Manitoba's Clinical & Preventive Services Plan

Investing in Better Care, Closer to Home

NEUROSCIENCES PROVINCIAL CLINICAL TEAM

Clinical & Preventive Services Plan Summary

An opportunity to elevate outcomes through reconfiguration

Manitoba's key population characteristics create an opportunity for the province's health system to both **meet evolving needs and set the standard for care in priority areas including rural health, healthy aging, and needs of diverse populations.** The significant **Indigenous population** presents an opportunity for leadership in **collaborative design and delivery of health services**.

Key Population Characteristics

Manitoba's Population is Growing

Growth rates vary by region with **higher growth in Winnipeg and Southern regions**, by 45% and 62% respectively, over the next 25 years.

Manitoba is Highly Rural

44% of the population is **highly distributed across geographies** with less than 10 people per km

Manitoba has an Aging Population

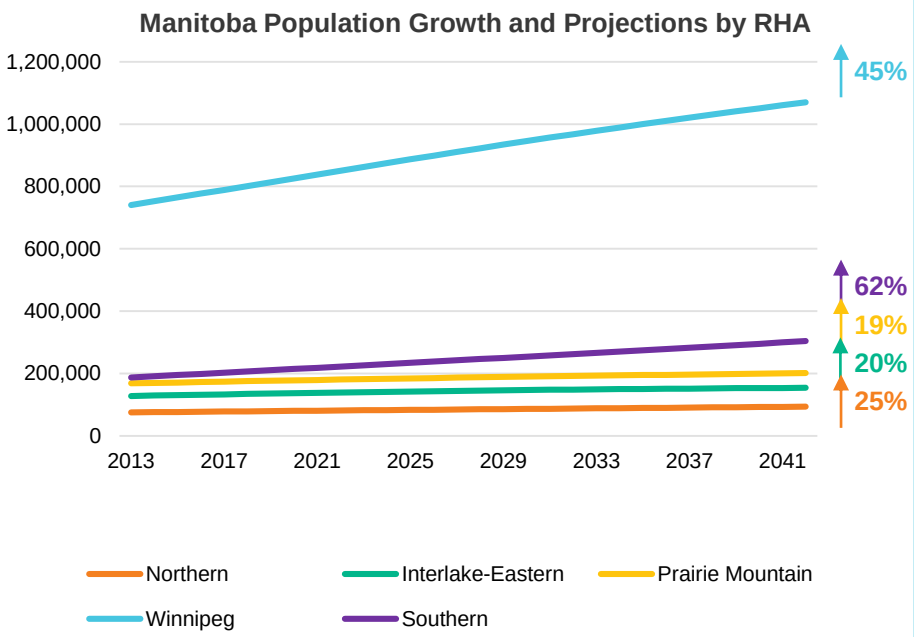
The **largest growth** is projected to occur with the **80+ and 60-70 year old cohorts** however Manitoba remains the only province where youth under 15 exceed the older population

Manitoba has a large Indigenous population

Manitoba's Indigenous population makes up **18% of the population**, the highest of any province in Canada. This population is also younger than the rest of the province

Manitoba has a Diverse Culture

109,925 Manitobans speak French of whom 74% were born in Manitoba. **18.3% of Manitoba's population are immigrants** with 80% settling in Winnipeg



A strong foundation to build upon

Manitoba already holds **capabilities and characteristics** that can be leveraged to enhance the future healthcare system

One provincial academic hospital

The majority of tertiary health services for Manitoba's 1.3M people are delivered in Winnipeg through one provincial academic hospital: Health Sciences Centre (HSC), an internationally recognized and accredited academic hospital and research centre.

A leading university and research centre

University of Manitoba is a leading centre for the training of health professionals and support for specialist care delivery and rural and urban primary care.

International leadership role in the health of First Nations, Metis, Inuit, and Indigenous Communities

- Leadership role in instituting Jordan's Principle – a Child-First Initiative to assure equitable access to essential care
- Internationally recognized partnership-based health research through Ongomiizwin - Indigenous Institute of Health and Healing

Adaptability to innovative models of care

37% Increase in MBTelehealth utilization over in the past five years and multiple modes in place

1m+ miles saved — By clients who visited the Mobile Clinic (primary care bus) over five years in Prairie Mountain Health

Multiple achievements to improve wait times and patient experience

25% Improvement in total time spent in Winnipeg EDs (Winnipeg) – the most improved in Canada

50% Improvement in total wait time for endoscopy through centralized referral and intake models – similar models in place for hip and knee replacements, spine surgeries, and others

Flexible workforce options provide new opportunities to build future models of care

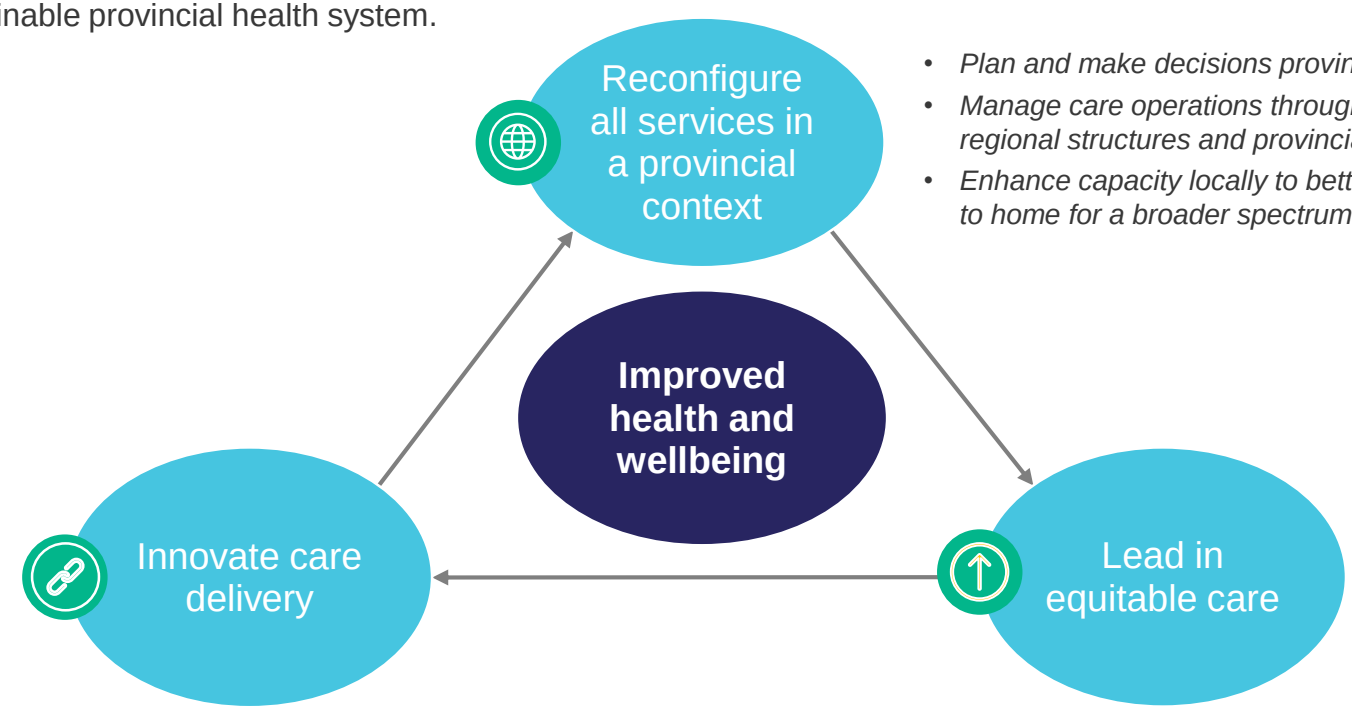
2x More paramedics per 100,000 residents than the Canadian average and more female paramedics (national average: 32%)

20+ Regulated health professions under one umbrella act (*The Regulated Health Professions Act*) with 21 categories of reserved acts

Expanding scope of Nurse Practitioners (e.g., minor invasive procedures, ordering diagnostic tests). Long standing leader in training, education, and employment of physician assistants including into primary care.

Manitoba's bold new future: Reconfiguring For Better Health and Wellbeing

The **elements of the future vision will work together** to improve how the health system supports Manitobans. Through redefined access and service capabilities across the province, Manitobans will benefit from improved health outcomes and a more sustainable provincial health system.



- *Plan and make decisions provincially*
- *Manage care operations through a combination of regional structures and provincial services*
- *Enhance capacity locally to better support care close to home for a broader spectrum of health needs*

- *Provincial clinical governance to support clinical practice and model-of-care improvements province-wide*
- *Modernize care delivery approaches to increase reach and access from a patient and provider perspective*
- *Innovate* how *care is delivered to achieve better health and broader outcomes*

- *Lead in equitable care to urban, rural and remote communities through connected care*
- *Commit to a new future for Indigenous health in Manitoba based on a collaborative model of co-design and enablement among Indigenous communities and the provincial health system*

What does a modernized health system mean for individuals?

TODAY

- **Knowing where to go for the right care can be confusing** – for patients and for providers
- Your health care provider **may not have all the necessary information** about you and your health – this can result in you having to tell your story over, and over, and over again
- You may wait a **long time to access** the right care including diagnostic services and specialist care
- The care you need may not be accessible close to home, **requiring you to travel** to access services
- Your **visits may not be coordinated** across care providers, resulting in multiple trips to access care

IN THE FUTURE

- Consistent, reliable services will be accessible at facilities that are clearly defined by the care they provide, making it **easier to know where to go for care**
- Your health care providers will have **access to appropriate information** about you and your health needs
- Providers will **work together to coordinate** your care, ensuring that wherever you go, you are able to access the right care
- Coordination will **reduce your wait times** and unnecessary travel
- You will have the choice to **manage and navigate your own care**, in partnership with your primary care provider
- Your primary health team will have support to provide your **care closer to home** through virtual tools, advice and guidance

What does a modernized health system mean for individuals?

TODAY

Find a family doctor (primary care provider)
Wait for appointment to discuss your care needs
– or visit an Emergency Department

1st primary care visit

Specialist or diagnostic services referral and wait

Travel for care

1st specialist or diagnostic service visit

2nd primary care visit

Specialist or diagnostic services referral and wait

Travel for care

2nd specialist or diagnostic service visit

3rd primary care visit

Repeat referral and wait until an answer or diagnosis is determined

Travel for care

Ongoing visits to specialists and for tests

IN THE FUTURE

Providers work together to coordinate your care and multiple tools and options exist to help manage your own care

1st primary care team visit (providers with different skills work together)

You have tools to manage your health

You can get advice virtually

You have help to find the right health care

Your primary health team has the information they need about you and your health **and** has access to …

… advice and guidance for more specialized care needs that they can manage, with some support

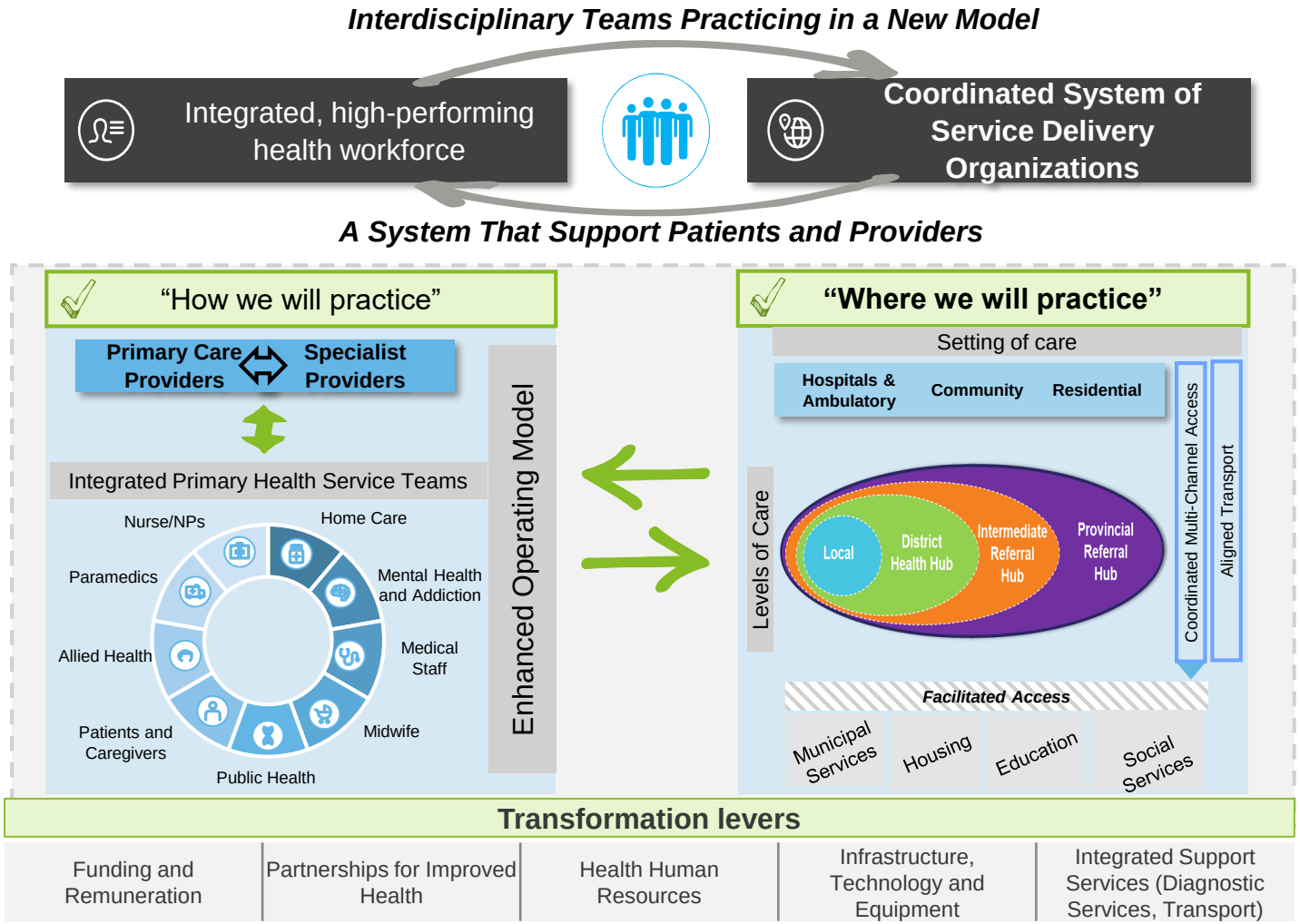
… virtual tools to bring care closer to home

… a network of other teams nearby for in-person or virtual access to care

… coordinated access to specialists that work together to reduce or eliminate unnecessary travel and coordinate with your primary care team

Each step in your care path seamlessly connects back to your local primary health team, keeping them up to date on your care

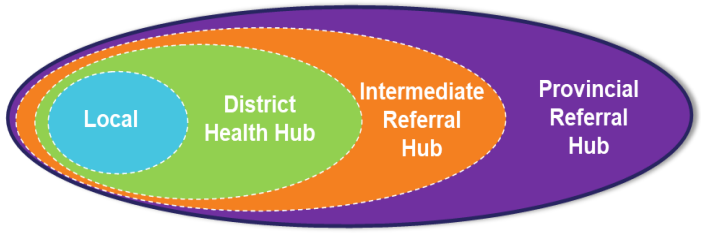
An integrated network for accessing and delivering services is core to the new provincial model



Defining one provincial system with enhanced local capacity and effective access to specialized care province-wide

The Integrated Network Model

- The Integrated Network Model shown below links local, district, intermediate, and provincial hubs and provides common service standards, capabilities and pathways for patients, providers and health system managers in the province.
- The model will reconfigure care to improve the health and well-being of all Manitobans through provincial standards that elevate care and innovative approaches to ensure equitable care delivery. The key to success will be the development of ***appropriate, sustainable*** capacity at the local level and ***standardized pathways*** that streamline how patients and providers navigate the system. ***Provincial clinical governance*** will guide the development and monitoring of standards and pathways. By leading in ***connected care***, Manitoba will optimize a hybrid digital and in-person care experience for everyone.
- The network model is intended to facilitate the relationship between providers and the flow of patients in the province. It is not intended to create barriers or "gates" in the system, instead it will be used to **create transparency and certainty of capabilities**.

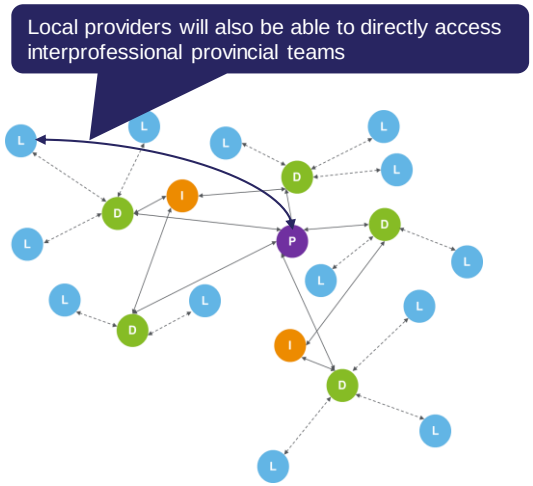


L **Local Area Hub**
Integrated network for prevention and screening, transitional care, community based support and rehab, and primary and community care

D **District Health Hub**
Integrated network for low-moderate acuity, variable volume general medicine/surgery interventions/procedures, post acute treatment and emergency services

I **Intermediate Referral Hub**
Integrated network for moderate acuity/complexity medicine, surgery, critical care, and emergency services

P **Provincial Referral Hub**
Provincial integrated network for high-acuity, highly complex medicine, surgery, critical care, and emergency services



Capabilities across local area hubs will be standardized along a spectrum, with flexibility to meet with population needs

The network model outlines ***minimum service standards and capabilities*** as the basis for infrastructure, health human resources, and clinical support services planning. Local Area and District hubs will feature a spectrum of capabilities (Enhanced, Core) to match the needs of its population, with increased acuity along the continuum from District to Provincial. Facilities at the District and Intermediate level may have targeted areas of programmatic focus that extend into higher levels of care.

Local	District	Intermediate	Provincial
Low acuity community-based care	*Low to moderate acuity community-based and inpatient care*	*Moderate to high acuity inpatient and medical/surgical care*	*High acuity/specialty medical and surgical care*

Enhanced

Interdisciplinary primary care teams who provide enhanced community services such as mental health support, midwifery, chronic disease management, and/or pain management; supported by appropriate diagnostics and the ability for short-term patient observation

Increased focus on **prevention and screening** with proactive population health management capacity

- My Health Teams, new care models (e.g., collaborative emergency centres in Nova Scotia, advanced care centres in Australia)

Core

Local primary care providers will be the main point of contact with the health system for most patients (e.g., Home Clinics)

Increased focus on **prevention and screening** with proactive population health management capacity

Core:
Urgent care during set hours for lower acuity patients

Enhanced and Intermediate:
24/7 Emergency Department

Provincial:
24/7 Emergency Department

General inpatient and ambulatory care with observation and monitoring capabilities, as well as targeted services

Enhanced:
Special Care Unit

Intermediate:
Intensive Care Unit (ICU)

Provincial:
ICU with specialized capabilities

Core:
Elective surgery, primarily with Family Practice Anaesthesia (FPA)

Enhanced and Intermediate:
Elective and emergency surgery with FPA or FRCPC

Provincial:
Elective and emergency surgery with FRCPC

Specialist Services may include:
District: Level I Nursery, community cancer care, primary stroke centre, and/or select areas of programmatic focus

Intermediate:
Level II Nursery, radiation therapy, general rehabilitation, moderate- to high-risk obstetrics and/or primary stroke centre

Provincial:
Intensive rehabilitation, and specialized mental health services, high-risk obstetrics and neonatal

Provincial Services such as:
Major trauma, thoracic services, comprehensive stroke care, specialty cancer care

Creating the capacity for a provincial approach to delivery in Manitoba through a 10-Point Plan

This 10-Point Plan outlines key mechanisms for Manitoba to improve access to care across the province and deliver on the benefits of moving to a provincial approach to care design and delivery

Interdisciplinary Teams Practicing in a New Model

Integrated, High-Performing Health Workforce

Coordinated System of Service Delivery Organizations

A System That Support Patients and Providers

"How we will practice"	"Where we will practice"
1. Provincial clinical governance	2. Clear roles and capabilities in network model
3. Enhanced community supports	4. Innovative approaches to care through digital health
5. Bridge the gap between primary care provider and specialist	6. Consistent pathways for targeted patient populations
7. Shift care between disciplines to enable clinicians to work to full scope of practice	8. Coordinated provincial access
9. Provincializing key aspects of our workforce	10. Provincial approach to outcomes and deliverables management

Neurosciences

Current state and case for change

Patients receiving neuroscience services have experienced inconsistencies in care delivery and access

Overall long wait times for services and misalignment of need with access to highly specialized services signal challenges with demand management

- **Wait times:** The WRHA Spine Central Intake Program has helped address long and variable wait lists for spine surgery
- As of November 8, 2018, there were 4,520 patients in the Spine Central Intake waiting list with average waiting time of 634 days. The number of patients waiting for a surgical spine consult varies depending by surgeon from ~150 to ~850 (WRHA Spine Central Intake Program)
  - High case volumes and a large call load contribute to wait times and wait lists in the program

Neurosciences PCT Inpatient Admissions, FY 17/18[1]

	Total Admissions	% of Patients who are First Nations	Average Expected LOS (days)	Average Total LOS (days)	Average Acute LOS (days)	% of LOS that was ALC
Manitoba	**4,048**	**10.8%**	**7.33**	**14.71**	**11.32**	**23.02%**
Northern	122	50.8%	4.44	8.53	6.73	21.13%
Interlake-Eastern	193	16.2%	4.79	16.71	10.29	38.42%
Prairie Mountain	451	7.9%	6.20	12.92	10.32	20.10%
Winnipeg	2,987	9.0%	7.91	14.03	11.31	19.31%
Southern	295	3.1%	6.09	25.67	15.53	39.49%

- **Utilization of specialized resources:** Lower complexity needs could be supported with alternate settings/modes of care
  - Reported that only ~50% of spine cases on the waiting list require surgery
  - The % of inpatient stays that is ALC ranges from 19% in Winnipeg to 39% in Southern – Neurosciences overall has one of the highest ALC% across PCTs (23%)
  - ESD program identified up to 37% of people with low to moderate stroke could be supported in community settings

Inconsistencies in pathways and services to align with best practices

Variability in repatriation processes (not always a facility close to home)

- **Lack of standardized pathways** aligned with best practices across care settings and providers (e.g., access to an acute stroke unit)
  - There is a lack of standardization in the definition of functional ability across providers
  - There is no common understanding of available resources and programs across the province by patients and providers.
- **Delays in discharge** from acute care to rehab, with a high number of patients waiting in ALC*: in WRHA, an average of 3.5 days are spent waiting for admission for rehab, where wait times are the highest at HSC (average 6.6 days)
- Units are regularly over census with consistently large numbers of neurosurgery patients that are 'chronic long stay patients' (e.g., up to 1/3 of patients) – often due to challenging behaviours (e.g., post TBI) or waiting for PCH
  - Lack of standard protocols and policies aligned with best practices that are consistent across RHAs, e.g., noted that there are inconsistencies in when and how patients are repatriated

*Data only available for WRHA

Current state and case for change

Patients often have to travel to access specialized services or wait for post acute care, suggesting an opportunity for alternate modes to bring care closer to home

Challenges in accessing care closer to home

- **Travel for care:** the majority of inpatient volumes are delivered in WRHA with increased travel requirements for patients in rural and northern Manitoba
- ~44-58% of non-WRHA residents go to Winnipeg for inpatient care
  - ~34-72% of non-WRHA residents go to Winnipeg for day visits
  - 14 Epilepsy patients were sent out of province for epilepsy surgery in the last 3 years; a Winnipeg-based review estimated that ~6-7,000 adults could benefit from similar surgery and avoid cost of drug treatment

Neurosciences PCT Inpatient Volumes in Manitoba, FY 12/13 - FY 17/18[1]

Neurosciences Admissions by Region (location based on the facility where the patient was admitted)	Total Admissions						% change from 2012-2017	% change in # patients treated in Winnipeg 2012-2017
	2012	2013	2014	2015	2016	2017		
Manitoba	4,195	3,991	4,120	3,971	3,761	4,048	-3.5%	
Northern	411	346	377	374	179	122	-70.3%	34.7%
Interlake-Eastern	235	220	210	216	216	193	-17.9%	10.7%
Prairie Mountain	574	563	566	520	466	451	-21.4%	-1.5%
Winnipeg	2,631	2,535	2,636	2,568	2,606	2,987	13.5%	16.1%
Southern	344	327	331	293	294	295	-14.2%	11.1%

Variation in availability of rehabilitation services (both inpatient and community-based) and PCH care

- **Variation in availability of rehab services** accessible outside of Winnipeg particularly for stroke and ABI
- **ALC days for rehab:** Overall wait time for rehab has increased in the past three years in all WRHA hospitals except at Concordia Hospital
  - ALC inpatient stays range from 19% in Winnipeg to 39% in Southern
  - Neurosciences overall has one of the highest ALC percentages across PCTs (23%) (DAD)
- **ALC days for PCH:** Over 2,200 days were spent waiting in inpatient rehab for home care and PCH services (FY18/19)

Multiple processes and initiatives have been put in place to advance neuroscience services

- Central intake system implemented for spine and cranial surgeries (e.g., Winnipeg Spine Surgery Program provides coordination and standardized triage of patients, has supported offloading of cases from the surgeon and timely access)
- Alternate models have been implemented to address targeted space and resource challenges (e.g., locum surgeons, physician assistance, use of alternate spaces)
- Telestroke available in 7 hospitals to provide emergency physicians with immediate access to neurologists with expertise in stroke care via videoconferencing and CT
- Use of tele-health services in targeted areas to extend reach of specialized resources (e.g., tele-speech language therapy in NRHA)

Note in each year there were ~158-237 inpatients from undefined regions which are included in the above volumes
Source: MHSAL – Discharge Abstract Database, NRS

Moving from today to the future

The vision for the future is based on evidence, informed by PCTs' holistic input, and aligns with jurisdictional practices

	Highlights of Current State	Highlights of Future State
Service Model – Highly Effective Teams	• **Long wait times** for specialist consultation, especially in some surgical areas and specialities (e.g., neuropsychology)	• **Standardized pathways** across Network levels stratified to patient need, aligned EMS/patient transfer pathways, repatriation • Expansion of **centralized referral and intake** for all neurology care (including neurosurgery, spine clinic, neurologist) • Expand **telestroke** sites for application to broader neurological conditions for remote access to neurological expertise/guidance • Enhanced **navigational supports** for patients and families with complex needs. Centralized repository of info/services. Streamline appointments for patients traveling from remote/northern regions • **Alternate living options** for specialized populations (e.g., MS, ABI)
Service Standards and Pathways – Coordinated Delivery Systems	• Delayed access to **diagnostic testing** for outpatients and tools for comprehensive assessment • **Siloed care** across regions and across the continuum of care • Uncoordinated and un-standardized **referral pathways** • **Inconsistent access** to rehab and community services across geography and patient populations • **High ALC rates** for neurosciences patients	• Designate **provincial hubs** for specialized care (e.g., Comprehensive Stroke Unit). Expand capacity of intermediate and District hubs to provide low-moderate complexity care (e.g., primary stroke unit at Intermediate hubs) • Expand **enhanced recovery after surgery** (ERAS) and early supported discharge programs (ESD) for stroke/ABI/SCI) • **Optimize scopes of practice** of the interprofessional team (e.g., rehabilitation professionals) to enable appropriate shifts in care from specialists access to care Neurosurgery and specialty rehab providers provide **itinerant and virtual consultation** and treatment in collaboration with Intermediate, District, and/or Local hubs as part of a hub and spoke model of care (e.g., aphasia, ADL) • **Partnership with community organizations** to deliver basic exercise programs where appropriate, deliver community-based prevention programs (stroke, concussion, brain injury, SCI)

Provincial view of the future vision

Future Vision: Manitoba will establish a coordinated and integrated network of provincial neurosciences services to improve patient outcomes and improve system efficiencies. It is anticipated that the future model will result in:

- Enhanced capacity for lower to moderate complexity rehabilitation in district and local hubs
- Streamlined pathways to target the most complex cases and services at provincial hubs and moderate cases at intermediate hubs

Key features of the future vision, include, but are not limited to:

- Organization of services by Network level and level of care need for streamlined, appropriate access to available resources with consideration for volumes and geography
- **One Provincial hub** which provides highly specialized acute and rehabilitation services (e.g., Neurosurgery, Neurotrauma, Comprehensive Stroke Unit, Epilepsy Surgery and Monitoring Unit)
- A **number of Intermediate Referral Hubs** which provide support and access to greater specialty services closer to home and serve as a hub for nearby surrounding District hubs
    - Continuum includes: Primary Stroke Centre, Telestroke Hub, Spine Surgery (e.g., laminectomies), Navigation for complex needs
- A **number of District Referral Hubs** with capability to manage lower acuity services
    - Continuum includes: District assessment clinics, transitional care
- **Provincial standardization** of levels of care, triage protocols, and pathways from initial point of contact (i.e., 911 call) to transfer protocols (i.e., by air and land), post-acute, and repatriation
- **Enhanced virtual access to consultations** with specialized Neurosciences acute and rehabilitation specialists to support capabilities at Intermediate and District hubs
- **Central Referral Intake and Triage** pathways for specialized rehabilitation

Illustrative example of network hubs working together

Illustrative capabilities

Assessment clinics
Transitional care
Infusion centres

Illustrative capabilities

Enhanced community supports for earlier discharge, primary/ secondary prevention, ongoing primary health and chronic management

Illustrative capabilities

Navigation/service coordination support for those with the most complex needs

Allied health resources to support virtual delegated models of home based rehabilitation

Targeted inpatient and short stay rehab

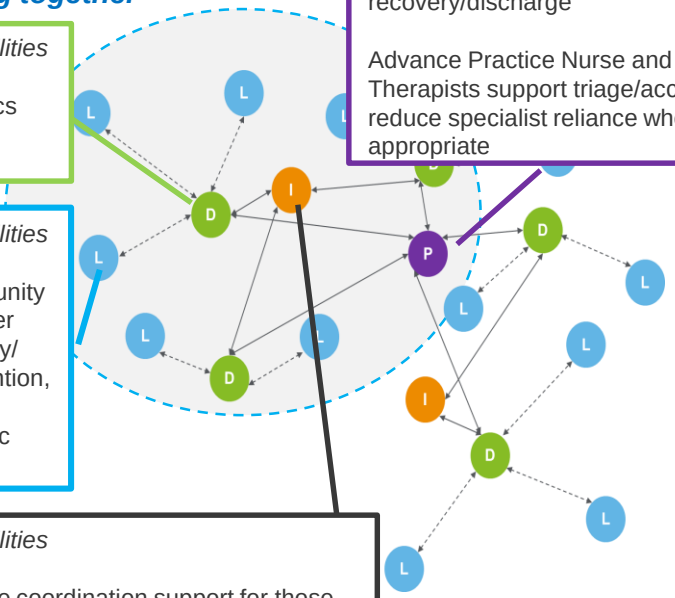
Spine surgery

Illustrative capabilities

Comprehensive stroke centre with dedicated stroke unit

Most types of specialized neurosurgery and inpatient rehabilitation with early supported recovery/discharge

Advance Practice Nurse and Therapists support triage/access to reduce specialist reliance where appropriate



Service standards and provider roles

	Service standards	Provider roles
Provincial Referral Hub	**Focus on urgent/emergent care and highly specialized care** • Provincial programs for stroke (comprehensive stroke centre with dedicated stroke unit), epilepsy (epilepsy surgery & monitoring unit), MS • Delivery of all neurosurgery other than spine • Specialized DI (i.e., gamma knife) • Access to specialized inpatient rehab • Centralized coordination for repatriation and navigational supports for follow-up (in particular for patients from rural & remote areas)	• Specialists provide support and consultation for Intermediate, District and Local hubs through provincial consultation service • Provincial specialists provide care to intermediate, district, local hubs through digital health tools (i.e., telehealth consults, remote monitoring, etc.) • Provincial specialists provide itinerant service for in-person care at intermediate sites • Alignment and integration with EMS and patient transport to ensure patients are transferred to appropriate settings of care across the future model
Intermediate Referral Hub	**Capability to deliver urgent/emergent care** • Monitoring of epilepsy including tele-EEGs • Provision of elective spine surgery by itinerant specialists • Infusion centres (building on CCMB model) • Primary Stroke Centre and Tele-stroke hub • DI Capabilities: MRI, CT, EEG	• Navigation and social work support coordination and navigation for complex cases (including labs, tests & appointments)
District Health Hub	**Capability to address lower acuity/complexity episodic needs** • Some may be primary stroke centres with telestroke access • Focuses on moderate-acuity conditions such as headache, vertigo • Provides transitional care to support repatriation and rehabilitation • Infusion centres (building on CCMB model) • DI capabilities: CT scan, EEG “caps”	• Assessment centres where inter-professional teams working to full scope of practice including physios to assess and manage patients and determine if neuro consult is needed
Local	**Capability to address prevention, education, and ongoing chronic management and support early supported discharge** • Home-based care through home care and remote monitoring to support earlier discharge and reduced LOS • Continuing care for rehabilitation and access to outpatient rehabilitation services • Education and awareness in partnership with public health • Caregiver and family support	• Enhanced My Health care team (MyHT 2.0), (e.g. physicians, nurses, NPs, allied health, health coaches) manages on-going support, screening, prevention, and partnering with home care • With input and support from provincial, intermediate and district providers, develop care plans to ensure care can be managed locally • MyHT 2.0 and rehab assistants to provide enhanced home care support for neurosciences with expanded scope of practice and use of alternate models of care (i.e., virtual care), where appropriate

Opportunities for innovative service delivery

Innovative service delivery and improved access to care can be achieved through digital technology, including associated information and technology requirements, as well as integrated support services including DI, laboratory, patient transport, Emergency Services, infrastructure and equipment. The table below highlights key elements for the Neurosciences PCT as they are unique to this Provincial chapter. Further, Key Performance Indicators have been outlined to assess the implementation of this model.

Digital Health	• Expanded access to telestroke • Access to telehealth and virtual care consults, assessments, treatments, and remote monitoring to improve linkages across the network, reduce unnecessary travel, and promote appropriate, earlier discharge home • Centralized referral and intake supports for navigation to streamline access to specialized services (e.g., specialized rehabilitation, spine clinic)
Diagnostic Imaging/Lab	• Alignment of intermediate referral hub capabilities with specialized diagnostic services (e.g., gamma knife, MRI, CT, EEG, tele-EEGs for epilepsy monitoring, primary stroke centre capabilities) • Alignment of district referral hub capabilities with enhanced diagnostic services (e.g., access to CT scan, EEG, primary stroke capabilities)
EMS/Patient Transport	• Alignment of EMS/patient transport protocols and triage criteria to support future model (e.g., in alignment with future stroke centres)
Infrastructure and Equipment	• Consideration for OR space to support future shifts (e.g., lower complexity/acuity surgeries closer to home, repatriation of surgeries back to Manitoba) • Consideration for allocation of dedicated space and/or co-location where warranted for specialized services, to align with any existing plans (e.g., dedicated stroke unit, epilepsy monitoring unit)
Prevention	• Linkages with municipal and social services partners and public health providers to support consistent prevention and self-management particularly in key areas of injury prevention (e.g., ABI, SCI, stroke) • Collaboration with FNHIB and linkages with nursing stations to support equitable access.

Key Performance Indicators

1. Reduced wait time for access to specialized neuroscience acute services (e.g.,spine clinic)
2. Reduced ALOS and reduced ALC days in acute care for targeted clinical populations (e.g., stroke) through enhanced community based / early supported discharge options
3. Reduction in post-stroke morbidity and mortality rates between pre/post stroke unit implementation
4. Increase in proportion of stroke patients meeting transportation guidelines and timeframes
5. Implementation/expansion of provincial initiatives (i.e., Spine Assessment Clinic, Stroke Unit) resulting in improved cost effectiveness