

Selecting appropriate telehealth technology for remote and isolated First Nations nursing stations: a Human Factors approach

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Prepared by:



**Healthcare
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a place of mind
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eHealth Strategy Office



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Background

The *Health Services and Delivery Models in Remote and Isolated (HSDM RI) First Nations Communities* is a multi-year project to improve primary health care services to individuals and families living in remote and isolated communities.

The FNIHB eHealth Infostructure Program (eHIP) is leading the work to optimize technologies, information management and to strengthen infrastructure.

The Issue

The introduction of technology within remote and isolated First Nations nursing stations can save time for clients, increase a community's capacity to manage priority health problems, and reduce travel costs.

However, the integration and implementation of such technology is not always successful.

Objective

Understand the needs and context of remote and isolated First Nations nursing stations and how they can best be supported with information and communication technologies (ICTs).

What is Human Factors?

Human Factors examines the interaction between people and technology both physically and psychologically.

A Human Factors Approach

- ENGAGE regions and communities to understand health information and communication needs

Human Factors Methods

1. Environmental scan
2. Site visits
3. Technology showcase

Environmental Scan

Site visits are limited:

- Sites are pre-determined
- Very small sample size

Site Visits



Shamattawa, MB



Kashechewan, ON



Sandy Lake, ON



English River, SK



Daily Schedule

FNIHB Showcase 2014
Connected, Informed, Healthier

TUESDAY, JUNE 3	WEDNESDAY, JUNE 4	THURSDAY, JUNE 5
<p>8:00 am Registration</p> <p>8:15 am Introduction & Welcome <i>Tracey Herlihey, Healthcare Human Factors</i></p> <p>8:30 am Future eHealth Vision Exercise</p> <p>9:05 am Quick Fixes Exercise</p> <p>9:40 am Managing Workflow Issues</p> <p>10:20 am 10 MINUTE BREAK</p> <p>10:30 am NightingaleMD EMR <i>Sam Chebib, Nightingale Informatix</i> <i>Patty Gurung, Nightingale Informatix</i></p>	<p>8:30 am First Day Recap</p> <p>9:00 am Medly App <i>Stephanie So, Healthcare Human Factors</i></p> <p>9:30 am Bant2 App <i>Shivani Goyal, Healthcare Human Factors</i></p> <p>10:00 am Remote Monitoring: Q&A</p> <p>10:20 am 10 MINUTE BREAK</p> <p>10:30 am Point-of-Care Testing (POCT) <i>Christine Cursio, University Health Network</i></p> <p>11:00 am Inter Medico POCT <i>Jackie Van der Kant, Inter Medico</i></p>	<p>9:00 am Store & Forward <i>Stewart Stein, Ontario Telemedicine Network</i></p> <p>10:00 am Teleophthalmology <i>Dr. Michael Brent, University Health Network</i></p> <p>10:50 am 10 MINUTE BREAK</p> <p>11:00 am Interactive Telehealth Discussion <i>Kendall Hochstedler, KO Telemedicine</i></p>
<p>11:30 am GROUP LUNCH (OPTIONAL)</p>	<p>12:00 pm LUNCH</p>	<p>12:00 pm LUNCH</p>
<p>1:00 pm OSCAR EMR <i>Tracey Carr, OSCAR McMaster</i></p> <p>3:00 pm 10 MINUTE BREAK</p> <p>3:10 pm TELUS EMRs <i>Kieran Tracey, Telus Health Solutions</i> <i>Rohit Prakash, Telus Health Solutions</i></p> <p>5:00 pm Wrap-Up</p>	<p>1:00 pm Abbott Point of Care POCT <i>Anokhee Mehta, Abbott Point of Care</i></p> <p>2:00 pm 10 MINUTE BREAK</p> <p>2:10 pm Rotating Station Workshops Station 1: Focus on Patients Station 2: Focus on Practitioners Station 3: Focus on Professional Development Station 4: Focus on Other Technologies</p> <p>4:00 pm Wrap-Up</p> <p>7:00 pm GROUP DINNER (OPTIONAL)</p>	<p>1:00 pm Telepresence <i>Arturo Muslera, InTouch</i></p> <p>3:30 pm Wrap-Up & Closing Thoughts</p>



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chemistry analyzer

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Findings: Successes and Strengths

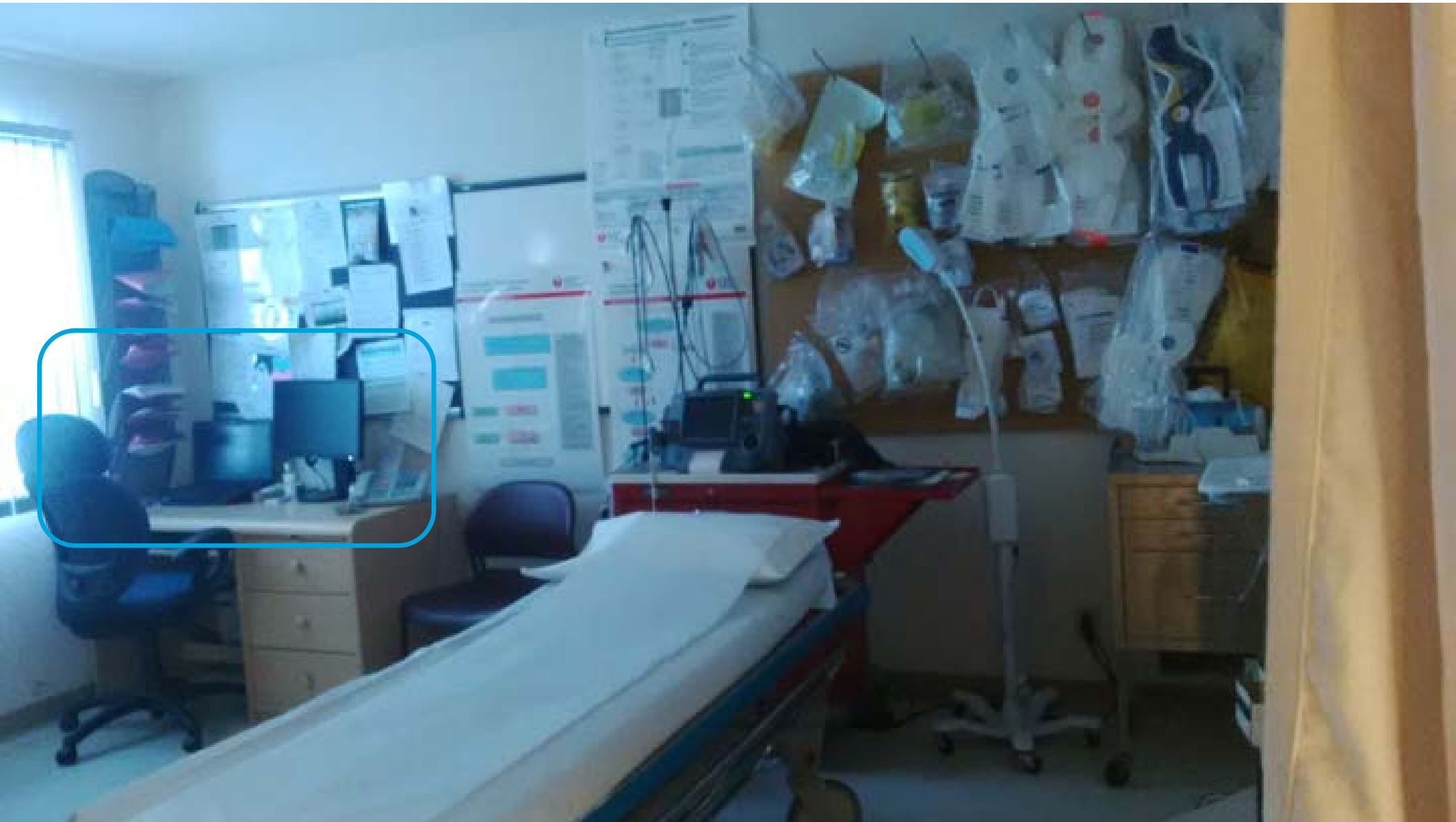
- Strong working relationships between nurses and community health workers had a positive effect on care delivery.

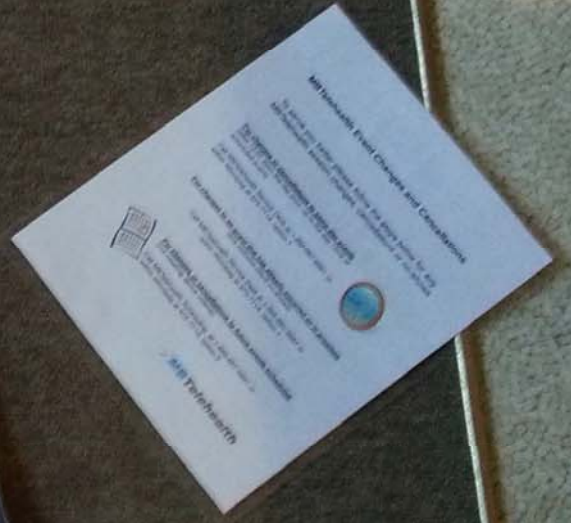
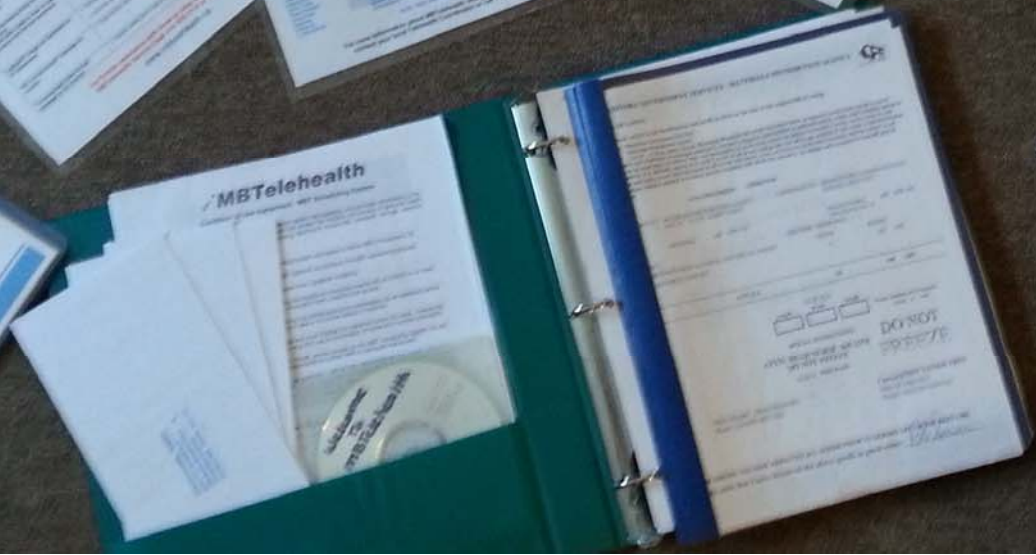
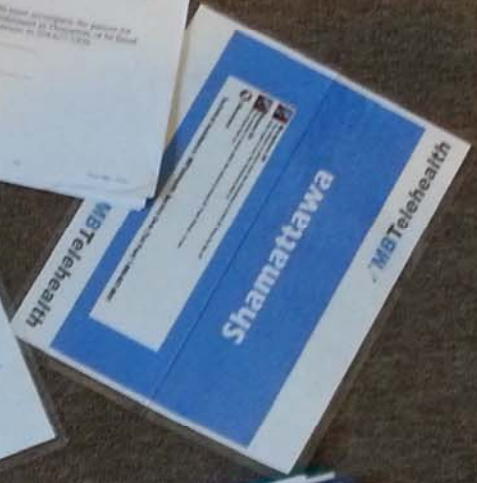
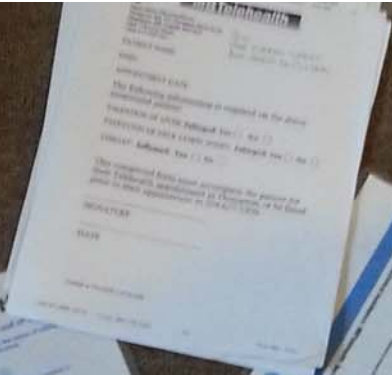
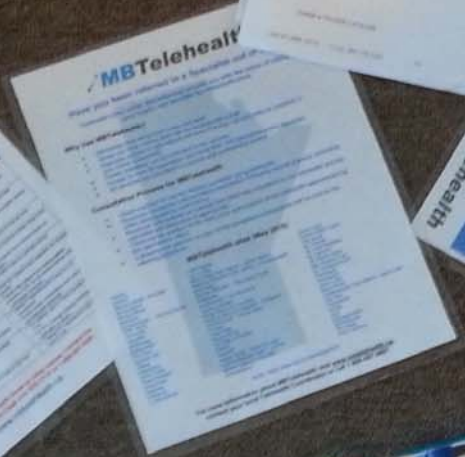
Findings: Challenges

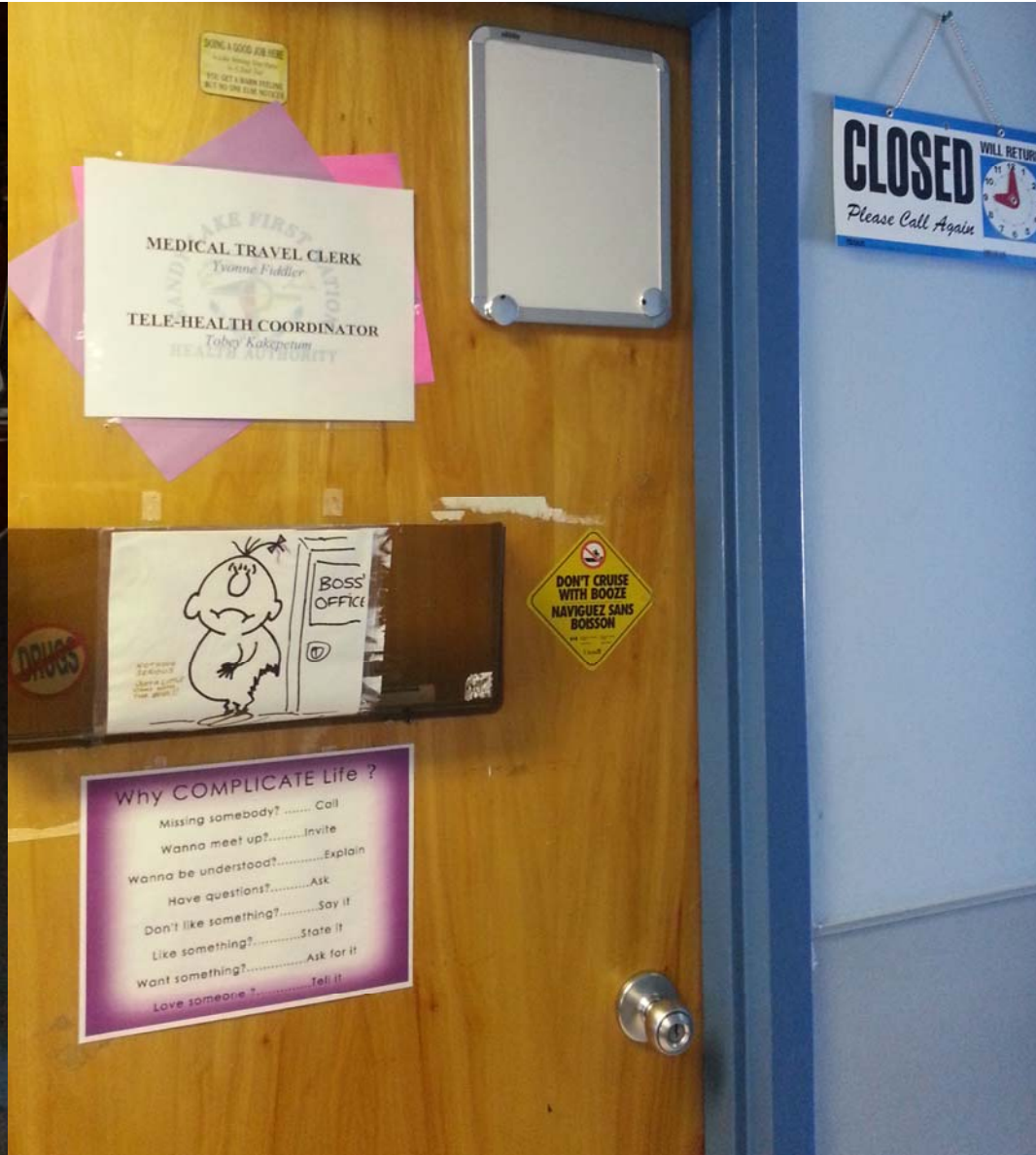
- Dependence on paper based systems: locating and retrieving information tended to be slow, especially if a file has been misplaced or is poorly organized; labour costs are high, as filing and copying information are done manually.













When I is replaced
by WE illness
becomes WELLNESS

Food/Drink

- Raffle Tickets - \$10
- Potluck - \$10
- Free Range
- Cash - \$10
- \$10

Recommendation I

Potential Benefits

Potential Risks

Expand use of interactive telehealth

- Can save time and travel burden for clients
- Increases a community's capacity to manage priority health problems
- Assist nurse decision making by enabling them to solicit opinions from external health care providers for complex cases and emergency situations



- Elder videoconferences provide the opportunity to connect communities and speak in native language
- Including traditional First Nations practices (e.g. sharing circles) and beliefs in interactive telehealth initiatives can potentially facilitate trust, acceptance and use of the technology

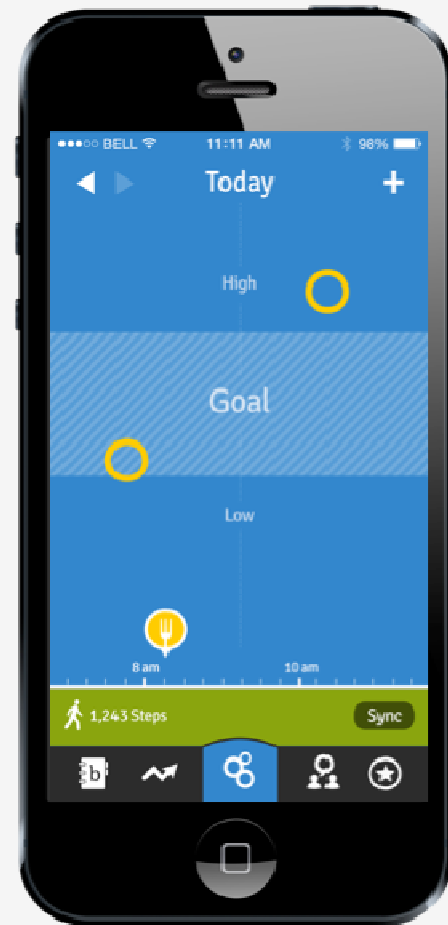
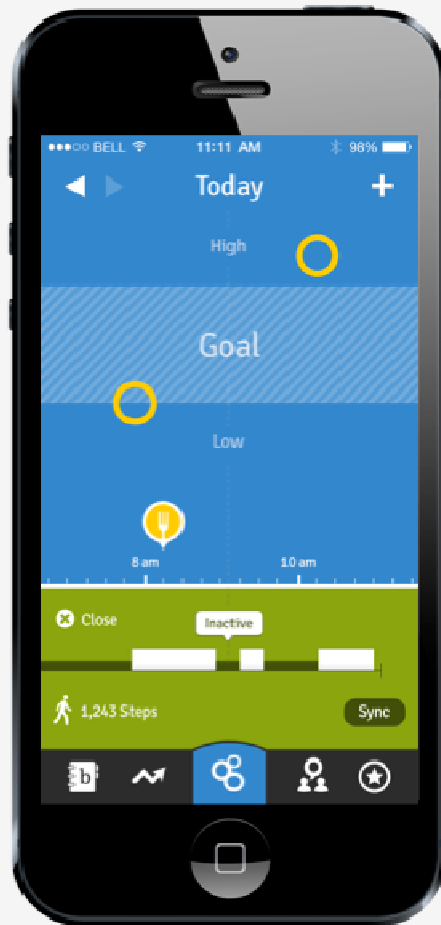
Recommendation II

Potential Benefits

Potential Risks

Expand use of remote monitoring

- A simple and cost effective way to monitor clients while supporting client empowerment
- Can ease the daily management of prevalent chronic diseases such as diabetes



Recommendation III

Potential Benefits

Potential Risks

Expand use of store and forward telehealth

- Advantage of allowing interactive telehealth benefits to be realized without stable connectivity.

First Nations Reserves Diabetic Retinopathy Screening Program using Tele-Ophthalmology

SAVE SIGHT





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Recommendation IV

Potential Benefits

Potential Risks

Introduce remote presence telehealth

- Allows for richer client-provider interaction
- Allows for multiple providers to connect at one time, converse and share images and notes with each other and the client
- Can be portable/used outside of the nursing station

REMOTE PRESENCE DEVICES

RP-VITA® Robot



RP-7i® Robot



RP-Lite®



RP-Vantage®



RP-Xpress®



Conclusions

- While the potential benefits of telehealth implementation within remote and isolated settings are numerous, some recommendations gathered through this in-depth investigation of four sites may not be appropriate for all nursing stations.

Thanks!



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