



Canada Health Infoway  
Inforoute Santé du Canada

# Connecting the Dots Along the Care Continuum



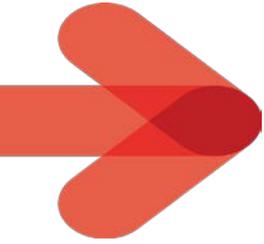
Lynne Zucker  
VP, Clinical Systems Integration  
Canada Health Infoway

October 17, 2017



# Canada Health Infoway

- Established in 2001
- Independent, not-for-profit corporation
- Equally accountable to 14 F/P/T governments; the Members
- Independent Board of Directors appointed by the Members
- Since inception, \$2.45 billion in capitalization from federal government



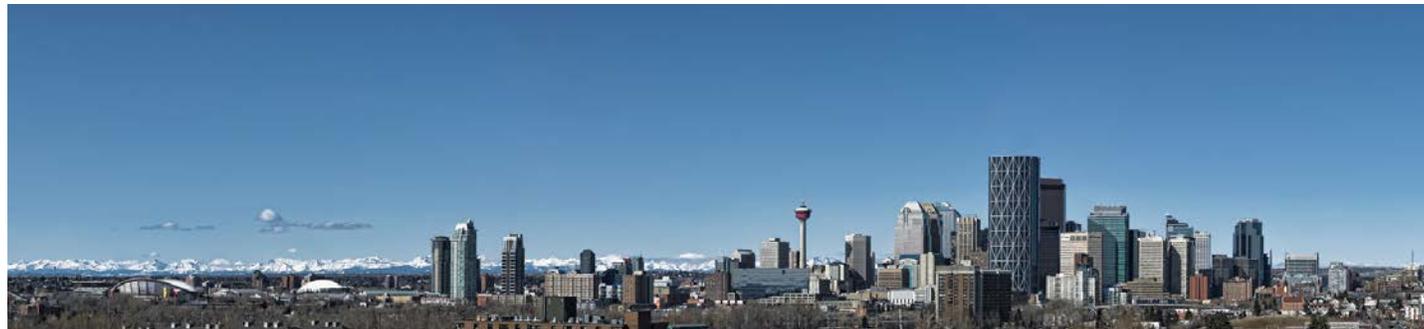
# *Healthier Canadians Through Innovative Digital Health Solutions*





Canada Health Infoway invites you to join us for the **2017 Infoway Partnership Conference: Connecting for Digital Health**, November 14-15, 2017 at the Westin Hotel in Calgary, Alberta.

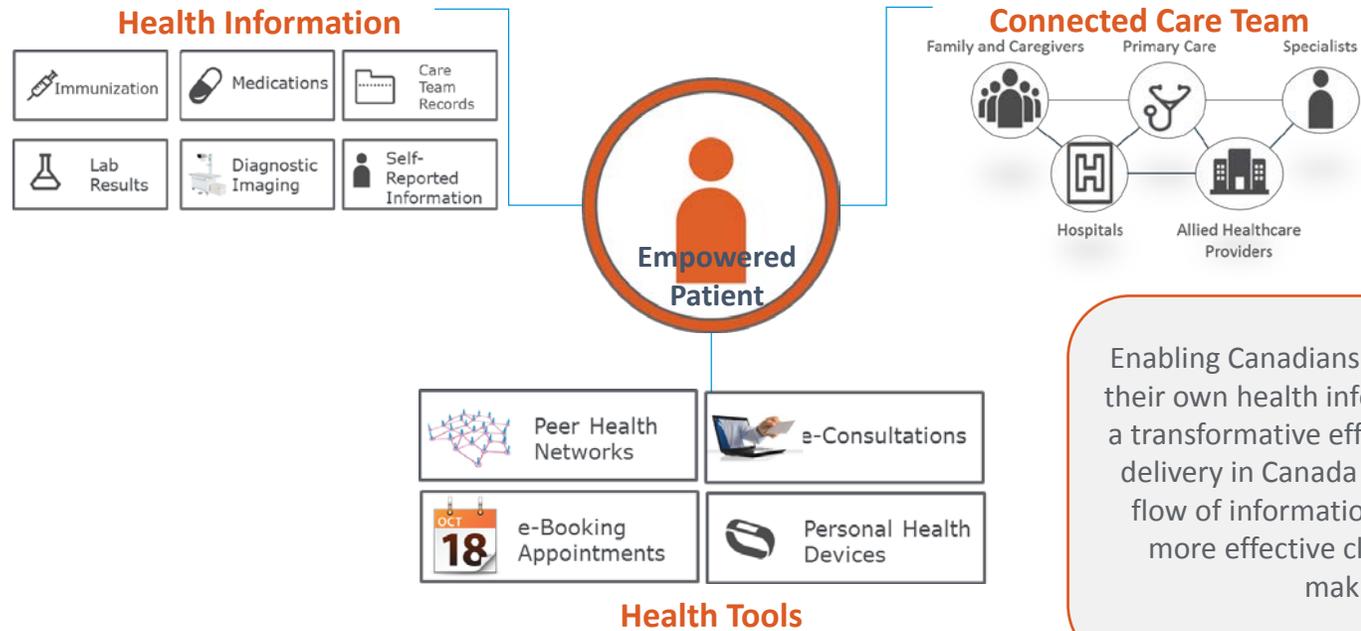
This premier event celebrates the difference digital health is making in the lives of Canadians.



<https://www.infoway-inforoute.ca/en/what-we-do/partnership-conference>



Enable Canadians to hold and share their health information, empower them to take control of their own health, and create a more seamless interaction with their care team

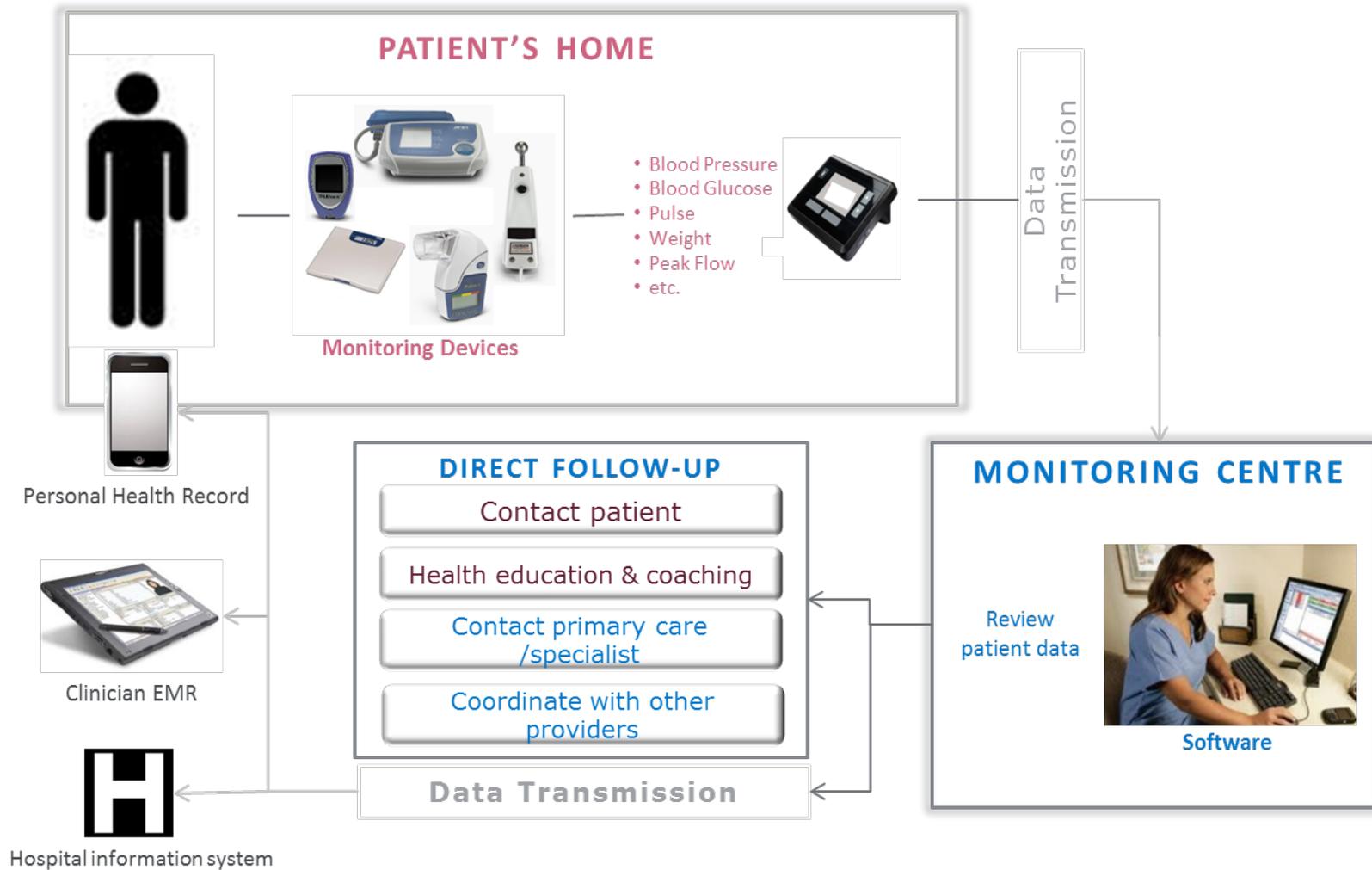


Enabling Canadians to hold and share their own health information will have a transformative effect on health care delivery in Canada by improving the flow of information and delivering more effective clinical decision-making



## What is Telehomecare also called Remote Patient Monitoring

- Connect patients in their home to their provider using digital tools
- Patient information is electronically transmitted to the provider
- Provider can monitor, review, coach, modify plans





## Why Telehomecare?

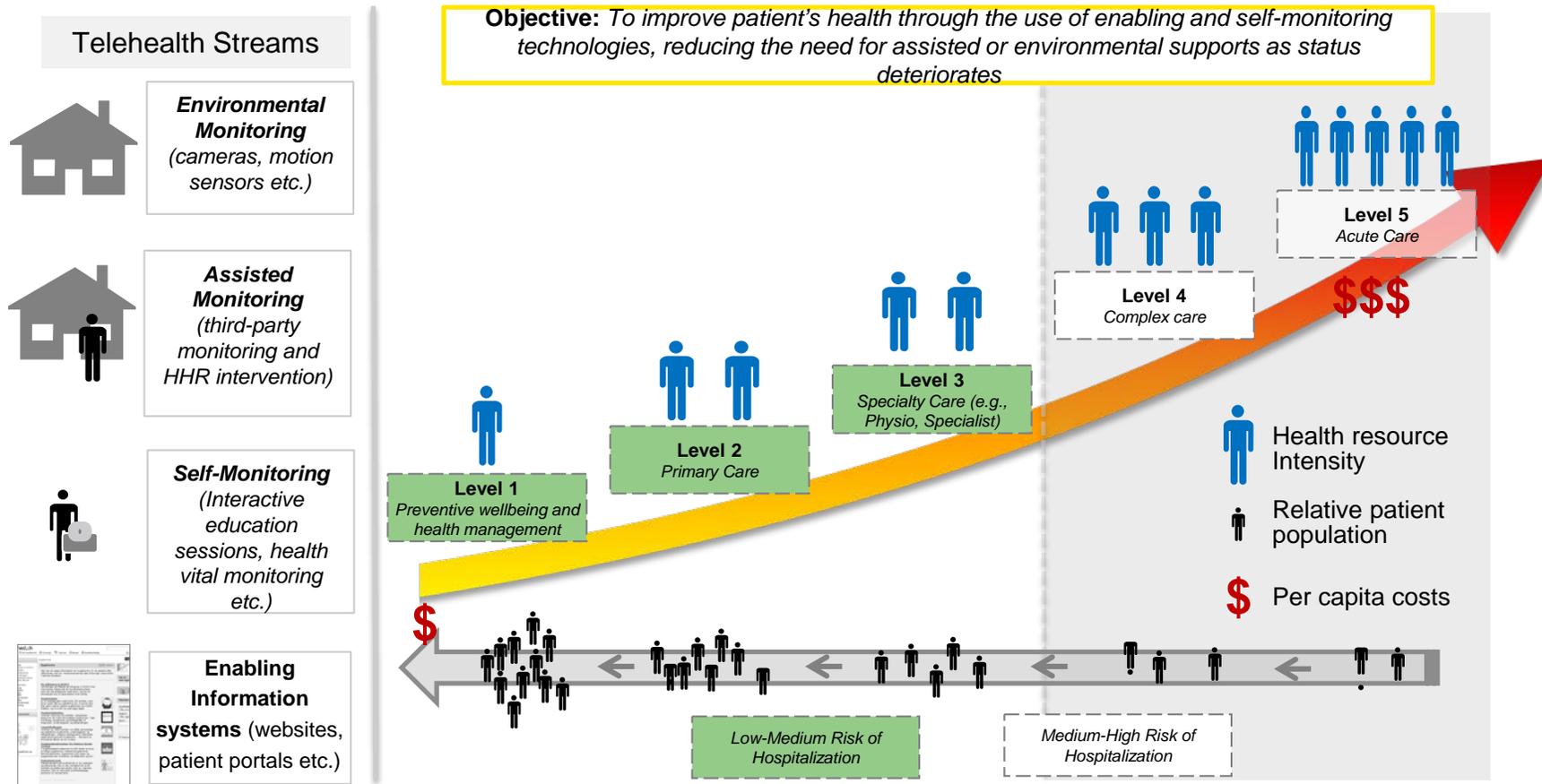
- EMPOWER patients and caregivers to manage health at home
- IMPROVE quality of life
- REDUCE hospital visits and other uses of the health care system



## Follow the Facts

- Starting in 2007, Infoway began investing in Telehomecare initiatives as part of our broader Telehealth program
- We started where there was already evidence of value, in programs specifically targeting patients managing chronic conditions, specifically Congestive Heart Failure and Cardio Pulmonary Obstructive Disorder
- In 2014 Infoway published a pan Canadian survey examining the learnings to-date across Canada

# Assessing fit for different patients



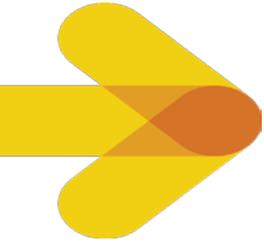
Telehealth aims to proactively pull eligible clients from higher levels of care to manage, maintain and/or improve client's health in the community

# Review of evidence

	Hypotheses from key informants & literature review	Strength of evidence
Quality	<ul style="list-style-type: none"> <li>• ↑ Patient satisfaction</li> <li>• ↑ Patient compliance</li> <li>• ↑ Quality of life</li> <li>• Promote integrated care</li> </ul>	<ul style="list-style-type: none"> <li>○</li> <li>○</li> <li>○</li> <li>•</li> </ul>
Access	<ul style="list-style-type: none"> <li>• ↓ Caregiver burden</li> <li>• ↑ Access to specialists</li> <li>• ↑ Dissemination of health data</li> </ul>	<ul style="list-style-type: none"> <li>○</li> <li>•</li> <li>•</li> </ul>
Productivity	<ul style="list-style-type: none"> <li>• ↓ ED visits/hospitalizations</li> <li>• ↓ Per client health \$</li> <li>• ↓ Per client care time</li> </ul>	<ul style="list-style-type: none"> <li>●</li> <li>○</li> <li>•</li> </ul>

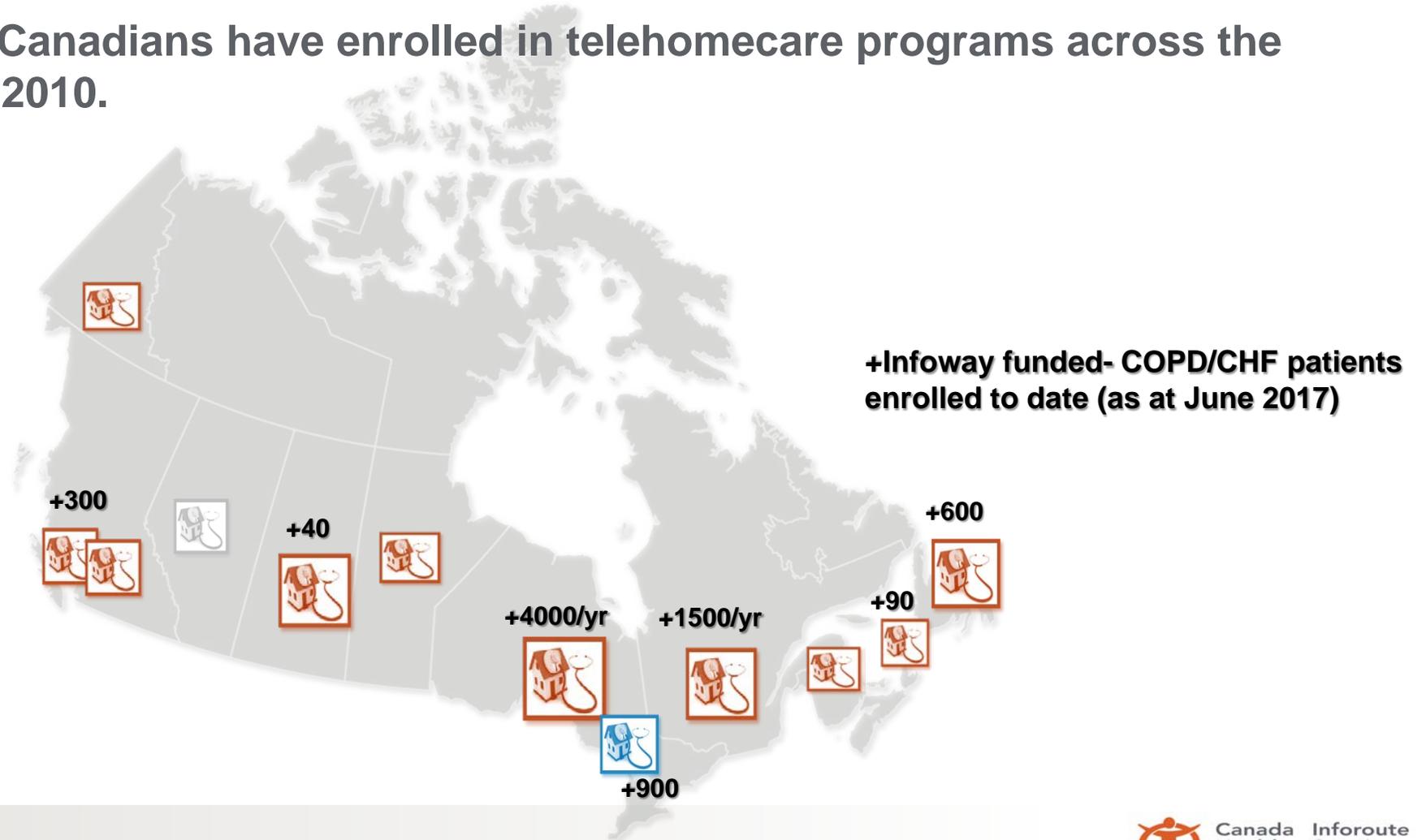
\*● = High availability of evidence (>= 10 published studies), ○ = Moderate availability of evidence supporting hypotheses, • = Low availability of evidence supporting hypotheses (<=2 published studies).

Strongest evidence for ↓ hospital visits, ↑ patient satisfaction, and ↑ quality of life given appropriate patient selection into program



## Current State of Telehomecare Programs

Nearly 24,000 Canadians have enrolled in telehomecare programs across the country since 2010.





# OTN Telehomecare Patient Experience Survey

**183 Patients responded over a 6-month period**



*"The program gave my mother the opportunity to recover in the comfort of her home. This was a major contributor to her recovery. It was also a great relief and support as a caregiver to be able to recognize and control potential crisis/anxiety with this condition. It gave us hope that my mother would survive her illness. We always received quality advice and speedy assistance!"*

Caregiver for patient enrolled in OTN Telehomecare program.

% Strongly/Moderately Agree



**Satisfied with quality of care, teaching and coaching (99%)**



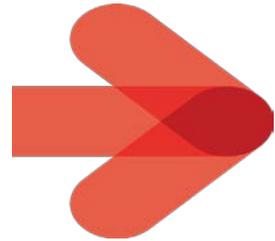
**Would recommend program to others (97%)**



**Better quality of life(88%)**



**Less need to visit an ED (86%)**



# Impact on Blood Pressure Management

-  **Finding: Clinically** and **statistically** significant reduction in systolic - 10.8 mm Hg (95% CI 9.6-12.0)\* and diastolic - 6.5 mm Hg (95% CI 5.6-7.3) blood pressure in initially hypertensive patients.

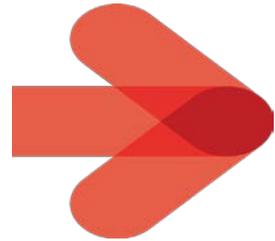
*\*Every 10 mm Hg reduction in systolic BP leads to 13% reduction in all cause mortality (Ettehad, D., et al (2015).The Lancet).*

Telehomecare Program  
**ACTION** to Improve Blood Pressure

- Secured a cardiologist as a member of the clinical advisory committee
- Implemented RAO Best Practice Guideline for Hypertension
- OTN will maintain knowledge of current best practices by reviewing industry guideline changes/recommendations and attend conferences (I.e. Heart and stroke clinical updates, cardiovascular thoracic society)

*Published Abstract Valeria E. Rac, Yeva Sahakyan, Nida Shahid, Aleksandra Stanimirovic, Iris Fan, BA Welson Ryan, Petros Pechlivanoglou, Lusine Abrahamyan, and Murray Krahn. IMPACT OF TELEHOMECARE PROGRAM ON MONITORING PARAMETERS AMONG COPD AND CHF PATIENTS. 37th Annual Meeting of the Society for Medical Decision Making October 18 - 21, 2015. URL: <https://smdm.confex.com/smdm/2015mo/webprogram/Paper9278.html>*





## Impact on Oxygen Saturation (SpO<sub>2</sub>)

-  **Finding:** Overall, the odds of having hypoxemic measurements significantly **declined** over time with a steeper reduction being observed during earlier months

Telehomecare  
Program  
**ACTION** to  
Improve SpO<sub>2</sub>

- Review clinical protocols annually
- Leverage clinical advisory committee expertise and consultations
- Utilize feedback to develop improvement strategies
- Implemented 9 Best Practice Guidelines to date (including dyspnea)

Published Abstract: V. Rac et al. (2015) SMDM  
URL: <https://smdm.confex.com/smdm/2015mo/webprogram/Paper9278.html>





## Impact on Weight Management for HF Patients

-  **Finding:** The odds of weight gain greater than 2 pounds/day **decreased** significantly over time with a steeper reduction being observed at the earlier months.

Telehomecare Program  
**ACTION** to Improve Weight Management

- Incorporate HF management in mandatory training curriculum
- Educating patients on strategies to meet goals
- Empowering patients to enhance confidence in self-management skills
- Implemented RNAO self-management best practice guidelines

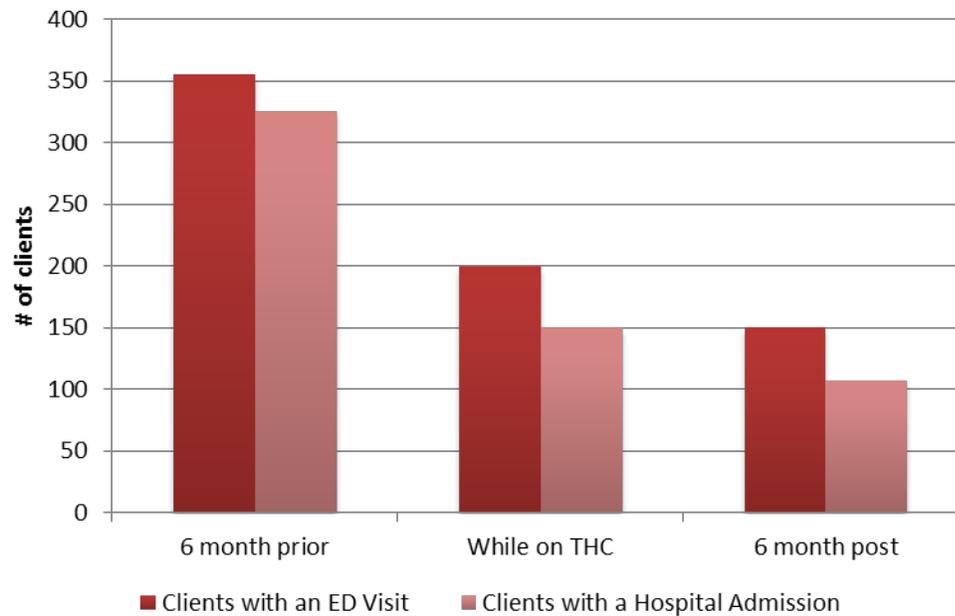
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# Toronto Central LHIN

## IP & ED Activity Pre/Post Telehomecare



58% reduction in # of clients with ED visits

67% reduction in # of clients with Hospital Admission

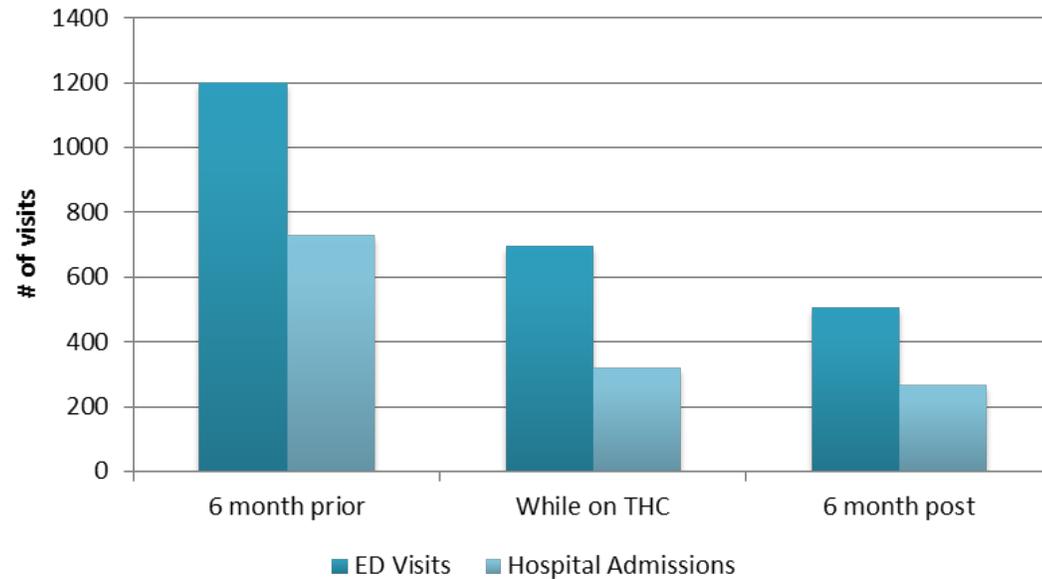
630 clients  
October 2015 data

Source: Ontario Telemedicine Network. Telehomecare Deployment Project: Phase 2 - Remote Patient Monitoring Benefits Evaluation Report (June 30, 2016)



# William Osler Health System

## IP & ED Activity Pre/Post Telehomecare



58% reduction in overall # of ED visits

64% reduction in # of Hospital Admissions

764 patients  
March 2016 data

Source: Ontario Telemedicine Network. Telehomecare Deployment Project: Phase 2 - Remote Patient Monitoring Benefits Evaluation Report (June 30, 2016)



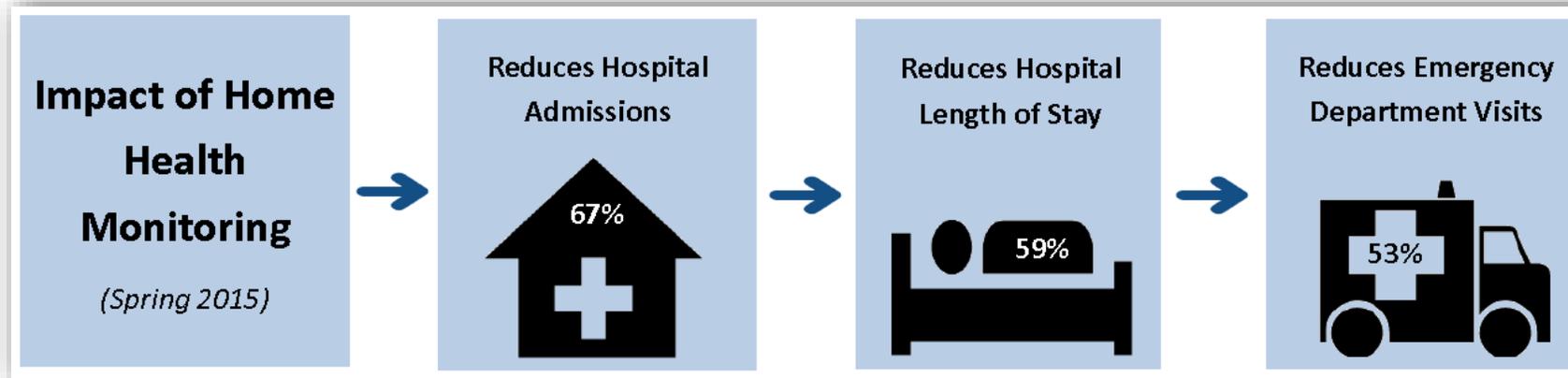
# Vancouver Island Health Authority Program

- Home Health Monitoring (HHM) is a self-management support service to educate and empower patients living with heart failure or COPD.
- Goals
  - Assist with early detection and intervention for exacerbations
  - Reduce hospital admissions
  - Improve health outcomes
  - Enhance quality of life



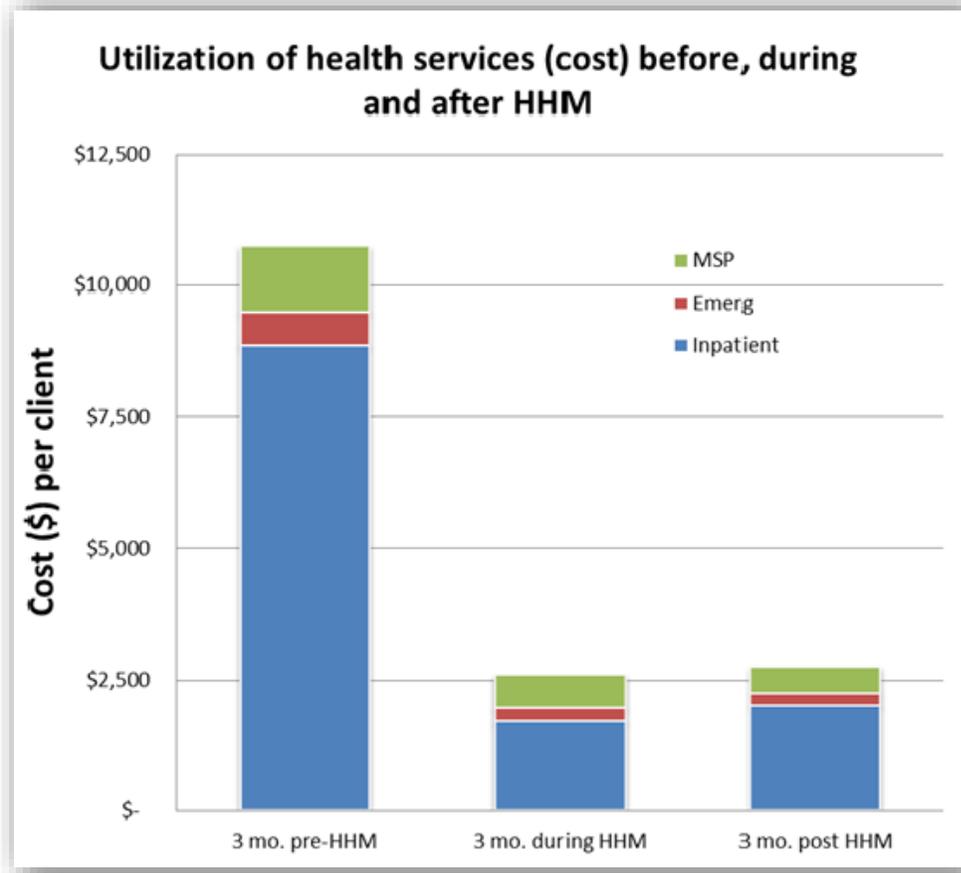


# VIHA Service Evaluation





# HHM Utilization Impact



## Limitations:

- Decreasing N after 3 months post HHM Discharge
- Utilization for ER, Acute and MSP is based on 'all causes'
- Sustained longer - term utilization impact unknown



## Wound Care telehomecare projects

Infoway has invested in telewound care projects in Ontario and Quebec and they are currently in deployment phases

- The projects are targeting patients suffering from complex chronic and acute wounds and who rely on treatment from community care service providers to maintain a regular quality of life.
- The Telewound care solutions include digital monitoring technology to help clinical staff keep detailed medical records including photographs of healing wounds and statistical trends.



## Telepalliative Care

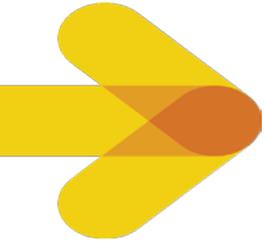
Infoway has invested in palliative telehomecare project in Ontario that is working with two LHINs

- This project targets patients with a palliative diagnosis requiring ongoing symptom management, who have caregiver support and are supported by care teams within the community.
- The Telepalliative care solutions include video and remote patient monitoring that helps tailor care to each patient's goals, support and education needs. The goal is to identify emerging issues/trends and provide real-time connections with the patient's palliative care team while keeping the patient at home, well supported and comfortable.



## Lessons & Challenges

- Early and sustained provider buy-in
- Don't underestimate effort to establish and launch a program
  - Value in planning, applying change management methodologies
- Recruitment of patients is difficult and takes time, but patients love it
- Benefits of decreased ED visits and hospital admissions are results that are not directly accrued by the program leads/payers
- Reimbursement of virtual services
  - Homecare provider organizations are only reimbursed for face-to-face visits



# Digital health is having an impact



Alexa



Judith

[www.betterhealthtogether.ca](http://www.betterhealthtogether.ca)



Brian



Cheryl



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Thank You!