and developing a structure for learning opportunities.
- Facilitating the adoption of an Electronic Medical Record (MOIS) at the Burns Lake Medical Clinic.
- Developing structures and team functions for new medical staff (i.e., Medical Advisory Committee and Clinic Oversight Committee).
- Conducting a community survey and workshop to get the community's feedback and input into community health service planning for the area.

Another significant success stemming from this project is the improved relationships that are developing between Northern Health and the physicians at the Burns Lake Medical Clinic, as well as amongst the physician group. The ability to work in collaboration with this group will be imperative to sustaining the successes that have been achieved throughout this project.

Ongoing work with internal and external partners to facilitate and support quality improvement, including workshops and an updated introductory course.

In 2016, we worked with the Specialist Services Committee, Doctors of BC, BC Ministry of Health, Divisions of Family Practice and various Northern Health programs to co-develop a proposal with physicians from across the region. The proposal was approved in September 2016, introducing 1.3 million dollars per year into Northern Health to develop infrastructure for quality improvements and build physician capacity. By January 2017, we had a full complement of 7 new staff, who then developed processes for physicians to access data, education, seed grant funding, at-the-elbow training of quality improvement methods, physician mentorship and

reimbursement for physician time. The PQI Program has an oversight committee consisting of patients, physicians, health authority and Doctors of BC representatives.

Since 2017, the Physician Quality Improvement (PQI) initiative has built sustainable relationships and collaborations to achieve ongoing success. With additional successes including, but not limited to, the delivery of 14 Quality Improvement workshops to 156 participants (including 113 physicians), supporting 11 physicians through intermediate or advanced level training and building a strong connection with the Patient Voices Network to ensure every quality improvement initiative has a person- and family- centered lens. In addition, the new PQI coaches and staff have assisted physicians with 16 QI projects, 13 data requests and 44 other quality improvement related supports, and incorporated quality improvement education into existing medical conferences and training within Northern Health co-leadership education events.

PQI has worked closely with Northern Health Communication and the Specialist Services Committee to catalogue quality improvement projects online, using a Google Map and The Exchange. They have also supported several physicians to showcase their successful work at conferences, like the BC Patient Safety Quality Council Quality Forum and the Northern Health Quality and Research Conference. The team continues to work closely with Northern Health to ensure alignment and consistent communications across portfolios. Most recently, the PQI program co-developed and hosted the “Collective Picture of Quality in Health Care” event.

Ongoing improvements to and support for the Continuing Medical Education (CME) program

With the announcement of the Joint Standing Committee on Rural Issues RCME review, the NHMAC and the Medical Director team assumed the oversight of both the RCME funds and oversight to Northern Health staff, moving them into the newly formed Physician Quality team. Northern Health worked with the Rural Coordination Centre of BC (RCCbc) to facilitate an event on May 11th, 2017 to discuss the future of community education in the North (i.e., overarching principles, learning goals and what community funds would be appropriate to support administration of physician education). NHMAC then developed a series of recommendations based on the information from the event.

We acted on the NHMAC recommendations and shifted to be a more regional service, giving special attention to rural outreach and supporting the communities to activate their community

CME funds. Using this proactive approach, the CME physician lead and staff helped communities develop community education plans; in turn, helping communities spend their community education funds, access the regional event funds and connect with one another across the region.

The CME support activity has increased substantially since the shift, as shown in **Table 3**. In response to this change in approach, formal letters of support and acknowledgement for the resource have also come forward from physicians across the region. The Joint Standing Committee on Rural Issues has also acknowledged this success and asked for advice as they restructure the RCME across the province.

Table 3. CME support activity, 2015 to 2018.

	2015	2016	2017	2018
Accreditation Applications	3	4	16	20
Accredited Rounds series, M&M Rounds and Journal Clubs	-	-	37	107
Regional conferences (RC) and community level events (CL)	2 (RC)	2 (RC)	3 (RC) 7 (CL)	4 (RC) 32 (CL)

Completed the 2016 & 2018 evaluation on physician engagement as agreed to in the Regional & Local MOU 2014.

In 2016, Northern Health completed an internal evaluation to review Northern Health's progress on meeting the three required actions of Health Authorities as outlined in the 2014 Memorandum of Understanding (MOU) on Regional and Local Engagement. In brief, findings of the 2016 evaluation interviews suggested Northern Health was working collaboratively with physicians to implement the Memorandum as a priority within their respective jurisdictions, positive efforts were noted and experienced by both Northern Health physicians and Northern Health operational leaders and the review highlighted that the vision and structures for effective engagement take time and are well supported with FE efforts to date.

In 2018, we repeated the MOU interviews with stakeholders and the responses were summarized in to a report. This report provides a thorough understanding of physician engagement and MOU actions from a wide variety of perspectives and will be useful to Northern Health in determining next steps towards improving physician engagement with Northern Health facilities all across the North. This review finds physician engagement efforts and work towards the MOU actions is

progressing positively and that sites newest to engagement have hope to see improvements with time. Participants in both the 2016 and 2018 reports expressed a general sincerity to engage openly with physicians by administration and acknowledgement that the quality of interactions is improving.

Building physician leadership capabilities and facilitating a culture of co-leadership

Northern Health is dedicated to developing physician leaders toward our vision co-leadership model. Over the past three years, we have nominated and helped to send 30 physicians to UBC Sauder Business School. We have worked with the Joint Collaborative Committees to facilitate nearly 100 Leadership Scholarship applications, sending physicians to the Canadian Physician Leadership conference, JOULE workshops, Institute for Health Care Improvement events and several other leadership opportunities. Similarly, we have co-created and facilitated several in-house leadership training opportunities, where physicians can work with their co-leads. In-house courses have included, Workplace Conduct, Patient Compliments and Complaints, Budgets and Finance, Patient Safety Events, Quality Improvement, Care in the Right Place and Clinical Handover. Most recently, we have trialed compact development between Executive and Medical Co-Leads to help them create joint goals and action plans.

> "I feel that the environment that we see in 2019 is such a different environment than when we drafted this 3 Year Work Plan. The level of physician engagement and collaboration across the local, HSDA [health service delivery area] and regional initiatives is really exciting and has shifted the way that we do business at Northern Health. I feel that the work that we do every day in partnership with our local and provincial partners has had an impact on that new environment - it is very rewarding. We have lots of work to do still, but the sustainable relationships that we have nurtured over the past 3 years will support our continued learning and our vision of co-leadership."
>
> ~ Candice Manahan, Executive Lead, Physician Quality Improvement

Regional Chronic Diseases (RCD) Program

The RCD program was developed in late 2013 to address the unique needs and challenges of the North, empower people and communities and improve the health and well-being of all Northerners. The RCD program supports the planning and delivery of specialized services, from pre-treatment through post-treatment care, for those living with chronic disease(s), including: cancer, kidney disease, heart disease, stroke, HIV, hepatitis C, diabetes, COPD, arthritis and chronic pain. Co-leadership model includes Medical Leads for Cancer Care, Cardiac Care, HIV/Hep C Care, Kidney Care, Chronic Pain Care and Colonoscopy.

Through collaboration with key stakeholders and integrated, 'closer to home' health services and interventions, across the life course, where people live, learn, work and play, the RCD team promotes wellbeing, prevents the development of chronic diseases, supports chronic disease management, improves quality of care and improves outcomes (e.g., morbidity and mortality) for those living with chronic diseases. The team supports a palliative approach across the health service delivery continuum from the acute treatment phase through to ongoing follow-up/surveillance (see **Figure 1**).

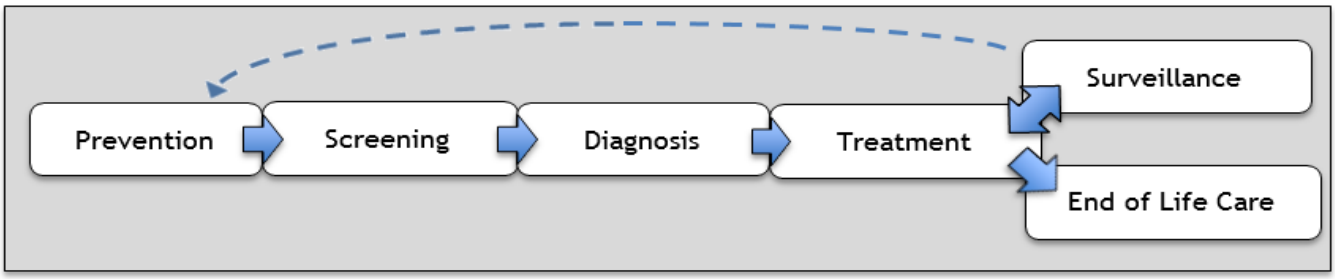


Figure 1. The Northern Health continuum of care.

Implementation of the Northern Health Colonoscopy Pathway.

The Northern Health Colonoscopy Pathway refers to the design of an effective, sustainable, patient-centered colorectal cancer screening and diagnostic services model. The work is focused on collaborating with providers to improve the current colonoscopy delivery system inclusive of colorectal cancer screening and diagnostic/interventional services and improve reporting on performance to the public, providers, BC Cancer Agency and the BC Ministry of Health.

Due to the hard work and dedication of providers across the North, implementation is underway. A *Colorectal Screening & Surveillance Guideline*, an *EGD & Colonoscopy Referral Form*, a *GI Endoscopy Booking Form* and a *Recall/Follow-Up Guideline* have been developed and implemented. The booking form is facilitating the collection and reporting of colonoscopy data that is now being submitted to the BC Ministry of Health. Development of the Colonoscopy Reporting Form is complete and ready for implementation.

Development of a Cardiac Strategy and Business Case.

The Northern Health Cardiac Strategy was completed in 2017. It guides the development and implementation of a cardiac services program across the continuum of cardiac care in Northern Health. The three central goals of the Northern Health Cardiac Strategy are:

1. Improving our services by building and improving programmatic infrastructure and ensuring appropriate professional and technical capabilities are in place and accessible ‘as close to home’ as possible.
2. Improving collaborative efforts with primary and community care, Indigenous peoples and other chronic diseases programs.
3. Establishing a regional approach to cardiac care, which includes developing a regional network of cardiac services and improving regional tertiary services.

A business case for improving regional tertiary services was completed in 2018. The business case provides the background and context for a Regional Cardiac Centre that would provide regional tertiary cardiac services including an invasive cardiology program, general cardiac services and cardiac education and research closer to home, resulting in more timely care, improved health outcomes and overall lower costs to the health care system.

Established a sustainable evaluation plan for our community based response to HIV and hepatitis C.

The RCD program holds 11 contracts with community-based not-for-profit organizations to deliver HIV and hepatitis C services. An approach to evaluating this community-based response has been developed that will allow for effective, collaborative and sustainable evaluation on a routine or as-needed basis. This work strengthens the community-based response (prevention, harm reduction, low threshold testing, linkage to care and peer support) to HIV and hepatitis C.

Development and implementation of the Northern Cancer Strategy.

The 2016 Northern Cancer Strategy is a joint undertaking of Northern Health and BC Cancer. The Northern Cancer Strategy provides strategic direction (i.e., goals, actions and measures) to major components of the health service delivery system to make improvements across the entire cancer care journey (i.e., prevention, diagnosis, treatment, survivorship and end-of-life care), including the transitions between each stage. Success of the Northern Cancer Strategy will be achieved through a combination of priority actions specific to each goal Some highlights of the work towards the Northern Cancer Strategy include:

- CMOIS for Cancer Surveillance and Survivorship – working group struck with strong physician representation, template created for a synoptic handover process and hazard lists developed for breast cancer and colorectal cancer.
- Northwest Breast Diagnostic Program – stakeholder group involved in development, program endorsed, diagnostic pathway for NW Breast Diagnostic Program mapped, pilot project completed and ongoing evaluation and quality improvement.
- Completion of a Telehealth Directory.
- Falls Prevention and MedRec implemented in Community Oncology Network (CON) Clinics.
- Psychosocial support for CON patients established.
- Charts standardized across all CON Clinics.
- Process models for chemo nursing and CON Clinic processes completed.
- Internal oncology page completed for CON staff to have a central repository for pertinent information.

Ongoing improvements to the supports for those living with chronic pain.

The RCD program has continued to support the quality improvement work at the UHNBC Pain Clinic (Prince George) and has also been collaborating with Pharmacy Services and physicians on the development of best practices for parenteral lidocaine in Northern Health. The group has completed a first draft of an order set and patient handout based on best practice and order sets currently in use elsewhere.

Medical Leads, Dr. Devan Reddy and Dr. Colin Phillips, have been appointed for Chronic Pain and we have secured funding to enhance education for primary care providers, interprofessional teams and allied health care providers in the context of chronic pain and substance use disorders. Work is currently underway to establish an education plan that meets the needs of providers across the region.

Completion of the RCD program review.

The purpose of the RCD Program review was to identify the immediate next steps in terms of restructuring the program in order to best support the development and strengthening of UHNBC's regional role as well as the optimization of services that serve the region. The review was completed in 2017 and implemented in 2018. It involved the transition of all RCD's operational components to a new leadership structure at UHNBC.

Implemented Community Consultations Across Northern Health.

Northern Health's community consultations engage citizens in Northern BC in conversations about health to inform the Board and Executive's planning and decision-making processes. The Northern Health Board chose heart health as the topic 2018's community consultation. The Heart Health Community Consultations took place between September 17 and Dec 12, 2018. Seventeen communities across Northern Health, including small, medium and large centers, hosted public meetings and focus groups in order to record and report back on participants' health concerns, hopes and ideas.

> "I am very proud of the way the Regional Chronic Diseases program engages and collaborates with a broad range of stakeholders. In the fall of 2018, for example, the program led a community consultation process on the topic of heart health and engaged with the public, Indigenous Peoples, patients and families, health care providers and leaders and other stakeholders. This is just one example of how we make partnerships and collaboration a top priority and a guiding principle in the work we do."
>
> ~ Jessica Place, Executive Lead, Regional Chronic Diseases

‘Special’ Projects and Clinical Program Projects

This section outlines the ‘special’ projects (i.e., those done in collaboration with other key individuals and groups, such as Northern Health Information Technology Services, Northern Health Users, Divisions of Family Practice and Physicians) and clinical projects (i.e., work where VP Medicine Portfolio played a supportive role to other Lead Executive Portfolios).

5-year Telehealth Strategy.

(Collaborative project initially led by the Telehealth Steering Committee and chaired by VP Medicine and now led by Information Technology Services)

In early 2016, Dr. Chapman commissioned the development of a telehealth environmental scan to outline what is happening in telehealth both within and beyond Northern Health. This was followed by a Telehealth 5-Year Plan Workshop to bring individuals from diverse backgrounds together to understand the current state of telehealth and identify how to build on the current state and create a future state. The information and discussions from this workshop were then used to help guide the development of the Northern Health Telehealth Five-Year Plan.

The Northern Telehealth Steering Committee, established in September 2016, developed the Telehealth Five-year Plan through an iterative, year-long process that included over 70 experienced clinical users, operational and strategic leaders, provincial experts, patients and researchers. Additional input was provided by Northern Health Executive, Divisions of Family Practice and Medical Advisory Committees across the North.

The Northern Health Telehealth Five-Year Plan is built on a foundation of past and current investments and expertise in administrative and educational uses of telehealth as well as a growing range of clinical applications that make it possible to have clinical interactions across great distances. Some examples include kidney care, Emergency Room physician expertise and pediatric epilepsy care, all delivered through videoconferencing and sometimes including an interdisciplinary team.

The Northern Health Telehealth Five-Year Plan was approved, in principal, in October 2017. Since then, work towards the Telehealth Five-Year Plan has included an assessment of technologies by clinicians, presentation of the Joint Standing Committee Funding Proposal and development and approval of the Telehealth Governance Model, with the first meeting of the

Telehealth Advisory Committee occurring in May 2018. In 2018, Northern Health Information Technology Services took over the lead on the Northern Health Telehealth Five-Year Plan, with work over the last year directed towards ensuring operational readiness, technology infrastructure, tool optimization and expansion into priority communities.

Support physicians in Primary Care Homes to work in partnership with Primary Care Nurses & Inter-Professional Teams.

(Project led by VP Primary Care and Clinical Programs, Medical and Executive Lead Primary Care)

Primary care providers continue to work with primary care interprofessional teams to focus on the development of processes of team-based care to support the delivery of integrated primary and community care services. The processes of care include how they work together as a team to case find, care plan, coordinate care and communicate. This work continues to evolve on a community by community basis.

Northern Health in partnership with Divisions of Family Practice, First Nations Health Authority, physicians, nurse practitioners and midwives are developing primary care homes and/or primary care networks. Through this partnership, seven primary care networks are in develop to provide a foundational and consistent set of high-quality services, closer to home. Through this process, the partners are working to improve patient access and attachment to primary care and specialized community services through a collaborative service plan designed to serve a defined geographical area.

Physicians and Nurse Practitioners across the region continue to focus on quality improvement in primary care, supported through the Practice Support Program and by the team of Practice Support Coaches across the North. Areas of focus include optimizing their Electronic Medical Records to better understand their patient panels and implement processes to ensure their panels reflect and sustain accurate data for better patient care. In this panel management process:

- 212 physicians have completed the PMH Assessment, which supports physicians in identifying priority areas of quality improvement for their practices in their journey towards the patient medical home.

- 99 Physicians have engaged coach support in their commitment to complete the three phases of panel management.

Develop a health human resource plan for surgical services.

(The Medical Manpower Resources plan is led by Medical Affairs and the non-medical manpower needs work led by Northern Health Human Resources, HSDA Operations and training work led by the VP Planning, Quality and Information Management portfolio)

The Northern Health physician manpower plan includes the physician HR resources for surgical services. Northern Health has developed a 5-year education forecasting model for all nursing speciality areas. It is projected in the 5-year period (2019 - 2023) an additional 156 perioperative trained nurses will be required. As well, an additional 24 Post Anesthesia Care Unit (PACU) nurses will also be required to meet the forecasted demand. In 2018, the regional education department worked with three surgical sites to implement the American Operating Room Nurses (AORN) perioperative nurses training program. This program combines a standardized, evidence-based online curriculum and textbook readings with hands-on skills labs and a clinical practicum. The implementation of the AORN education program allows the sites to train perioperative nurses when they have identified a need and have the capacity to train nurses. The implementation of the AORN curriculum will be implemented in a phased in approach to regional surgical sites in 2019/2020.

Reduce wait-times for surgical services.

(Project led by HSDA Operations, Medical and Executive Lead Surgical Services)

As with Diagnostic Services, the VP Medicine portfolio was also tasked with improving access to and reducing wait-times for surgical services. Over the past three fiscal years (2013/14 to 2017/18), the total number of scheduled surgeries completed in Northern Health increased by 2%. The development of strategic plans to address long waiting surgical procedures was undertaken at all surgical sites with a committed focus on total hip and knee arthroplasties. The four Northern Health sites which provide total joint arthroplasty services provided additional available operating room time to address long waiting surgeries. As well, the Prince George Surgery Centre (private surgery facility) provided dedicated operating room time for cataract and minor orthopedic procedures.

The highest increase in surgical volumes across Northern Health was for total knee arthroplasties (64%; 488 cases in 2013/14 and 801 cases in 2017/18), followed by cataract surgeries (60%; 1909 cases in 2013/14 and 3050 cases in 2017/18). Similar results were found for UHNBC (Prince George) with the total number of scheduled surgeries increasing by 8% between during this same time period and the highest increases were seen in total knee arthroplasties (59%; 361 cases in 2013/14 to 573 cases in 2017/18) and cataract surgeries (58%; 1072 cases in 2013/14 and 1692 cases in 2017/18).

Each Northern Health surgical site continues address long waiting procedures and improving access and wait-times for surgical patients.

Develop a strategy to improve opioid substitution services across the North.

(Project led by the Medical Lead for Addictions Medicine and the Executive Lead for Mental Health and Substance Use)

In April 2016, British Columbia's Provincial Health Officer declared a public health emergency due to an unprecedented increase in the number of illegal drug overdose deaths - 993 people in BC died of a drug overdose in 2016 and 1446 died in 2017, a 46% increase. Overdose deaths in BC now exceed deaths from motor vehicle accidents, suicide and homicide combined. In Northern Health, 166 deaths have occurred between January 1, 2016 to July 31, 2018. Majority of these deaths occurred in the five largest centres: Prince George, Fort St. John, Dawson Creek, Quesnel, Terrace and Prince Rupert.

Based on the public health emergency and the British Columbia Coroner's Office report (dated September 2018), which summarized the data from illicit overdose deaths between 2016 and 2017, it was determined that a comprehensive health system response to this crisis requires new efforts at every level, national to local. A committee structure has been developed within Northern Health to guide the implementation of a response to the crisis. The structure includes a Regional Committee, HSDA level committees and local community committees. As well, Northern Health has representatives on several provincial committees. In December 2017, the new Minister of Mental Health and Addictions developed a Provincial Overdose Emergency Response Centre to support and guide the Health Authorities and other organizations in the response to the crisis. The BC Ministry of Health has provided targeted funding to each health authority to combat the crisis.

Over the last year, Northern Health has taken several key steps towards improving opioid substitution in the North, such as:

- Creation of a clinical practice standard for 'drug checking' to occur throughout the North in Northern Health and non-Northern Health locations.
- Increased availability of overdose prevention services and harm reduction supplies in communities across the North (including take-home Naloxone kits).
- Increasing Physician Addiction Leads in each HSDA and Prince George and implementation of the Regional Strategic Lead for Substance use, who is responsible for planning, developing, revising and evaluation substance use services for youth and adults in Northern Health.
- Implementation and expansion of Opioid agonist therapy services in Quesnel and rapid access stream for Opioid agonist therapy services including Opioid Agonist Therapy induction and maintenance services in Prince George.
- Dr. Prigmore has been working with University of British Columbia to coordinate a mandatory addiction medicine rotation with the residency program.
- Development of Emergency Room discharge planning protocols (work in progress).
- Hospital addictions consult services within major hospitals including regularizing UHNBC (Prince George) services and increases to GR Baker Hospital (Quesnel) and in reach services expanded in the Northwest and Northeast through Opioid Agonist Therapy Outreach Services or Intensive Case Management Teams.
- Prioritize and increase access to evidence-based interdisciplinary pain management services for the assessment, treatment and management of moderate to severe chronic pain.
- Increased education and training:
    - For all new detox positions funded under the Opioid Detailed Implementation Plan with a focus on core addictions practice, trauma informed practice, motivational interviewing and brief action planning.
    - The Clinical Chronic Pain Working Group and other stakeholders are working on developing a chronic pain education plan for primary care providers, interprofessional teams and allied health providers.

- Professional education and training for physicians and other health care providers to increase substance use care capacity within the health authority.
- Professional education and training for physicians and other health care providers in cultural safety and/or trauma informed practice.
- Creation of Substance Use Resource Nurses for each HSDA and Prince George and an anti-stigma professional support worker.

With all of this foundational underway, we look forward to seeing improvements in opioid substitution services in the North over the next few years.

A Word from the Medical Directors

The VP Medicine portfolio includes Medical Directors as an integral part of the organizational structure. Their insights and contributions across the entire portfolio are a key factor in the success of the VP Medicine strategic activities. This is what Northern Health Medical Directors had to say when asked what they thought were the key highlights from the VMP portfolio over the past three years:

> "Regarding UHNBC,
>
> With an increased focus on recruitment to the Anaesthetic Department we have now managed to increase the number of Anaesthetists so that we can run seven operating room suites for the majority of the time. This is enabling us to meet our targets for hip and knee replacements as mandated by the Ministry of Health.
>
> We look forward to the High Acuity Unit reaching its full potential, as an extension of the Intensive Care Unit. This will also include a Coronary Care subunit, which we will develop to expand our future cardiac services delivered in the Northern Health region.
>
> A 22-bed family medicine teaching unit is near completion on the second floor of the hospital. This will greatly enhance patient flow and also enrich the teaching experience of medical students and residents in the northern medical teaching programs."
>
> ~ Dr. Tony Preston, Prince George Medical Director

"Some of the key accomplishments from the VP Medicine portfolio over the last three years, from my perspective, are:

- Supporting involvement in Physician Master Agreement negotiations by a Northern Health Medical Affairs member.
- Developing robust processes for credentialing, reference check, etc., for medical staff.
- Developing partnerships to support ER competency and confidence especially in International Medical graduates working in rural ERs.
- Leadership roles in PRA program and PMSEC by Dr. Chapman."

~ Dr. Becky Temple, NE Medical Director

"I want to highlight the fact that the VP of Medicine has served as a great mentor and facilitator to me and my fellow medical directors. Always friendly, open to suggestions, collaborative and engaging.

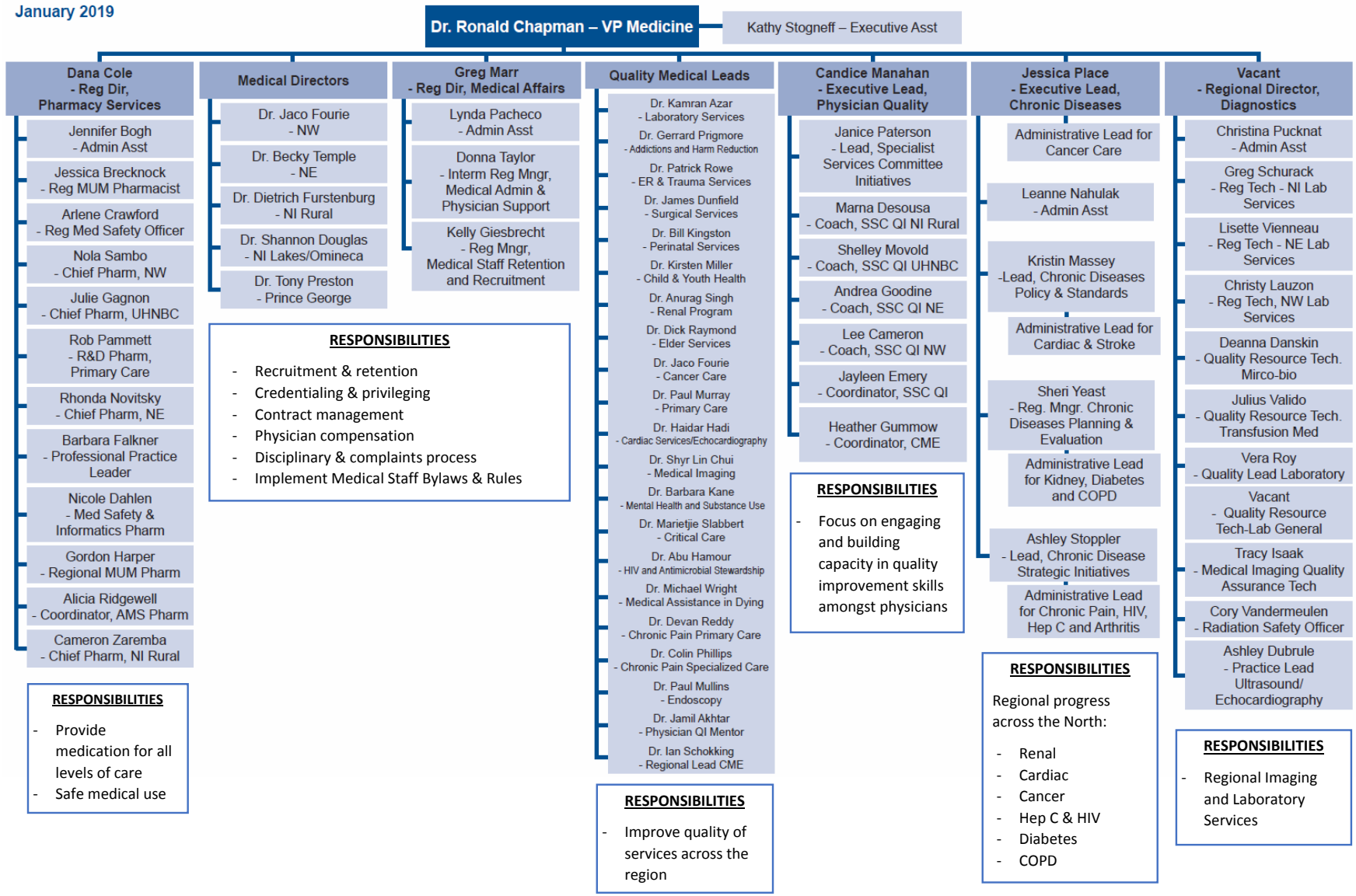
The co-leadership model has served both as a vehicle for learning as well as a forum for meaningful interaction which has led to many a successful project."

~ Dr. Dietrich Furstenburg, NI Rural Medical Director

Conclusion

The VP Medicine portfolio has enjoyed a very successful three years, which speaks to the hard work and dedication of each and every person involved in this work. Following the successes of and lessons learned from the previous three fiscal years, the VP Medicine portfolio plans to continue work on the outstanding activities from the previous plan through the end of this fiscal year (2018/19) and, in collaboration with key stakeholders, develop a strategic plan for the next three fiscal years (2019/20 – 2021/22).

Appendix A: VP Medicine Organizational Structure



Appendix B: Work Breakdown Structure

Work Breakdown Structure for the VP Medicine Portfolio: April 2016-March 2019 (3 years) – Version 15

A. Healthy People in Healthy Communities

1. Develop communication channels to serve as a conduit for engaging physicians, communities, and their partners, to improve the health of their communities. (Greg)
2. Engage physicians in improving the health of their communities. (Greg & Jess)

B. Coordinated and Accessible Services

1. Develop a service flow for chronic diseases taking best practices into consideration. This work includes reaching consensus between primary care physicians and specialists. (Jessica)
2. Actively participate to reduce wait times for surgical services and diagnostic procedures (i.e. MRI). (Shelley & Ken)
3. Develop and implement a renewed 5 year NH Cancer Strategy. (Jessica & Jaco)
4. Develop and implement a Regional Cardiac Services Business Case/Plan. (Jess)
5. Develop an integrated strategy for specialty chronic diseases services, starting with kidney, cardiac, and diabetes services. (Jess)
6. Implement recommendations from the external 2015 Chronic Pain Prevention and Management Review/Strategy. (Jess)
7. Complete a Request for Information and Request for Proposal to strengthen the community based response to HIV and Hepatitis C. (Jess)
8. Develop a plan to improve general internal medicine services across the North., this includes collaboration between primary care physician clans and specialists to manage complex inpatients. (Anurag & MD's))
9. Implementation of the sustainable primary care project in Burns Lake. (Candice)
10. Develop a strategy to improve opiod substitution services across the North (Gerard Prigmore & Michelle Lawrence)
11. Develop and implement a NH Colonsocopy Pathway – which includes guideline, referral and booking form development. (Jessica)
12. Develop and implement a NH Kidney Care Plan (Jessica)
13. Develop and implement an 18 month Colonoscopy Plan to increase colonospies – starting March 2018 . (Jessica)
14. Undertake a Regional Chronic Disease Program Review (Jessica)

C. Quality

1. Develop the infrastructure (i.e. data access, education) to support physician engagement in continuous QI. (Candice)
2. Fulfill the DAP accreditation standards and reduce citations for Laboratory Services, Medical Imaging, Respiratory, and Neurology Services. (Ken)
3. CACTUS implementation of the medical staff appointment/ reappointment process. (Greg)
4. Develop and reinforce forums that celebrate success and support physician recognition. Implement approaches to ensure time focused on reflection and improvement. (Candice)
5. Continue to develop and foster a co-leadership culture within NH. (Candice)
6. Deliver compacts between medical staff leaders and their Executive Co-leads regarding service delivery needs. (Candice)
7. Explore & review specialist service delivery models & costs in rural areas. (Greg & MD's)
8. Explore ways to ensure a patient & family focused lens when planning & implementing projects. (Candice)
9. Develop engagement plan; align resources & realign planning/improvement structures to better facilitate improvement across sites in acute/medical care. (Candice)
10. Ensure Best Possible Medication History and Medication Reconciliation at all transitions in patient care. (Dana)
11. Support optimal prescribing of medications by ensuring all medication orders adhere to Safe Medication Order Writing policy and facilitating clinical pharmacist involvement in the prescribing decision-making process. (Dana)
12. Establish an Antimicrobial Stewardship through development of prospective audit and feedback processes, order set development, medication use reviews and education modules. (Dana)
13. Ensure Medications are accurately and appropriately administered by establishing quality assurance processes for infusion pumps, storage and handling of high risk and hazardous medications and assessing opportunities to identify and close gaps between current and best practice. (Dana)
14. Minimize medication inventory costs by improved inventory management practices to reduce waste and expiries. (Dana)
15. Ensure medications are accurately and appropriately dispensed through development of a regional Central Intravenous Admixture program, continued implementation of automated medication dispensing cabinets and improved timeliness and accuracy of medication verification and dispensing process. (Dana)
16. Expnad the development of regional order sets & address out of date order sets (Dana)
17. Establish and Audit Qulaity Assurance Process for handling of narcotics (Dana)

D. Our People

1. Implement the 5 Year Physician Recruitment and Retention Strategy to meet the Physician HR plan. (Greg)
2. Develop a multi-year plan to place Practice Ready Assessment candidates & the St. Paul's International Medical Graduate candidates in rural communities. (Greg)
3. Improve efficiency of existing recruitment, contracts & other medical affairs processes. (Greg))
4. Support physicians in Primary Care Homes to work in partnership with Primary Care Nurses & Inter-Professional Teams. (Paul & Pam)
5. Successful implementation & documentation of the Fort St. John physician funding model. (Greg)
6. Develop alternate funding models to support a sustainable physician population in rural communities. (Greg)
7. Build capacity within NH to understand alternative funding models of physician compensation. (Greg)
8. Complete a full review of Medical Staff Rules. (Greg)
9. Review Medical Committees TOR starting with regional, HSDA and then local facilities. (Greg)
10. Continue to improve physician engagement as agreed to in the Regional & Local MOU 2014. (Candice)
11. Strengthen the following physician leadership education programs: in-house (i.e. NH policies, orientation manuals) and external programs. (Candice)
12. Develop a common understanding of relevant Workplace Health and Safety issues (Greg)
13. Develop a health human resource plan for surgical services (Shelley & Ronald)
14. Facilitate clinical pharmacists training & involvement in prescribing decision making process (Dana)
15. Develop a trasitional plan for NH CME, until the JSC has landed on a new CME process (Candice)

E. Communications, Technology, and Infrastructure

1. Implement a NH Physician Communication Strategy. (Greg)
2. Develop, in collaboration with IT, an efficient process to onboard new physicians onto relevant IT systems. (Greg)
3. Finalize and implement the NH imaging strategy including MRI. (Ken)
4. Use technology to deliver a range of clinical and diagnostic services across all levels of care. (Ken)
5. Develop three rapid access care centres to improve access to breast diagnostics. (Ken)
6. Develop a visiting ultrasound service for rural communities. (Ken)
7. Support the development and implementation of a 5 year Telehealth Strategy. (Ronald/Candice)
8. Implement secure texting & e-scheduling within NH (Bill & Greg)
9. Review and do a redesign of NITAOP and implement the redesigned NITAOP (Greg)
10. Establish an ECHO service within UHNBC (Jessica & Ken)
11. Implement an internal training program to updrade radiographers to ultrasound technicians (Ken)
12. Develop baseline statistical profile of NH Lab services before transition of service to the Lab Agency (Ken)
13. Replacement of the physician e-sessions system (Brain & Greg)
14. Development and implementation of an Electronic Rural Physician System to accurately assess FTE allocation in NH at any point in time (Brain & Greg)
15.

Appendix B: Work Breakdown Structure

The following table outlines the work breakdown structure and status of activities as of January 2019.

Table 4. VP Medicine Portfolio Work Breakdown Structure

Healthy People in Healthy Communities	**Status**
1) Develop communication channels to serve as a conduit for engaging physicians, communities and their partners, to improve the health of their communities. (Medical Affairs)	✓ Completed
2) Engage physicians in improving the health of their communities. (Medical Affairs and RCD)	▪ On hold or being addressed by another portfolio

Coordinated and Accessible Services	**Status**
1) Develop a service flow for chronic diseases taking best practices into consideration. This work includes reaching consensus between primary care physicians and specialists. (RCD)	✓ Completed
2) Actively participate to reduce wait times for surgical services and diagnostic procedures (i.e. MRI). (Diagnostic Services)	✓ Completed
3) Develop and implement a renewed 5-year Northern Health Cancer Strategy. (RCD)	✓ Completed
4) Develop and implement a Regional Cardiac Services Business Case/Plan. (RCD)	✓ Completed
5) Develop an integrated strategy for specialty chronic diseases services, starting with kidney, cardiac and diabetes services. (RCD)	▪ On hold (taken off the list when JP came on board)
6) Implement recommendations from the external 2015 Chronic Pain Prevention and Management Review/Strategy. (RCD)	✓ Completed
7) Complete a Request for Information and Request for Proposal to strengthen the community-based response to HIV and Hepatitis C. (RCD)	✓ Completed
8) Develop a plan to improve general internal medicine services across the North., this includes collaboration between primary care physician clans and specialists to manage complex inpatients. (Medical Affairs)	✓ Completed
9) Implementation of the sustainable primary care project in Burns Lake. (PE)	✓ Completed

Coordinated and Accessible Services	Status
10) Develop a strategy to improve opioid substitution services across the North (Clinical Programs).	✓ Completed
11) Develop and implement a Northern Health Colonoscopy Pathway – which includes guideline, referral and booking form development. (RCD)	✓ Completed
12) Develop and implement a Northern Health Kidney Care Plan. (RCD)	✓ Completed
13) Develop and implement an 18-month Colonoscopy Plan to increase colonoscopies – starting March 2018. (RCD)	✓ Completed
14) Undertake a Regional Chronic Disease Program Review. (RCD)	✓ Completed

Quality	Status
1) Develop the infrastructure (i.e. data access, education) to support physician engagement in continuous QI. (PE)	✓ Completed
2) Fulfill the DAP accreditation standards and reduce citations for Laboratory Services, Medical Imaging, Pulmonary Function and Neurology Services. (Diagnostic Services)	✓ Completed
3) CACTUS implementation of the medical staff appointment / reappointment process. (Medical Affairs)	✓ Completed
4) Develop and reinforce forums that celebrate success and support physician recognition. Implement approaches to ensure time focused on reflection and improvement. (PE)	✓ Completed
5) Continue to develop and foster a co-leadership culture within Northern Health. (PE)	✓ Completed
6) Deliver compacts between medical staff leaders and their Executive Co-leads regarding service delivery needs. (PE)	✓ Completed
7) Explore & review specialist service delivery models & costs in rural areas. (Medical Affairs)	✓ Completed
8) Explore ways to ensure a patient & family focused lens when planning & implementing projects. (PE)	✓ Completed
9) Develop engagement plan; align resources & realign planning/improvement structures to better facilitate improvement across sites in acute/medical care. (PE)	▪ On hold. Current work completed in preparation for a future engagement plan.
10) Ensure Best Possible Medication History and Medication Reconciliation at all transitions in patient care. (Pharmacy Services)	♦ In progress

Quality	Status
11) Support optimal prescribing of medications by ensuring all medication orders adhere to Safe Medication Order Writing policy and facilitating clinical pharmacist involvement in the prescribing decision-making process. (Pharmacy Services)	♦ In progress
12) Establish an Antimicrobial Stewardship through development of prospective audit and feedback processes, order set development, medication use reviews and education modules. (Pharmacy Services)	✓ Completed
13) Ensure Medications are accurately and appropriately administered by establishing quality assurance processes for infusion pumps, storage and handling of high risk and hazardous medications and assessing opportunities to identify and close gaps between current and best practice. (Pharmacy Services)	✓ Completed
14) Minimize medication inventory costs by improved inventory management practices to reduce waste and expiries. (Pharmacy Services)	✓ Completed
15) Ensure medications are accurately and appropriately dispensed through development of a regional Central Intravenous Admixture program, continued implementation of automated medication dispensing cabinets and improved timeliness and accuracy of medication verification and dispensing process. (Pharmacy Services)	♦ In progress
16) Expand the development of regional order sets & address out of date order sets. (Pharmacy Services)	♦ In progress
17) Establish and Audit Quality Assurance Process for handling of narcotics. (Pharmacy Services)	♦ In progress

Our People	Status
1) Implement the 5 Year Physician Recruitment and Retention Strategy to meet the Physician HR plan. (Medical Affairs)	✓ Completed
2) Develop a multi-year plan to place Practice Ready Assessment candidates & the St. Paul's International Medical Graduate candidates in rural communities. (Medical Affairs)	✓ Completed
3) Improve efficiency of existing recruitment, contracts & other medical affairs processes. (Medical Affairs)	✓ Completed with new areas identified
4) Support physicians in Primary Care Homes to work in partnership with Primary Care Nurses & Inter-Professional Teams. (Clinical Services)	♦ In progress
5) Successful implementation & documentation of the Fort St. John physician funding model. (Medical Affairs)	✓ Completed
6) Develop alternate funding models to support a sustainable physician population in rural communities. (Medical Affairs)	✓ Completed in some communities with others prioritized

Our People	Status
7) Build capacity within Northern Health to understand alternative funding models of physician compensation. (Medical Affairs)	✓ Completed
8) Complete a full review of Medical Staff Rules. (Medical Affairs)	✓ Completed
9) Review Medical Committees TOR starting with regional, HSDA and then local facilities. (Medical Affairs)	✓ Completed
10) Continue to improve physician engagement as agreed to in the Regional & Local MOU 2014. (PE)	✓ Completed
11) Strengthen the following physician leadership education programs: in-house (i.e. Northern Health policies, orientation manuals) and external programs. (PE)	✓ Completed
12) Develop a common understanding of relevant Workplace Health and Safety issues. (Medical Affairs)	✓ Completed with Violence Prevention Training ongoing
13) Develop a health human resource plan for surgical services. (VP Medicine)	✓ Completed
14) Facilitate clinical pharmacists training & involvement in prescribing decision-making process. (Pharmacy Services)	✓ Completed
15) Develop a transitional plan for Northern Health CME, until the JSC has landed on a new CME process. (PE)	✓ Completed

Communications, Technology and Infrastructure	Status
1) Implement a Northern Health Physician Communication Strategy. (Medical Affairs)	✓ Completed
2) Develop, in collaboration with IT, an efficient process to onboard new physicians onto relevant IT systems. (Medical Affairs)	♦ In Progress
3) Finalize and implement the Northern Health imaging strategy including MRI. (Diagnostic Services)	✓ Completed
4) Use technology to deliver a range of clinical and diagnostic services across all levels of care. (Diagnostic Services)	✓ Completed
5) Develop three rapid access care centres to improve access to breast diagnostics. (Diagnostic Services)	✓ Completed
6) Develop a visiting ultrasound service for rural communities. (Diagnostic Services)	♦ In Progress
7) Support the development and implementation of a 5-year Telehealth Strategy. (VP Medicine/PE)	✓ Completed
8) Implement secure texting & e-scheduling within Northern Health. (Medical Affairs)	♦ In Progress
9) Review and do a redesign of NITAOP and implement the redesigned NITAOP. (Medical Affairs)	✓ Completed

Communications, Technology and Infrastructure	Status
10) Establish an Echocardiography service within UHNBC (Prince George). (RCD & Diagnostic Services)	♦ In Progress
11) Implement an internal training program to upgrade radiographers to ultrasound technicians. (Diagnostic Services)	✓ Completed
12) Develop baseline statistical profile of Northern Health Lab services before transition of service to the Lab Agency. (Diagnostic Services)	✓ Completed
13) Replacement of the physician e-sessions system. (Medical Affairs)	✓ Completed
14) Development and implementation of an Electronic Rural Physician System to accurately assess FTE allocation in Northern Health at any point in time. (Medical Affairs)	✓ Completed