Digital Health Canada: Webinar Wednesday
Virtual Support for Hospitals Model of Care Project

February 5, 2025

Provincial Digital Health and Information Services
Partnering with the BC health sector, providers and citizens

We acknowledge with gratitude that we are gathered on traditional, ancestral and unceded territories of the First Peoples of British Columbia, who have cared for and nurtured the lands and waters around us for all time.

We give thanks, as Occupiers, for the opportunity to live, work and support care here.

Agenda

Topic

Problem Summary

Overview of Virtual Support for Hospitals Models of Care

- Virtual Support Models of Care in Canada

Building a Virtual Support for Hospitals Models of Care

Overview of Cariboo Memorial Hospital

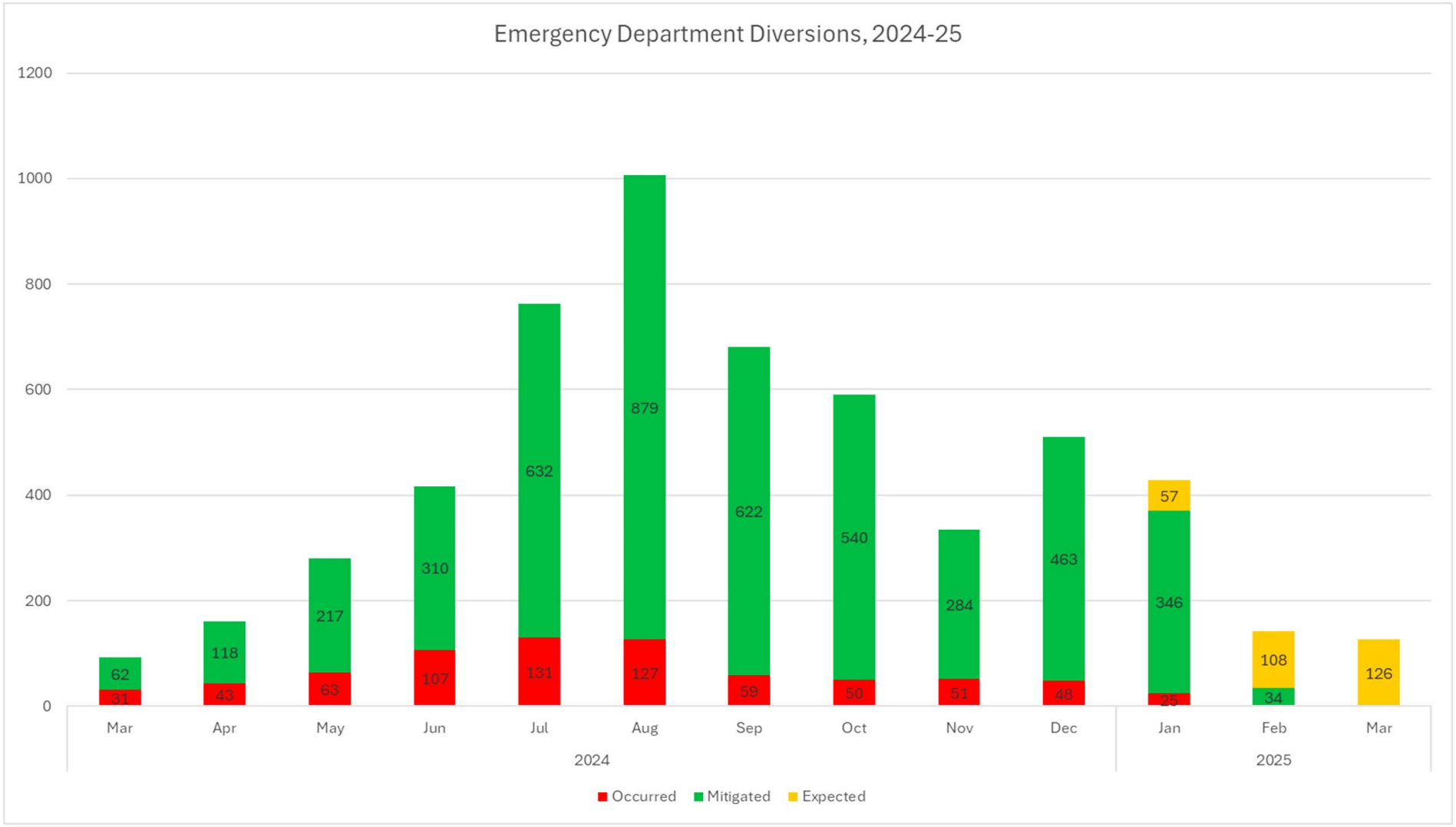
Overview of Northern Health Authority

Provincial Model of Care Development

Problem Summary

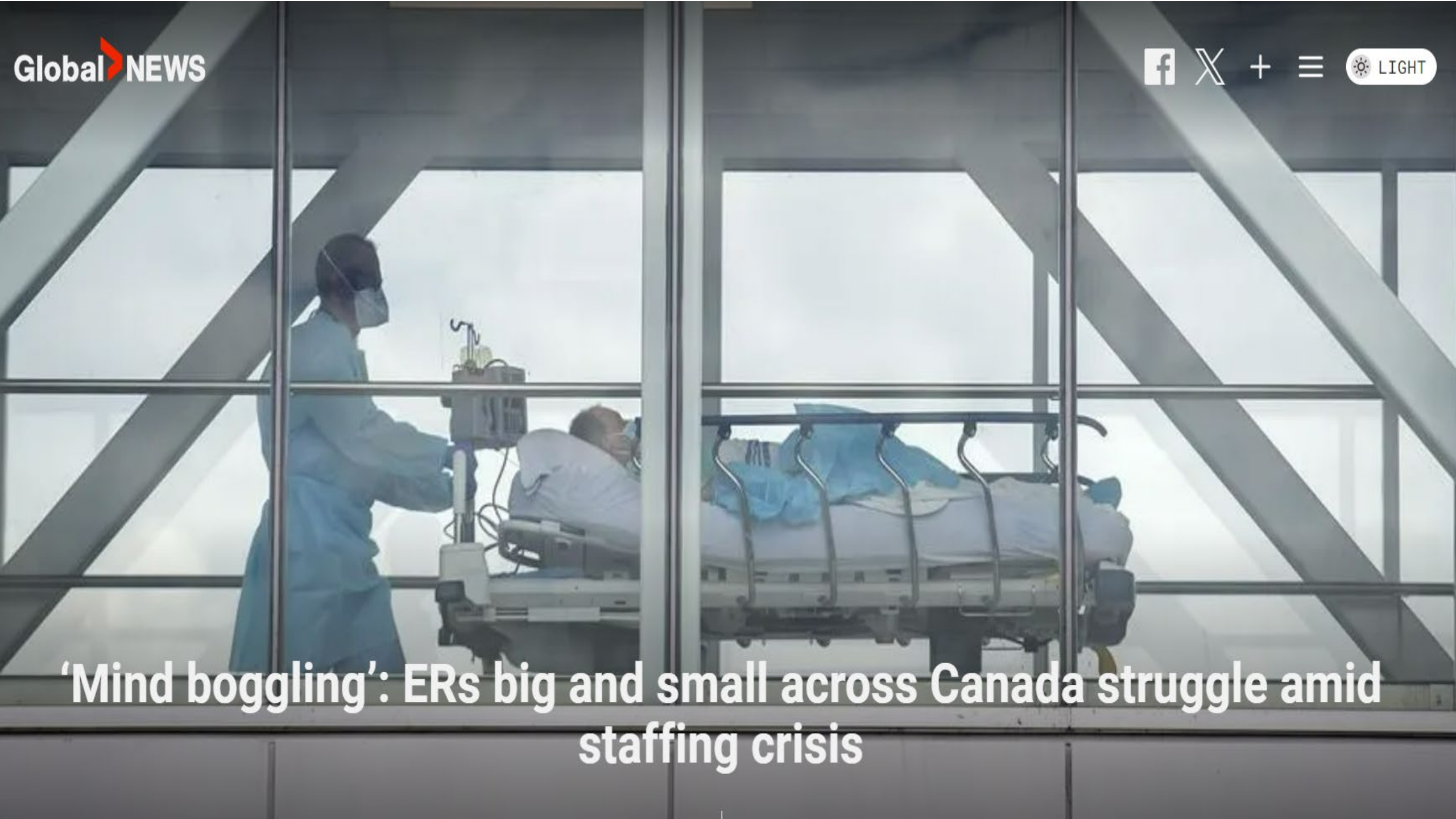
Provincial Digital Health and Information Services
Partnering with the BC health sector, providers and citizens

2024 Hospital Service Interruption Data



# of service interruptions: **710** (395* d/t physician)

# of projected service interruptions in Q1 2025: **291** (90% projected to be mitigated)



‘Mind boggling’: ERs big and small across Canada struggle amid staffing crisis

5 emergency rooms close in B.C. Interior over long weekend

All but 1 have since reopened, with Nicola Valley Hospital set to resume services Monday morning

CBC News · Posted: Sep 01, 2024 8:15 PM PDT | Last Updated: September 1, 2024

The Nicola Valley Hospital, the only hospital in Merritt, B.C., was closed on Sunday. Four other hospitals in B.C.'s interior paused emergency services over the long weekend. (Interior Health)

Rallies call attention to ER closures plaguing northern B.C.

Health minister says the province is hiring health-care workers at unprecedented rates, working with MLAs

Dozens attended a rally in Fort Nelson, B.C., on Monday, as northeast B.C. grapples with a series of emergency room closures this summer. (Submitted by Dan Davies)

Bridget Stringer-Holden · CBC News · Posted: Jul 29, 2024 9:38 PM PDT | Last Updated: July 29, 2024

Mission hospital's emergency room limits service; 3 other B.C. towns see ER closures this weekend

Mission Memorial Hospital on a cloudy day. (Credit: CityNews - FILE)

Problem Summary in Action - CMH

In-person care settings across BC are experiencing physician coverage shortages, leading to diversions and service interruptions. **Cariboo Memorial Hospital (CMH)** within the Interior Health region is one of these locations.

In February 2024, staffing challenges reached a new high:

Williams Lake and CMH

- 52% of people in Williams Lake do not have a primary care provider (increasing each year). Inpatients who were unattached in the community has increased from 23% to 33%.
- Emergency department visits increasing each year (18%)
- Almost **half** of emergency department visits each month are CTAS 4-5
- Most emergency department visits occur between 8am-midnight

CMH Staffing Challenges

- 45% of Family Physician* lines vacant (for Inpatient, has since changed to Hospitalist model)
- 61% of emergency department Physician lines vacant
- Locums have been used to help mitigate staffing challenges. 145 individual locum contracts per year in the last 2 years, filling 50% of all emergency department and inpatient physician shifts.
- 62% emergency department nursing shortages

Widespread Issue:

The problem extends beyond individual care settings, affecting multiple regions throughout the province.
For example: Prince Rupert, Fort St John, Port Alberni

Service Interruptions - CMH 2024

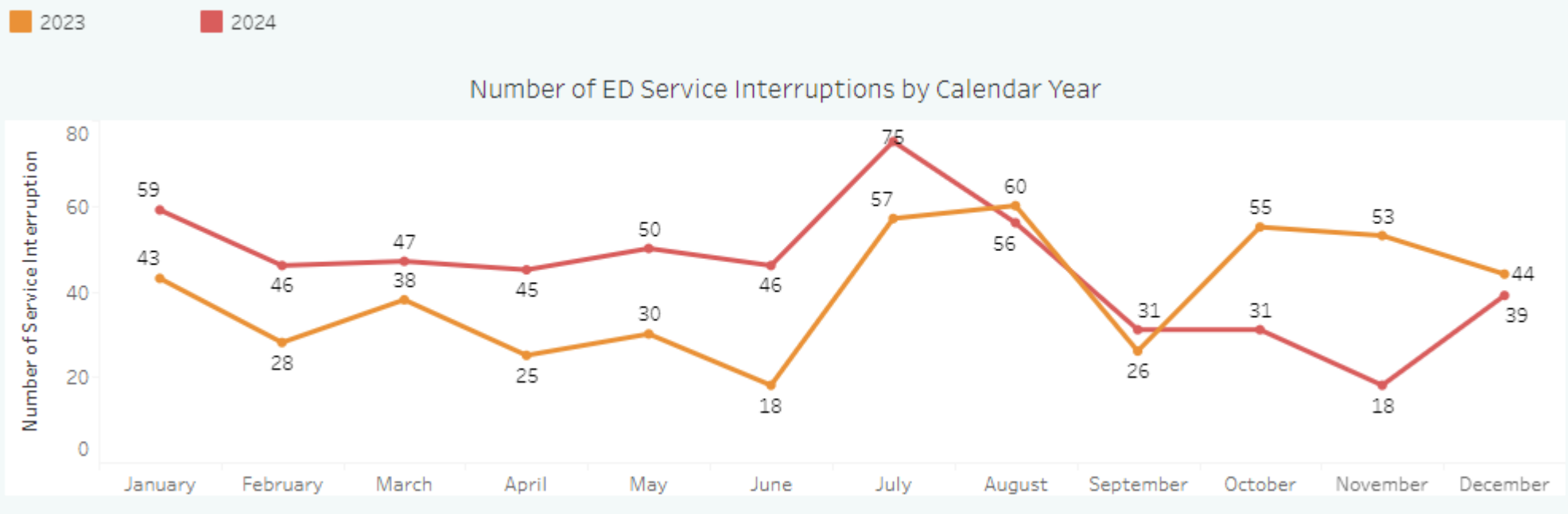
Inpatient Unit

- With a **50% vacancy rate in hospitalist staffing**, the CMH inpatient unit had decreased capacity on the following dates:
    - Dec. 15 to 20, 2023
    - May 17 to 23, 2024
    - Aug. 11 to 16, 2024 (one physician, max eight beds)
    - Aug. 30 to Sept. 6, 2024 (one physician, max eight beds)
    - Dec 20-29, 2024 **(mitigated via virtual)**
- During those times, patients requiring a hospital admission who were not attached to a physician were **transported to a community hospital outside their local community**.

Emergency Department

- In 2024, CMH experienced **18 service interruptions**, four from January to June, 10 in July and four in August.
- Four of 18 service interruptions were physician-related, while 14 were due to gaps in nursing coverage.
- The CMH ED implemented a life, limb, threatened organ (LLTO) strategy (resting physician on-call) to avoid full service interruptions during some night shifts in 2024.
- The current staffing levels as of January 2025 are:
    - Physicians:
        - **CMH ED has only 3.5 physician FTE filled within their 8.75 FTE contract**
        - **Over 5 FTE vacant**
        - The CMH ED is highly reliant on locum coverage in order to maintain services

Northern Health Authority Service Disruptions: 2023/24



Workload Impacts

Inpatient Bed Reductions:

- Identify cap of inpatient beds
- Identify sites with capacity to receive next admitted patient
- Hold ED admits outside of 8:00am-4:00pm
- Ensure transportation resources, no private interfacility transport so BCEHS deployed
- Coordinate transfer to new site
- MRP handover to reluctant receiving MRP
- Support family travel to support in new location
- Repatriation efforts in reverse to return

Emergency Department Service Interruptions:

- Identify potential service gap hours
- Exhaust all staffing opportunities to remain open
- Ensure BCEHS awareness and additional unit support
- Identify sites with emergency department capacity to direct public to
- Activate extensive communication of service interruption
- Lock doors 2 hours prior
- Clear emergency department backlog and ensure fulsome discharge disposition
- Track impact of lack of service

Mitigation Strategies

Vision

Enabling equitable local access to quality hospital care for all citizens of BC through virtual care.

Virtual Support for Hospitals Principles

Virtual care complements in-person care

Strengthen & support quality patient care

Equity & access to care

Culturally safe

High-quality patient-centered care

Complementary to existing virtual care services

Improve provider experience

Virtual Support for Hospitals Models of Care in Canada

Provincial Digital Health and Information Services
Partnering with the BC health sector, providers and citizens

Informant Interviews Across Canada

“Virtual care is safe care” –
Dr. Puneet Kapur, Saskatchewan

“Design the service based on the problem you are trying to solve” –
Dr. Jan Sommers, Nova Scotia

(On the patient experience) Ensure patient culture is considered in decision making –
Dr. Todd Young, Newfoundland

(On the provider experience) Focus on relationship building and making them feel like a team -
Dr. John Pawlovich, British Columbia

Jurisdictional Scan Summary

	Virtual Provider Staffing				Technology Complexity			Technology Implementation & Support		Virtual Provider Coverage Arrangement		
	Internal		External									
	Local	Health Authority	Provincial	Third-party	Low-Tech	Medium-tech	High-Tech	Internal	With Third-party Company	On-Site Hybrid	On-Call Hybrid	Fully Virtual
British Columbia: RCCBC VERRA			X		X			X			X	
British Columbia: *Eagle Ridge Hospital Virtual Evening Hospitalist*	X				X			X		X		
Newfoundland & Labrador: *Virtual Emergency Room Services*		X					X	X		X		X
Newfoundland & Labrador: *Virtual ED Physician Coverage, supported by Teladoc Health*				X			X		X			X
Nova Scotia: *VirtualEmergencyNS, supported by Maple*		X				X			X	X		
Central Saskatchewan: *Virtual Physician in Emergency Room*		X			X			X				X
Northern Saskatchewan: *Virtual Care and Remote Presence Robotics Program (University)*			X				X		X			X

Building a Virtual Support for Hospitals Models of Care

Provincial Digital Health and Information Services
Partnering with the BC health sector, providers and citizens

Components of Virtual Support for Hospitals Care Models

DECISIONS

Virtual Provider Staffing

Technology

Solution Implementation and Support

SITE OPERATIONS

Virtual Provider Coverage Arrangement Reflective of On-site Staff Scope and Capacity for Required Level of Care

REQUIREMENTS

Workflow Changes for Staff including Nursing and Allied

Systems for Care Coordination & Clinical Information Sharing

Defining Hybrid Care

- A hybrid care model integrates virtual providers with on-site teams, including nursing staff, to collaboratively manage patient care in hospitals.

- The primary objective of this model is to support in-person care in community through virtual support & prevent delays in care, *NOT to replace it.*

- I*n-person provider coverage should always be prioritized* whenever possible, with virtual providers serving as a valuable resource to bolster the on-site team's capacity and prevent service interruptions when an in-person provider is unavailable.

Readiness Assessment

1. Current State and Needs Assessment	• Data describing the following:
	  • Hospital and local community
	  • Patients
	  • Staffing
	  • Impacts of problem
	  • Current mitigation strategies

2. Change Readiness	• Executive leadership endorsement • Identify level of awareness of hybrid models of care of all involved • Identify resources and capacity • Identify change champions
3. Technology	• Identify requirements for new service • Identify capacity for new systems implementation
4. Clinical	• Identify requirements for new service • Build new workflows, least disruptive first. • Identify capacity for training and support onsite • Identify on-site support available for hands-on care if required in critical situations
5. Funding	• Identify available funding and costs of alternative mitigation strategies

Designing the Service Model

Build the model for the problem you are trying to solve → Replicate existing process as much as possible to reduce significant change for on-site staff including nurses and admin → Foster a culture of curiosity to build the MVP and iterate → *Address key considerations and requirements:*

Workflow Steps	Processes	Devices and Systems
• Admission • Registration & Triage • Assessment & Rounding • Handover • Follow Up • Escalation • Discharge	• Operations/Service Model • Communication • Patient Registration & Assignment • Orders • Documentation • Staffing & Services • Equipment/Devices, Technology & Systems Data, Privacy and Security • Training	• Site EMR and connected platforms, external websites (CareConnect, etc.) • Vendor EMR System, e-faxing, and Adobe • Vendor Virtual Assessment Device with peripherals (i.e. e-stethoscope) • Fax machine • Paper charts • Telephone

Service Design Approach

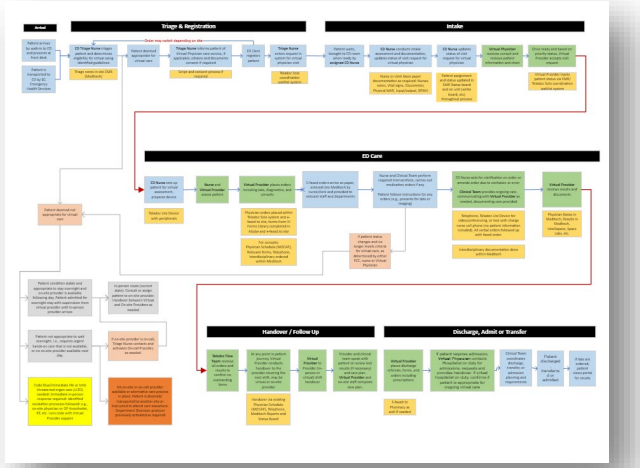
1. Working Group

Bring together key clinical, operational, and technical team members including:

- On-site CMH clinical staff for inpatient:
  - RN, charge nurse/care coordinator, nursing educator, clinical manager
  - Physicians
  - Registration, Medical Records
- Digital Health, Clinical Informatics, etc.
- Professional Practice
- Emergency Services Network
- Vendor staff (operations, nursing and physician leads)

2. Service Design Workflows

Develop map of patient and staff journey with key steps and tools/technology required for each



3. Requirements Tracker

Create list of confirmed considerations, actions, and outstanding key questions for implementing the solution

#	Category	Question	Proposed Solution at CMH
1	Service Model	Confirm what shift coverage the virtual physician will provide in the department: For how long, i.e., hours per day and days per set? Will it include overnight (currently 'on-call' for inpatient)? Note: Teladoc does not have an overnight compensation rate	See FAQ
2	Service Model	Confirm process for consent required for patients to be assigned a virtual physician. How is equitable workload and patient assignment addressed if most patients decline? What if there is no alternative physicians?	See FAQ
3	Service Model	Are there any increased staffing needs (i.e., nurses, on-site providers, other staff), for launch and/or ongoing? What can other staff besides nurses do to support the model? If only RNs caring for hybrid patients, what can LPNs, charge nurses do to support model?	Per the site needs: - Extra nursing staff have been scheduled for the first week of launch - 2 in person hospitalists for the first 2 weeks of launch, along side virtual hospitalist. Then down to 1 onsite and 1 virtual hospitalist for the duration of the pilot
4	Service Model	Identify clinical policies, guidelines, standards, code procedures, etc. that need to be updated or created to accommodate new model of care	Site dependent, will be done as the protocols/guidelines are found. Workflows and processes which are updated due to virtual model of care are housed in the manager sharepoint for their access
5	Service Model	Identify the criteria and guidelines to guide decision making for determining patient eligibility and appropriateness for assignment to virtual physician and which staff will make this decision	See FAQ
6	Service Model	What is the impact of this program on nurses? What staff will support the virtual physician during their rounding for physical assessments?	See FAQ
7	Service Model	How should on-site staff communicate and inform the patient about hybrid care with a virtual physician before the assessment?	See FAQ
8	Service Model: Subsequent Phase	Identify if strategic scheduling between virtual ED and virtual inpatient required.	TBD: Subsequent Phase

Work Back Plan

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11
Initiation											
Define project vision, goal and objective											
Business Case and Contract approval											
Form leadership group and project team											
Jurisdictional scan and literature review											
Finalize governance structure											
Develop Project Charter											
Plan											
Define deliverables and create schedule											
Clinical Working Group											
Communications Working Group											
Change Management Working Group											
Technical Working Group											
Data and Evaluation Working Group											
Access and Credentialing											
Site Visit #1											
Execution											
Complete deliverables											
Monitor risks											
Training											
Site Visit #2											
Launch pilot project											
Evaluation											
Track progress and make adjustments											
Monitor KPIs											
Communicate on progress											
Close											
Review deliverables											
Document lessons learned											

Vendor Decision Points

Selection:

- The assessment and validation of vendor options, based on outcomes from the jurisdictional review and cross-Canadian experience.
- Evaluation emphasized the vendors' ability to meet clinical requirements.
- Preferred vendor emerged due to its unique experience in providing services for CTAS 1-5 fully virtual models of care.

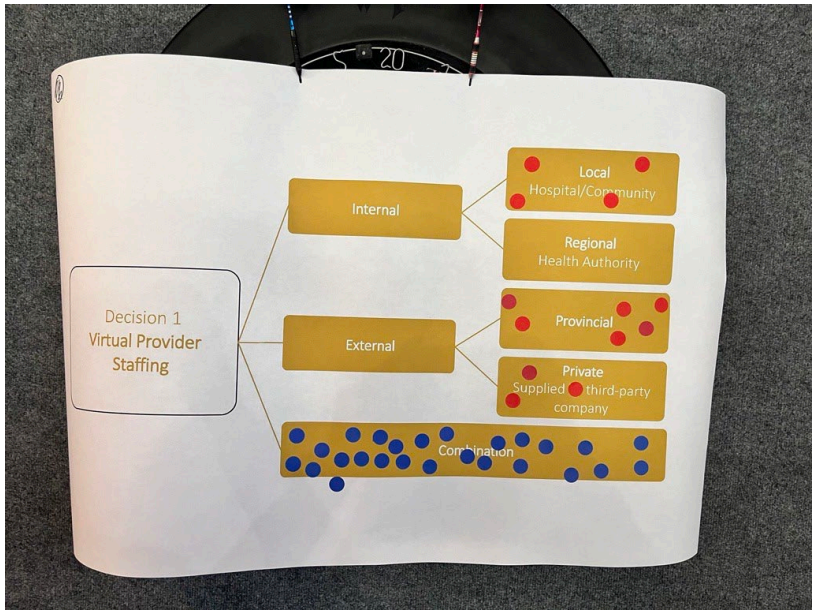
Management:

- Regional contracting with support from province to ensure consistency
- Regional management

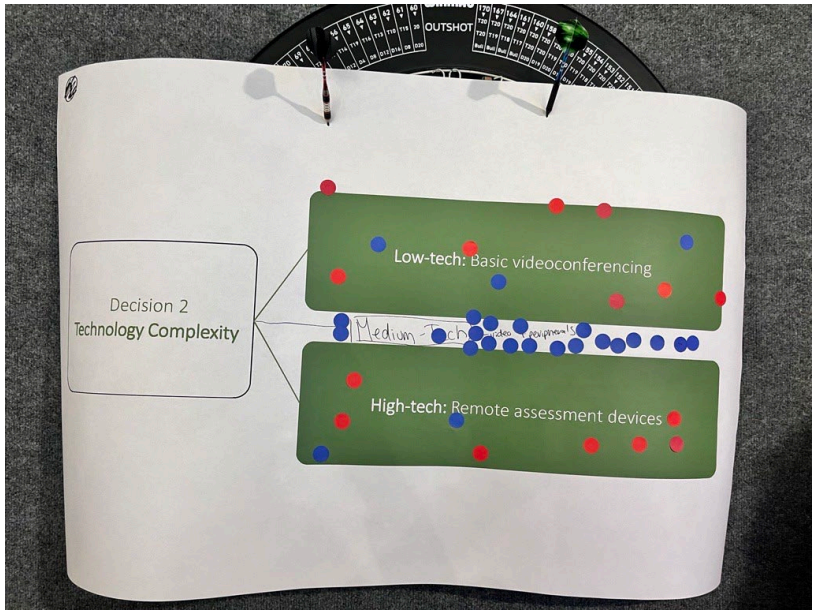
Regional Virtual Support for Hospitals Model of Care: Cariboo Memorial Hospital

Provincial Digital Health and Information Services
Partnering with the BC health sector, providers and citizens

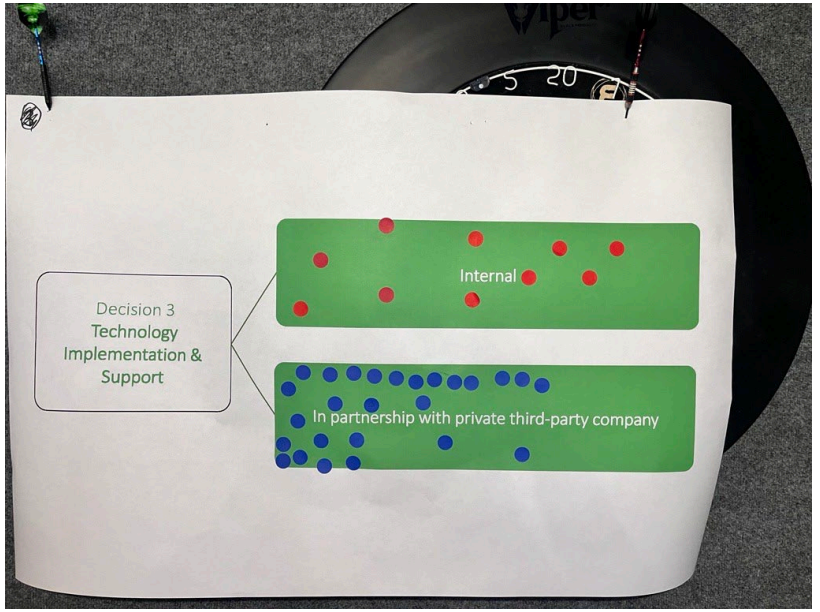
CMH Virtual Support Model Development



Key Decision 1:
Combination of Internal and External Virtual Provider Staffing



Key Decision 2:
Medium Technology Complexity



Key Decision 3:
Technology Implementation and Support in Partnership with Third-Party Company

Model of Care for Cariboo Memorial Hospital Pilot

Phase 1: Inpatient	Phase 2: Emergency Department (Proposed)
Start with inpatient units given the significant scheduling gaps.	Dependent on site readiness and vendor collaboration. Example phases of this model are below.
Phase 1A: On-site hybrid augmentation • 2 on-site hospitalists + 1 virtual hospitalist **Phase 1B: On-site hybrid** 2 hospitalists to cover complete patient load • 1 on-site hospitalist + 1 virtual hospitalist • Coverage for full week **Phase 2: Fully virtual daytime** 2 virtual hospitalists • Coverage for daytime • Escalation to ED if needed • On-call in person provider over night	**Phase 2A: On-site hybrid** • Virtual provider as augmentation to existing on-site physician service **Phase 2B: On-site resting hybrid** • ED physician On-call resting on-site for in-person care when required

Interior Health Authority
1 Month Summary: Key Metrics

Provincial Digital Health and Information Services
Partnering with the BC health sector, providers and citizens

Cariboo Memorial Hospital Pilot – Summary of CMH Key Metrics (1 Month)

Higher admissions but occupancy trending downwards	No differences observed in key safety metrics	No difference in length of stay, re-admission rates, or transfers back to the ED maintained	Patient satisfaction is slightly lower	Provider satisfaction is mixed
Analysis: if the virtual model was not present, the hospital would be struggling to support patients	**Analysis:** virtual care is safe care, with appropriate escalation pathways	**Analysis**: virtual care maintains status quo for access and flow indicators	**Recommendation:** • Consistent provider over multiple shifts • Ensure 1:1 time with virtual physician and patient • Adequate training for virtual providers	**Analysis:** better solution vs. service interruptions **Recommendation**: Continue to improve workflow efficiencies to decrease extra workload on staff

Provider Feedback

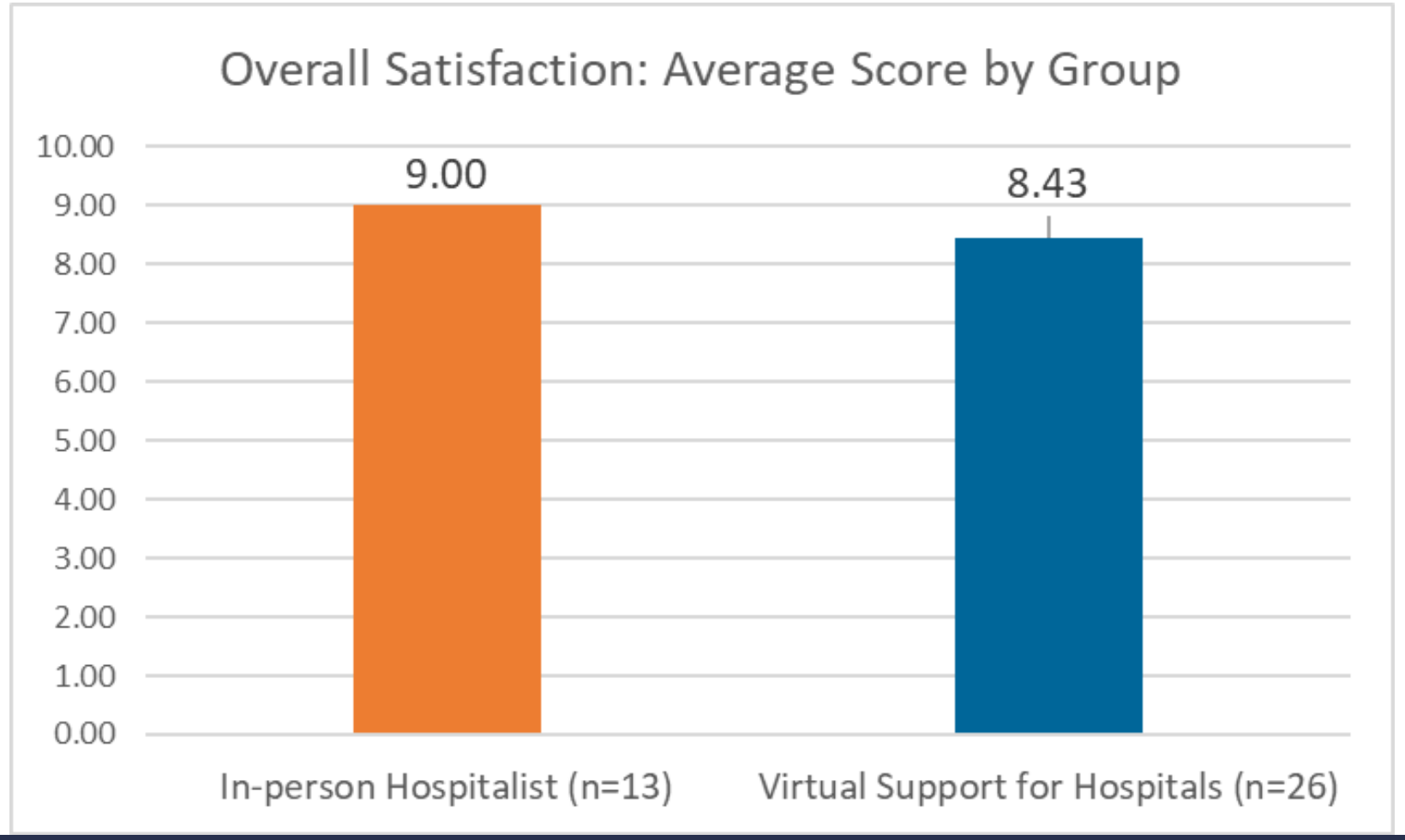
"The majority of in-person providers have found the experience to be quite smooth and the workload division equitable, there are a couple of docs that are more hesitant but adjusting to the workflows" - **Dr. M. Neuhoff, Department Head, IH**

"Teladoc virtual care has great potential to alleviate pressures within our health authority, but it requires thoughtful refinement in both system processes and resource allocation." - **Dr. Joubert, IH/Teladoc Physician**

Field notes from staff debrief sessions:

- Additional burden on nursing staff and efficiencies are being made via PDSA cycles
- Lack of electronic integration creating additional work for physicians and nurses
- Feedback from anonymous kiosk in staff lounge has been positive
- Overall, staff are excited for this model to mitigate service disruptions

Patient Experience: Overall Satisfaction



Lessons Learned

Successes:

- Positive patient feedback
- Provider engagement and willingness to collaborate and adjust
- LPN as primary nurse success
- Quick response by IH and vendor teams when issues arise

Challenges:

- Virtual physician turnover
- Workflow adjustments and inconsistencies, time burden for PCCs on unit
- Inefficiency with hybrid forms etc.
- Change readiness

Regional Hybrid Model of Care: Northern Health Authority

Provincial Digital Health and Information Services
Partnering with the BC health sector, providers and citizens

Northern Health

Virtual Emergency Services	Virtual Urgent Care Services	Virtual Inpatient Services
• Fraser Lake Health Centre (Diagnostic and Treatment Centre) • Launched December 9 for 8 hours / day (M-F) • Objective: Add physician capacity to manage Emergency Services while onsite physician manages Primary Care Services	• Prince George Urgent Primary Care Centre • Launched December 8 for 8 hours /day • Objective: Add physician capacity to maintain service continuity, address service demand, and increase access	• Preliminary Planning on Service Model • Objective: Augment existing Doctor of the Day Inpatient Program • Site TBD

Northern Health

Lessons Learned

Change Management

- Assess site readiness and adjust approach depending on "starting point"
- Focus on the co-design of clinical workflows and central goal of delivering high-quality care
- Build trust and confidence with all impacted teams

Implementation

- Importance of the breadth of enablers and impact in the organization
- Build in a stabilization period for the service
- Create opportunities for in the moment feedback and improvements to the model

System Impacts

- Measure and evaluate and consider broader system goals
- Prioritize service and system integration
- Team based model of care

Long Term Planning

- Balance short term opportunity with longer term goals to build a sustainable service model
- Identify and explore other areas we can apply hybrid model
- Evolve structure and processes for hybrid models

Building a Provincial Virtual Support for Hospitals Model of Care

Provincial Digital Health and Information Services
Partnering with the BC health sector, providers and citizens

Virtual Support for Hospitals Model of Care

Regional Pilots, Supported by Vendor

Aim to address immediate needs in mid-sized hospitals in the short term

- **External vendor** contracted as short-term solution
- We do not yet have the infrastructure, consistent technology or access to a provincial pool of virtual physicians to provide this coverage
- Vendor contracts with Health Authorities are 6 months and can be extended up to 2 years
- This will allow time to develop a provincial solution

Provincial Planning

Longer term planning to develop a sustainable provincial solution

- A Provincial Governance Committee has been established for shared governance for implementation, quality and evaluation. The committee will focus on:
  - Developing a framework that is applicable to hospitals across BC, including rural and remote sites supported by Rural Coordination Centre of BC
  - Exploring a provincial virtual provider pool, which could build on existing locum structures
  - Exploring consistency of technology and information sharing

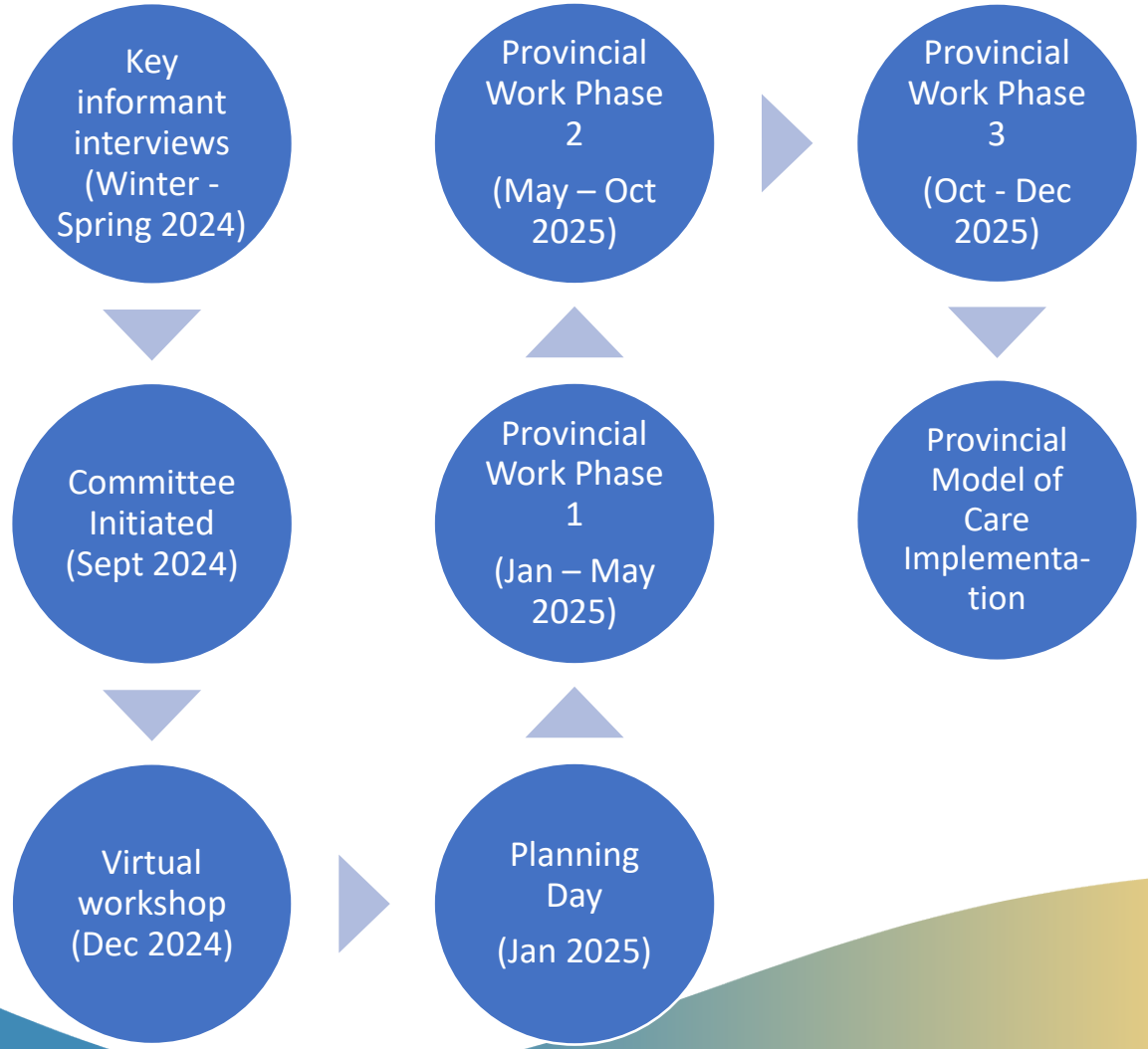
Leveraging Learnings Across Regions

- Readiness assessment
- Jurisdictional scan
- Templates:
  - Virtual triage protocols
  - Workflows
  - Communications materials
  - Change management materials
  - Work back plan/project plans
- Vendor contracting
- MoH protocols

Provincial Virtual Support for Hospitals Model of Care Committee

Partners:

- Ministry of Health
- Emergency Care BC
- Provincial Virtual Health
- Critical Care BC
- Rural Coordination Centre of British Columbia
- First Nations Health Authority
- Interior Health Authority
- Providence Health Care
- Fraser Health Authority
- Vancouver Coastal Health Authority
- Island Health Authority
- Northern Health Authority
- University of British Columbia



Planning for Provincial Solution

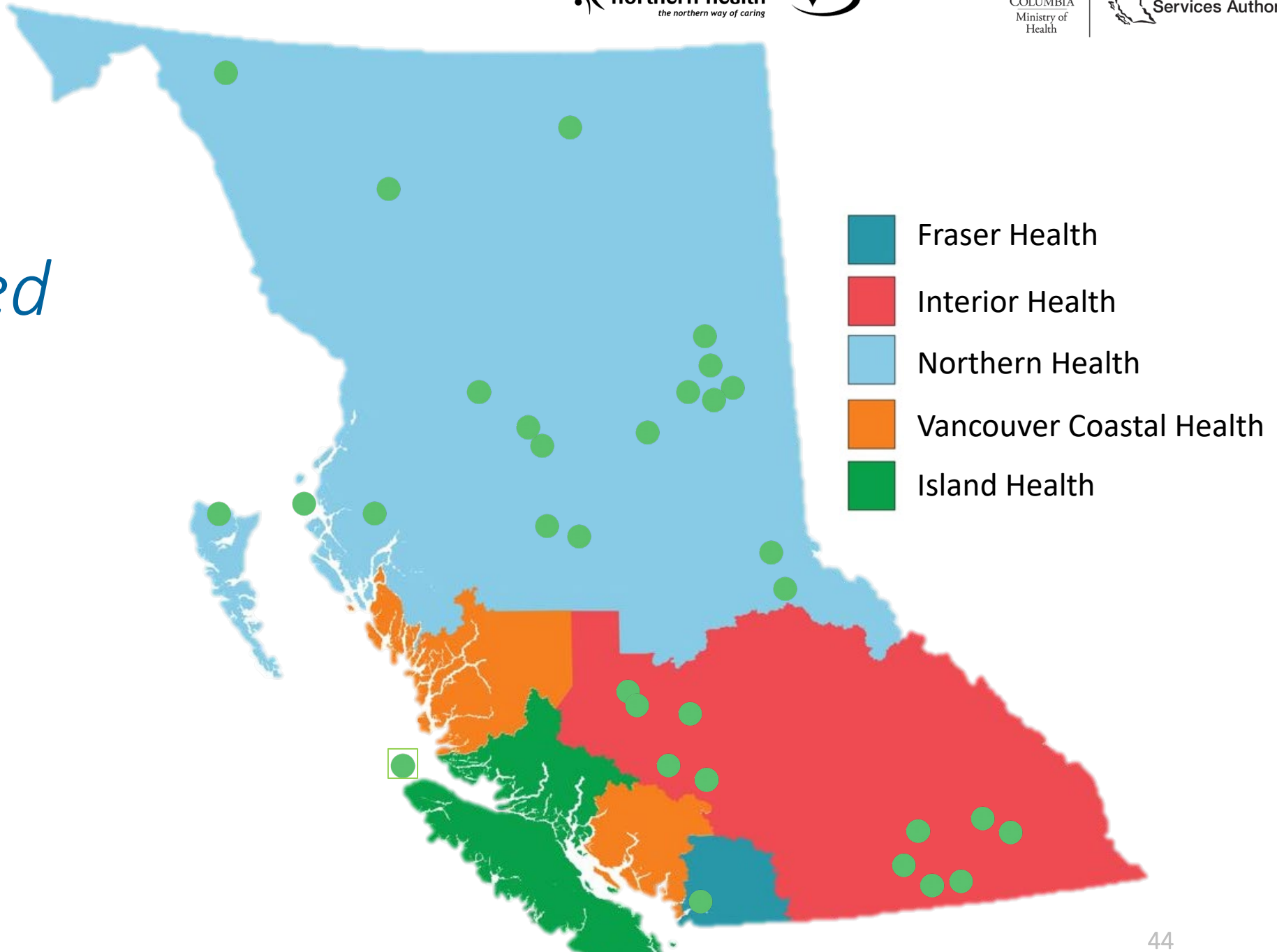
Purpose
Connected, consistent and standardized long-term virtual support solution for hospitals, enabling staff and support across multiple sites and regions

Activities
Defining clinical requirements on a provincial level, assessing existing technology solutions available on contract and understanding potential solutions, understand financial and clinical impacts of options, and potentially procuring technology provincially to address gaps.

Explore:

- **Sustainable Pool of Virtual Providers**
- **Provincially Consistent Technology Solution/Platforms**
- **Provincial Governance, Quality Standards, Evaluation**

Future State:
Vision Realized



Questions

northern health
the northern way of caring

Interior Health

BRITISH COLUMBIA
Ministry of Health

Provincial Health Services Authority

Thank you

Provincial Digital Health and Information Services
Partnering with the BC health sector, providers and citizens