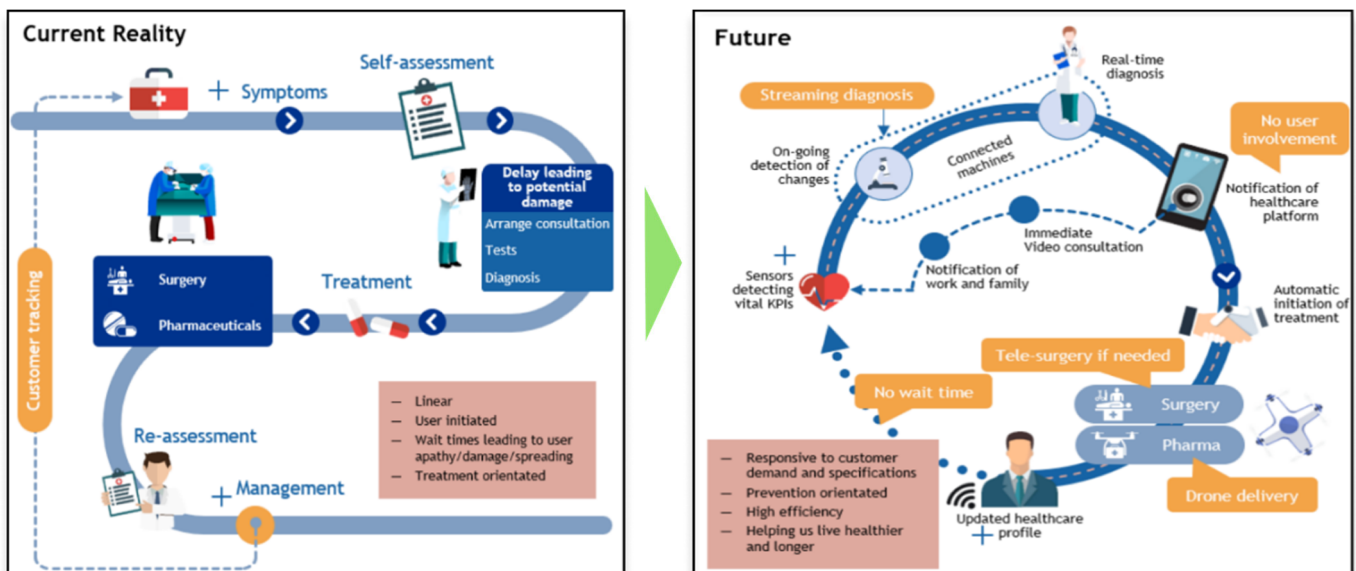# Health PEI

Modernizing Health Care Connectivity (MHCC) Project

You may be familiar with Internet of Things (IoT) devices such as fitness trackers, smart thermostats, and smart speakers like Amazon Echo and Google Home. The IoT is a system of wireless, interrelated, and connected digital devices that can collect, send, and store data over a network without requiring human-to-human or human-to-computer interaction.

Now imagine a healthcare system running on the same principles: sensors on a hospital bed, IV pump, temperature sensor, medical instrument, or wayfinding device continually send data to a monitoring system allowing for ongoing detection of changes and real-time diagnosis.

This is the promise of the Internet of Medical Things (IoMT).

IoMT is a network of medical equipment, software, and tech solutions that can be used to monitor patient health, administer therapies, and even support surgical procedures. IoMT devices are designed to meet industry standards for accuracy, reliability, and compliance with health regulations.

Through the Modernizing Health Care Connectivity (MHCC) Project, eHealth PEI is focused in laying the groundwork for this possible future state.

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Benefits of Connectivity-Enabled Health Care Delivery:

For patients:
- ✓ Improves the experience at home and in the health care system
- ✓ Connects individuals with their health care team through remote monitoring and virtual care, leading to better quality care, shorter wait times and improved access
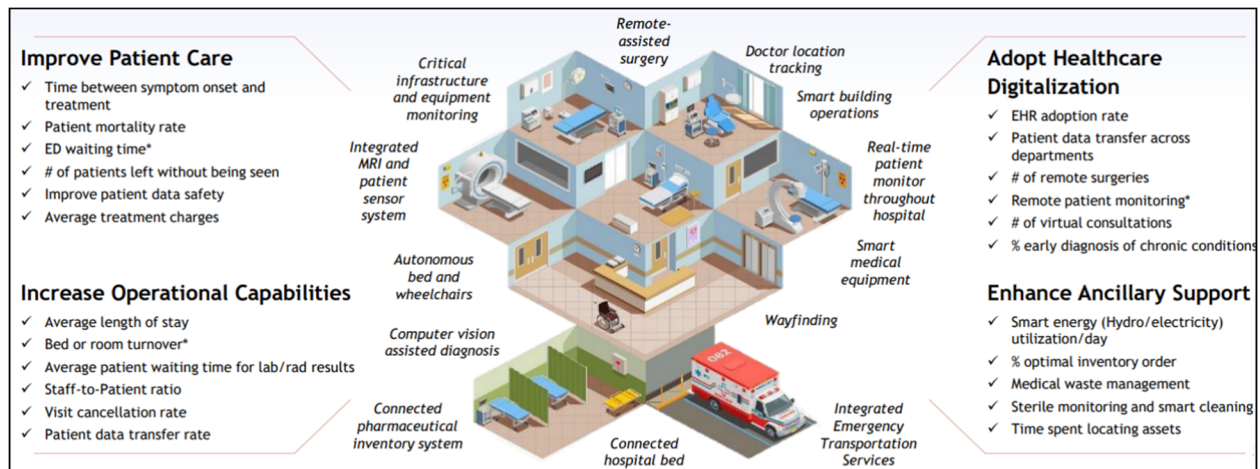
For managers:
- ✓ Improves operational management in health care facilities
- ✓ Provides fast and direct access to information, allowing for cooperation and exchanges with colleagues

For clinicians:
- ✓ Provides timely information on patients' well-being to improve services and reduces time spend documenting duplicate information
- ✓ Encourages multidisciplinary collaboration

Improve Patient Care
- ✓ Time between symptom onset and treatment
- ✓ Patient mortality rate
- ✓ ED waiting time*
- ✓ # of patients left without being seen
- ✓ Improve patient data safety
- ✓ Average treatment charges

Increase Operational Capabilities
- ✓ Average length of stay
- ✓ Bed or room turnover*
- ✓ Average patient waiting time for lab/rad results
- ✓ Staff-to-Patient ratio
- ✓ Visit cancellation rate
- ✓ Patient data transfer rate

Critical infrastructure and equipment monitoring
Integrated MRI and patient sensor system
Autonomous bed and wheelchairs
Computer vision assisted diagnosis
Connected pharmaceutical inventory system
Connected hospital bed
Remote-assisted surgery
Doctor location tracking
Smart building operations
Real-time patient monitor throughout hospital
Smart medical equipment
Wayfinding
Integrated Emergency Transportation Services

Adopt Healthcare Digitalization
- ✓ EHR adoption rate
- ✓ Patient data transfer across departments
- ✓ # of remote surgeries
- ✓ Remote patient monitoring*
- ✓ # of virtual consultations
- ✓ % early diagnosis of chronic conditions

Enhance Ancillary Support
- ✓ Smart energy (Hydro/electricity) utilization/day
- ✓ % optimal inventory order
- ✓ Medical waste management
- ✓ Sterile monitoring and smart cleaning
- ✓ Time spent locating assets

## Laying the foundation for the future state:

The Modernizing Health Care Connectivity (MHCC) Project is being rolled out in four stages to enable and implement the integration of IoT/IoMT and non-traditional IT medical wireless devices throughout HPEI facilities and health services.

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Phase 1:

- Define the governance structure.
- Establish a dedicated change management team and framework.
- Enhance current privacy and security framework.

We are here.
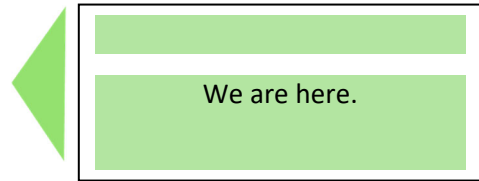
Phase 2:

- Identify current gaps and future needs in terms of skills and capabilities to support each step of the integration.
- Establish standards, policies/procedures, and documentation to effectively manage wireless devices.
- Identify and monitor metrics and KPIs, in alignment with the organizational strategic plan.

Phase 3:

- Establish a comprehensive vendor ecosystem.
- Establish clear device management processes.
- Develop effective business continuity plans.
- Develop and communicate resources and tools to support project management, training, and communication initiatives.

Phase 4:

- Develop a customer support service desk.
- Evaluate current and establish further priority Service Level Objectives (SLOs) to monitor the quality of sustainment service support to HPEI.

Potential barriers

Implementing the MHCC project vision requires time, funding, and support.

The following constraints will need to be addressed as PEI integrates more IoT/IoMT and non-traditional IT wireless medical devices into its health care system.

1. Resource capacity
2. Vendor partnerships
3. Competing priorities
4. Security compliance
5. Capitol and operational budget

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Connectivity-Enabled Health Care Delivery in Action

British Columbia Citizen Support Desk

The Provincial Health Services Authority Office of Virtual Health (OVH) worked with the Information Management and Information Technology Service (IMITS) video conferencing team to implement a British Columbia Citizen Support Desk to help citizens set up their technology to have virtual care meetings. Health care providers continued to use the traditional provincial health care service desk for their support.
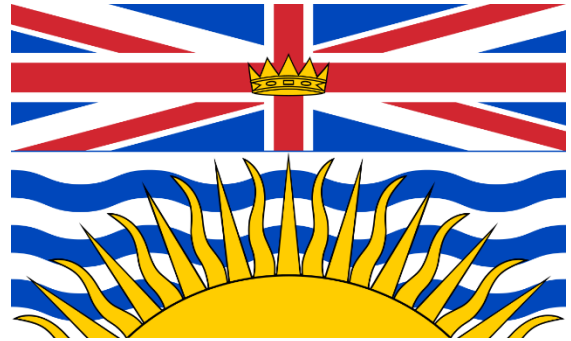
The OVH and IMITS teams trained staff to work on the desk, prepared materials on how to prepare for your virtual visit and established a dedicated phone line available from 7 a.m. to 5 p.m. Monday to Friday.

Within a month of its launch, they helped over 6,000 citizens.

Between April 2020 and February 2021, there were 699,418 virtual visits with 349,709 people. There was a particularly large uptake by BC Cancer and BC Mental Health services to enable the continuation of care throughout the pandemic.

Health Science Center (HSC): Winnipeg

HSC developed a future state operating model to identify priority areas for virtual care and created a centralized service support model, including:

(1) Virtual care coordination team: A dedicated team to help patients navigate virtual care services and ensure a high-quality experience and continuity of care.

(2) Information Technology Hub: A centralized information technology hub to standardize and streamline virtual care services and reduce administrative burden on clinicians and staff.

HSC also implemented Bluetooth devices to enable remote monitoring of patients with specific health conditions such as COPD and to automate the collection of data.

To ensure success, HSC included a Patient Voice Committee in its governance structure to better understand the patient experience, identify areas for improvement and promote a seamless experience.

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Virtual Care Technical Support Desk (VCTSD) - Health PEI

To help Islanders smoothly access virtual health care services, Health PEI set up a Virtual Care Technical Support Desk (VCTSD).

This initiative is designed to assist Islanders with the technical aspects of virtual care, ensuring they can connect with their health care providers effectively.

Michael Lapointe, the Virtual Care Support Specialist, is dedicated to helping Islanders with their virtual care needs. He provides guidance on logging into Maple for Healthcare and troubleshooting various technical issues. Although he cannot offer medical advice or write prescriptions, he can direct patients to appropriate resources and help them navigate the virtual care system.
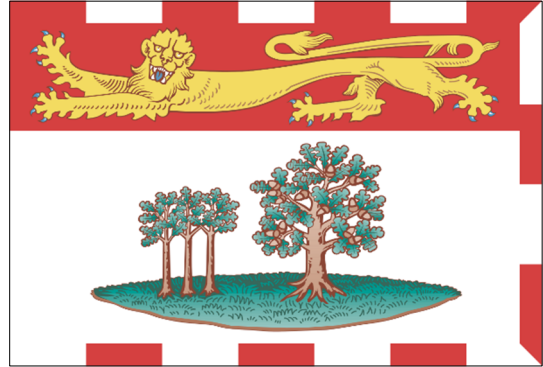
The VCTSD is available to help with:

- Installing and using applications for virtual care.
- Testing video calls.
- Signing up for virtual care services.
- Troubleshooting issues with cameras, microphones, computers, smartphones, and internet connections.
- Ensuring a smooth virtual visit experience.

Since its launch, the VCTSD has helped 2,602 Islanders through 2,051 phone calls and 561 emails.

On average, the VCTSD supports approximately 140 Islanders per month, with inquiries coming in about 70% by phone, 25% by email, and 5% through internal referrals. See the graphic below for a snapshot of the VCTSD support methods over the last 12 months.

VCTSD Statistics - Interactions by Method - Past 12 months

	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24
VCTSD Phone	130	119	160	97	124	112	94	72	106	74	96	120
VCTSD Email	26	37	29	33	31	25	23	18	30	31	38	36
VCTSD Internal	0	2	6	4	3	8	14	11	11	8	12	25
VCTSD Monthly Total	156	158	195	134	158	145	131	101	147	113	146	181

Date - Month / Year

Legend: VCTSD Phone, VCTSD Email, VCTSD Internal, VCTSD Monthly Total, Expon. (VCTSD Phone), Expon. (VCTSD Email), Linear (VCTSD Internal), Linear (VCTSD Monthly Total)
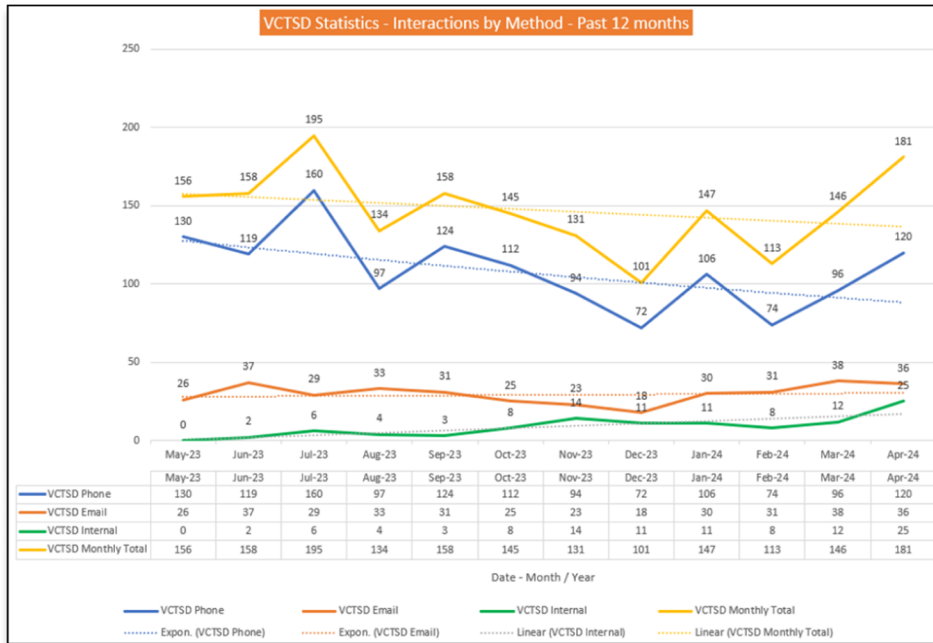
Image: VCTSD Statistics – Past 12 Months

For more information on the Virtual Care Help Desk visit:

https://www.princeedwardisland.ca/en/information/health-pei/prepare-for-your-virtual-care-visit

https://www.princeedwardisland.ca/en/information/health-pei/virtual-care-technical-support-desk

For more information on the Modernizing Health Care Connectivity Project

Contact Hanushya Tiwari, Project Manager, at htiwari@ihis.org