Expanding Telehomecare in Ontario – Using a Pragmatic Research Approach

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Chronic Disease in Ontario

Leading cause of **death**	**80 %** over 45 have 1
80 % of budget by **2030**	**70 %** of those have 2+

Acute ➔ Home

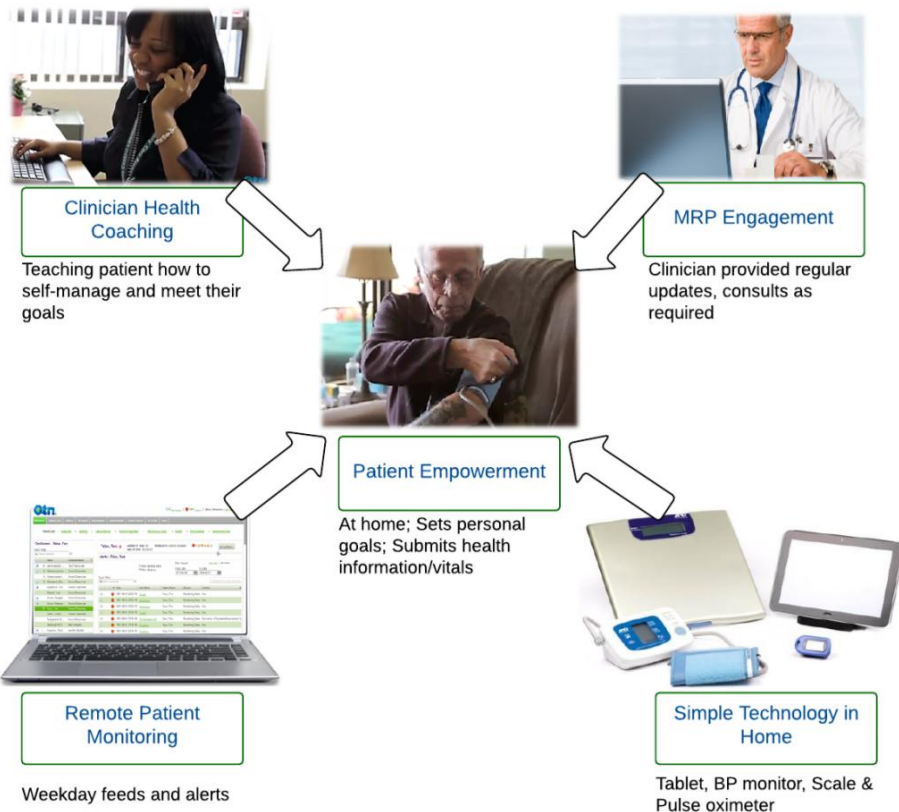Solo ➔ Team

Passive ➔ Active

… It's time to think different

otn.
Care. Connected.

OTN.Telehomecare in Ontario

CHF, COPD, + Diabetes

~ 9000 patients **10/14** LHINs

Coach + RPM

=Patient Self Mgmt

Clinician Health Coaching

Teaching patient how to self-manage and meet their goals

MRP Engagement

Clinician provided regular updates, consults as required

Patient Empowerment

At home; Sets personal goals; Submits health information/vitals

Remote Patient Monitoring

Weekday feeds and alerts

Simple Technology in Home

Tablet, BP monitor, Scale & Pulse oximeter
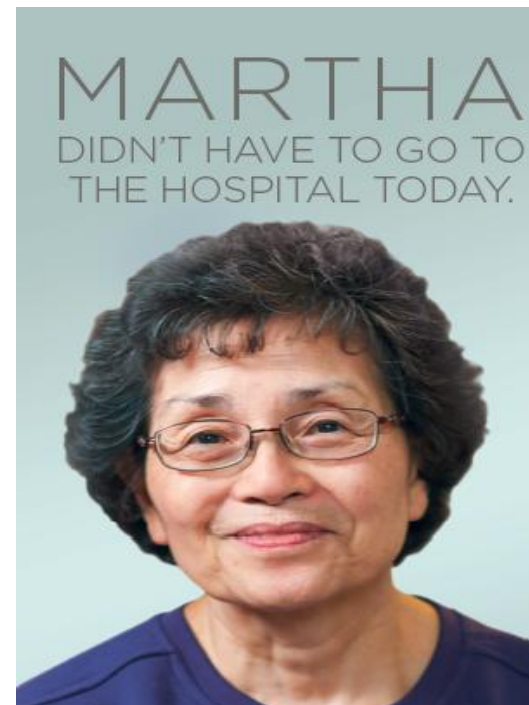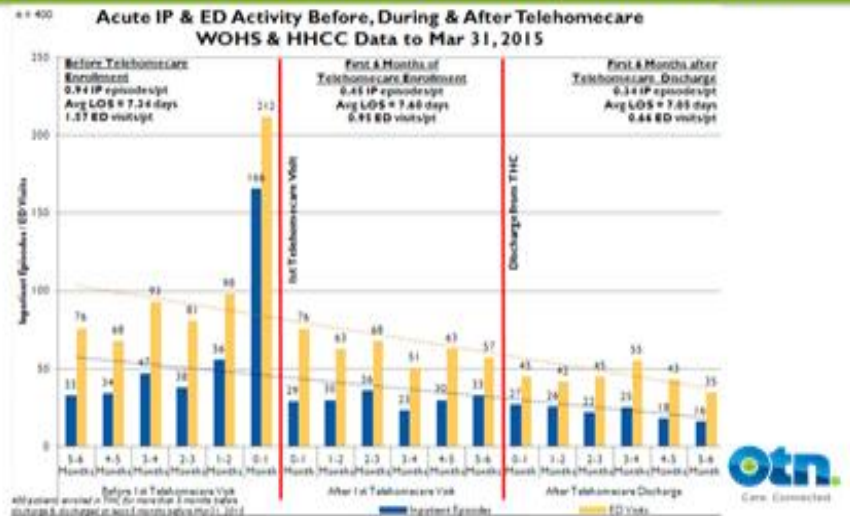
Telehomecare Results to Date

Central West Region - Outcomes

58% decrease in ER visits and a 64% decrease in inpatient admissions

MARTHA DIDN'T HAVE TO GO TO THE HOSPITAL TODAY.

Patient Experience – Infoway SUS Survey, Feb 2016

General Satisfaction

Legend:
- Highly Satisfied (84%)
- Somewhat Satisfied (14%)
- Neutral (1%)
- Somewhat Dissatisfied (1%)
- Not Satisfied (0%)

98.3% responded positively

Quality of Health Care, Teaching and Coaching

Legend:
- Highly Satisfied (84%)
- Somewhat Satisfied (15%)
- Neutral (0%)
- Somewhat Dissatisfied (1%)
- Not Satisfied (0%)

98.9% responded positively

Usability of Equipment

Legend:
- Strongly Agree (81%)
- Somewhat Agree (16%)
- Somewhat Disagree (1%)
- Strongly Disagree (1%)
- Does not apply (1%)

95.0% responded positively

Future of telehomecare

ubiquitous

mobile

value

...patient centred

wearable

home

OTN and Telehomecare

- OTN is one of a number of other telehomecare programs in Ontario
- THETA analysis is still underway
- OTN's role is evolving

Change Management Catalyst

Drive spread and scale telemedicine where it creates the most value:

- **Consulting Services**
  - Business advisory
  - Evaluation and analytics

- **Thought leadership** and policy advice e.g. *Think Tanks*

- **Adoption Services**
  - Program development
  - Clinical process redesign
  - Training

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Digital Health Stewardship

- Identify and **evaluate** the best technology-enabled **clinical models** of care

- Guide and **broker** investments based on value and impact

- Develop value prop and **sustainable business models**

- Pilot and/or create outcomes-based **VORs** where necessary

- Leverage OTN's **change management** and **distribution channel** to scale

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Three New Patient Groups – Why?

Diabetes

- 1.3 M patients with Type 2 Diabetes
- >50% are at the recommended A1C target
- The higher the HbA1c, the higher the risk of complications
- ➤ Test Self Management

Mental Health

- 2.8 million people suffer from mental health issues each year
- Often prescribed meds, but psychotherapy is effective
  - Long wait lists
  - ➤ Test a new model of "on-line" care

CKD

- Approximately 10,500 Ontario patients with CKD are receiving dialysis
- Only 18% of dialysis patients use in home PD
- Target is 40%, but patients are anxious about PD
- ➤ Test the remote support of PD patients

Research

- Need evidence for Clinicians, Patients and Administrators
- More 'Real time' & Pragmatic

Evaluate 3 New Groups

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Three New Patient Groups – Who & What

Diabetes
- 300 Type 2 Patients with Diabetes
- WellDoc BlueStar-SC
- OTN hosted
- Osler, St. Jo's, Thunder Bay
- NYGH*

Mental Health
- 1000 A & D patients
- Big White Wall - Online social collaboration for peer support, monitored by certified clinicians
- Hosted offsite+ local landing page
- Ontario Shores ,Lakeridge & WCH

CKD
- (Part of RCT)
- 100 patients on in-home PD
- EQOL eConnect
- Managed by LHSC
- London Health Sciences Center, Humber

Research
- WIHV
- Triple AIM & RE-AIM
- Provincial Feasibility
- Repeatable Research Framework
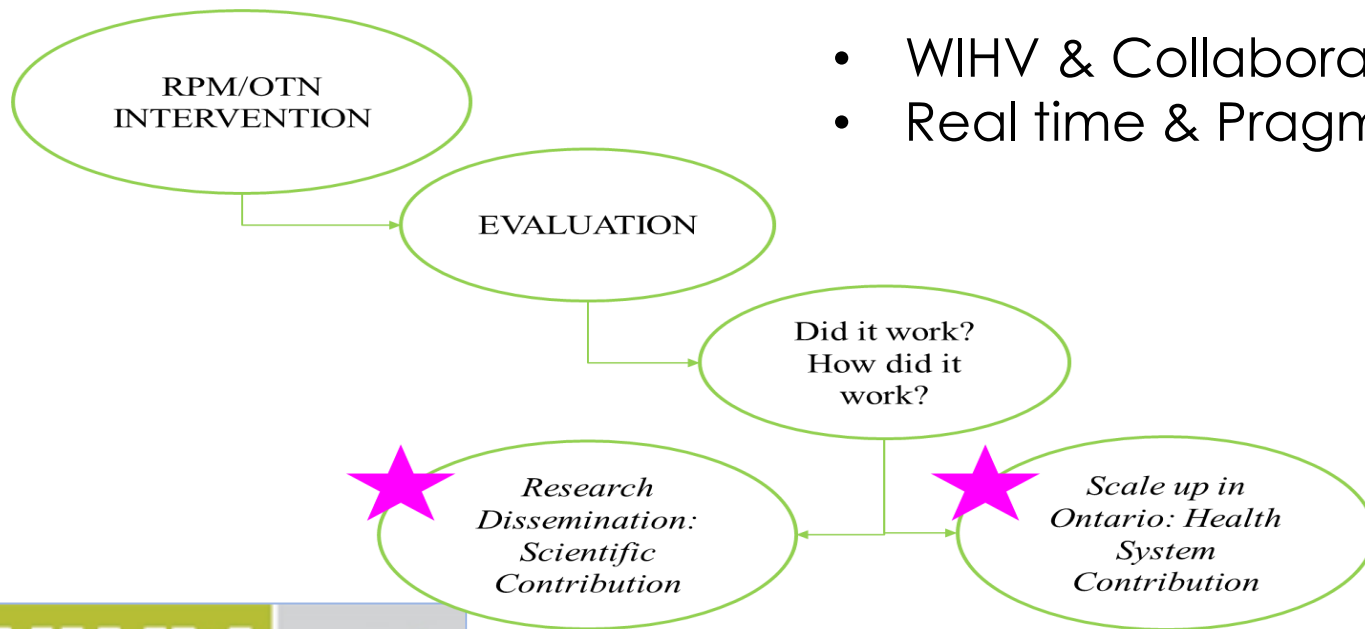
Evaluate 3 New Groups

Care. Connected.

Pragmatic Research Objectives

1. Patients
2. Providers
3. Clinical Outcomes
4. Scalability

- Whether the use of a RPM solution has a positive impact on **the patient's condition**

- Whether the use of **the RPM solution** is acceptable to patients

- Factors that drive the **patient's** level of engagement

- Whether information derived from the solution is helpful to **providers**

- The impact to **work-flow** and health human resources on the introduction of this alternative means for managing patients

- The **operational** requirements for supporting and scaling this model of care delivery

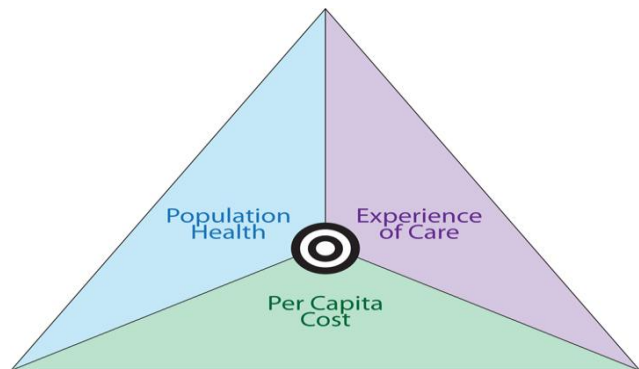- What is the **business model**?

Research & Evaluation - Goals

- WIHV & Collaborative partners
- Real time & Pragmatic
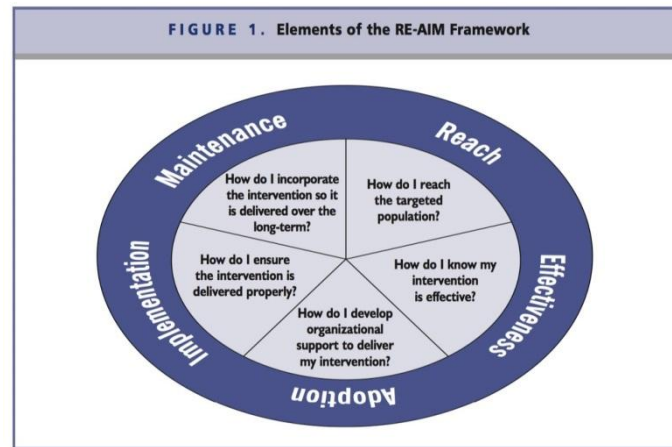
Research & Evaluation - Framework

Did it Work?

- Triple Aim

How did it Work?

- RE-AIM

Triple Aim triangle: Population Health, Experience of Care, Per Capita Cost

FIGURE 1. Elements of the RE-AIM Framework

- Reach: How do I reach the targeted population?
- Effectiveness: How do I know my intervention is effective?
- Adoption: How do I develop organizational support to deliver my intervention?
- Implementation: How do I ensure the intervention is delivered properly?
- Maintenance: How do I incorporate the intervention so it is delivered over the long-term?

Research & Evaluation - REB Submissions

<u>Overall Objective:</u>
Evaluate the use and scalability of a web-enabled application to improve patient health self-management and recovery among specified individuals

<u>1. Pragmatic Randomized Control Trial:</u>

<u>2. Qualitative Realist Evaluation :</u>

Research & Evaluation - REB Submissions

<u>Overall Objective:</u>
Evaluate the use and scalability of a web-enabled application to improve patient health self-management and recovery among specified individuals

1. Pragmatic Randomized Control Trial: Determine the incremental benefit and cost-effectiveness of the application for patients with chronic health problems.

2. Qualitative Realist Evaluation : To (a) understand how the application is implemented in practice, (b) explore participants' perspectives of the usability and acceptability of the application, and (c) examine the key issues associated with scaling applications up across Ontario.

Research & Evaluation - REB Submissions

<u>Overall Objective:</u>

Evaluate the use and scalability of a web-enabled application to improve patient health self-management and recovery among specified individuals

1. <u>Pragmatic Randomized Control Trial:</u> Determine the incremental benefit and cost-effectiveness of the application for patients with chronic health problems.

- PROMs & PREMs
  - For example:
  - PHQ7 and GAD
  - CIQ score and subscale scores
  - Quality of life scores
- Healthcare utilization and costs: multiple domains
- Utilization of application

2. <u>Qualitative Realist Evaluation :</u> To (a) understand how the application is implemented in practice, (b) explore participants' perspectives of the usability and acceptability of the application, and (c) examine the key issues associated with scaling applications up across Ontario.

- Qualitative interviews with key stakeholders involved in the implementation process
- Observations of the introduction and use of the virtual care interventions among participants.
  - Patients, health care providers, organizational leaders & health system decision makers

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Diabetes – Bluestar-SC Intervention

Enables patients to track blood glucose levels, medications, diet and exercise which trigger automated coaching, reminders and education based on clinical algorithms. They can share reports with their doctor.
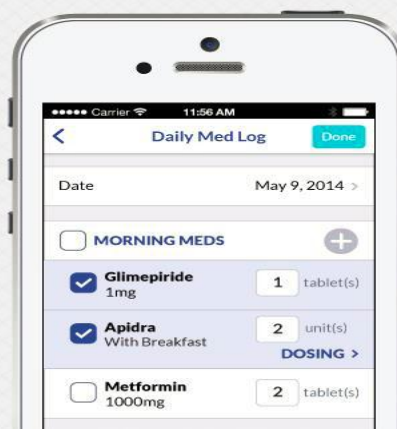
Educates patient to understand and take control of type 2 diabetes

Helps patient and provider identify blood glucose and med adherence trends

Algorithms driven by the patient's treatment plan

Delivers personalized guidance to the patient when they need it most

Diabetes

Study Design:

- The study is a randomized, wait-list-control trial with 300 participants. The outcome assessors will be blinded to group allocation to compare the impact of the BlueStar application to usual care.
- Participants will be randomized into one of two groups: an immediate treatment group (ITG) and a wait-list-control (WLC). The ITG group will immediately begin using the application, for a total duration of six months. The WLC will receive usual care for the first three months, at which point they will cross over to the intervention arm and use the application for a total of 3 months.

Research Objective

- The primary objective is to determine if a smart-phone based application designed to improve diabetes self-management and experience of care among patients with Type II diabetes improves clinical outcomes, patient experience and health system costs compared to the control group.

Study Hypothesis

- Patients randomized to receive the BlueStar application will have **improved HbA1c** levels compared with the control group.
- The intervention group will also show **improved self-reported outcomes** related to quality of life, disease self-management and experience of care.
- The intervention will also reduce episodes of self-reported hypoglycaemia.

Mental Health – Big White Wall

- Provides online anonymous peer support, access to mediated discussion forums, self-assessment tools, and educational resources
- Monitored by mental health professionals (Wall Guides) 24/7 and supported by clinical analytics

Post a Talkabout
Talk to other Big White Wall members who may be experiencing the same thing as you.

Create a Brick
Express your feelings by creating a Brick using pictures and images.

Assess Yourself
Take assessments to set goals and track your progress.

Find Useful Stuff
With over 200 articles on Big White Wall, you can understand more about how you are feeling.

Join a Program
Register for on-line guided support courses using recognized therapies.

Make Friends
Connect with other Big White Wall members who feel like you so you can support each other.

Mental Health

Trial Design:
- This trial will be a pragmatic RCT with a delayed treatment crossover control.
- The immediate treatment group (ITG) will get access to the BWW at time of enrollment and have continuous access for a period of 3 months.
- The delayed treatment group (DTG) will have no access for the first 3 months, then receive access to the BWW for 3 consecutive months

Objective:
- Determine the incremental benefit and cost-effectiveness of the BWW for patients with mental health problems who seek care at hospital-based mental health programs.

Hypothesis:
- We hypothesize that users of the BWW will experience an increase in their mental health recovery orientation as evidenced using a standardized recovery assessment tool.
- We also hypothesize that improvements will be observed in symptoms of depression and anxiety, along with quality of life and community integration.

CKD – eQOL eConnect

- Tablet computer used by patients to submit medical information, track supplies, view educational content and video conference with medical team.
- Clinician-facing web application is used to track patients' medical status and supply inventory.
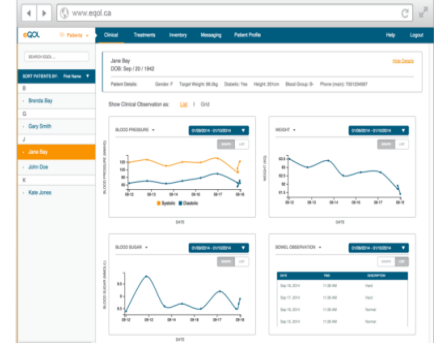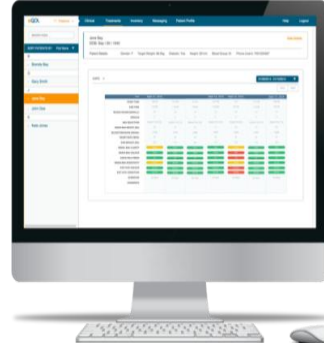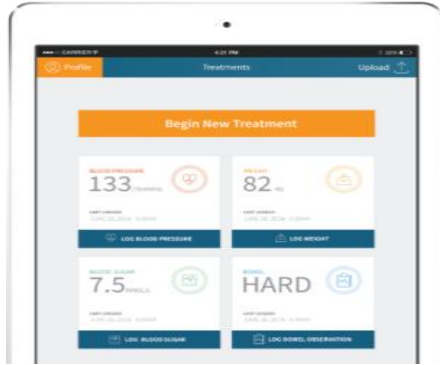
CKD – In-home Peritoneal Dialysis

Methods:
- The Realist Evaluation will occur alongside the "Connect Trial" being conducted by LHSC and will include two key methods.
- The first is qualitative interviews with key stakeholders involved in the implementation process, and the second is observations of the introduction and use of the virtual care interventions among participants.

Objectives:
- The objective of the qualitative realist evaluation component of this study is to:
  - a) understand how the EQOL CONNECT application is implemented in practice,
  - b) explore participants' perspectives of the usability and acceptability of the EQOL CONNECT application, and
  - c) examine the key issues associated with scaling applications such as EQOL CONNECT up across Ontario.

Next…

- CHF/COPD spread →scale
- New Patient Groups
    - Diabetes "live" last week
    - CKD and Mental Health in June
    - Preliminary findings in December
    - Completion by June 2017
- Scalability Plans in development
- Increased Patient focus
- New opportunities in home & community care
- Poised for Exponential Growth
- But… most importantly…

otn.telehomecare

Make healthcare better… for Otto and Ulla

www.otnhub.ca/telehomecare