HOME HEALTH MONITORING

Building capacity in patients living with chronic disease through remote patient monitoring services

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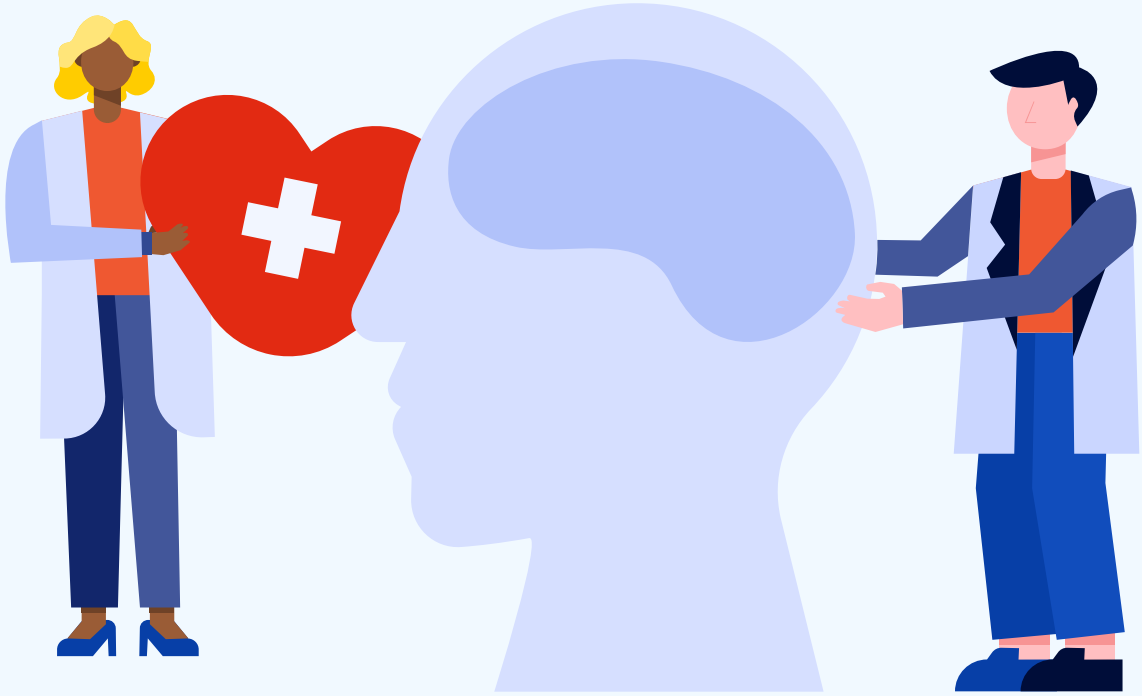
WHAT IS HOME HEALTH MONITORING?

INTRODUCTION TO THE SERVICE



Home Health Monitoring is a **free service** to enable patients living with chronic disease to **manage their condition from the comfort of home**.

Patients are **supported remotely by a CHS Nurse**. The nurse monitors the patient's biometric readings and questionnaire responses **every weekday**, while providing ongoing coaching and education.

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HOME HEALTH MONITORING

CHRONIC DISEASE MANAGEMENT WITH EDUCATION AND COACHING

IMPROVE HEALTH OUTCOMES

Through constant support and education, clients are empowered to improve health outcomes by optimizing their lifestyle and using management strategies to support improved health outcomes.

INCREASE KNOWLEDGE

Clients are educated on their condition and how to successfully manage their own health, including how to measure daily vitals and to monitoring for danger signs.

ENHANCE QUALITY OF LIFE

Through improved health outcomes and a sense of being in better control of their own health, HHM clients report that their quality of life has significantly improved.

REDUCE ACUTE NEED

Our HHM clients have reported that with their newfound management strategies, they make fewer visits to the ED and reduce their hospital admissions overall.

WHAT IS HOME HEALTH MONITORING?

A BRIEF INTRODUCTION TO THE SERVICE

Participating **patients are provided with the monitoring equipment**, including:

- LTE enabled tablet
- BP monitor
- Weight scale
- Pulse oximeter

Patients use the tablet each morning to complete their monitoring interview. The data is automatically submitted to the clinician using the secure LTE connection.

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HOW DO PATIENTS PARTICIPATE?

A DAY IN THE LIFE OF AN HHM PATIENT

Participation in the HHM services takes just minutes a day.

- Patient touches their tablet and initiates their monitoring plan
- Patient follows on-screen prompts to measure biometrics
- Patient answers questions to help assess current symptoms
- Data is automatically submitted to monitoring nurse for review

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COMMUNICATION WITH PRIMARY CARE PROVIDERS

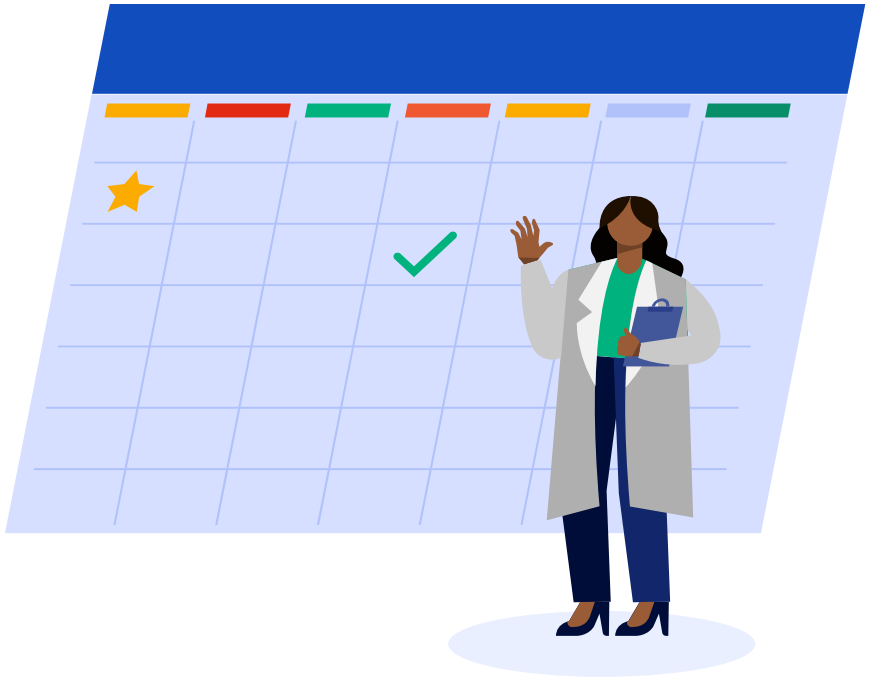
HHM CLINCIANS ENSURE PRIMARY CARE PROVIDERS ARE INCLUDED IN MONTORING SERVICE

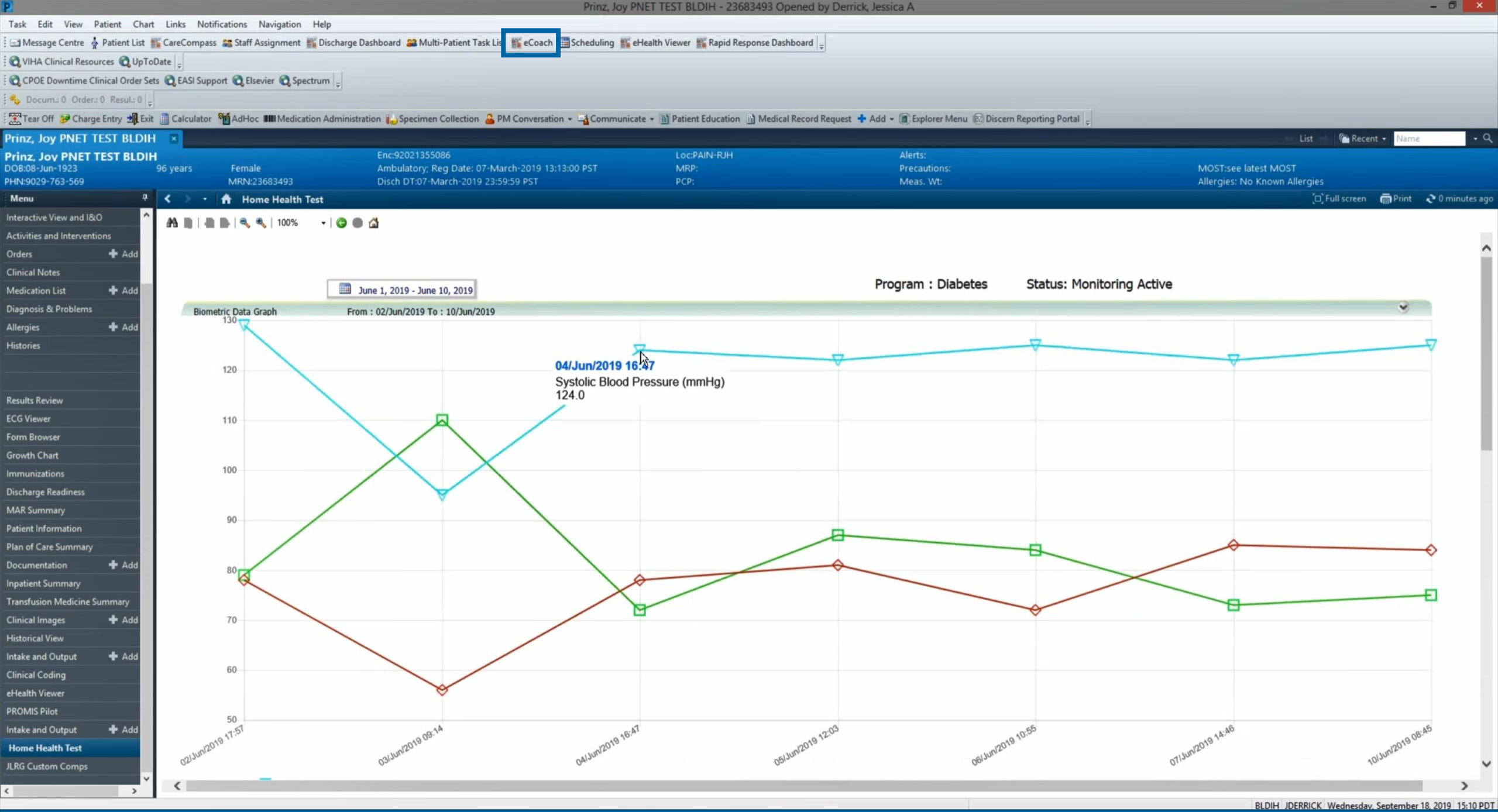
HHM Clinicians keep in close contact with the patient's Primary Care Provider, informing on:

- Admission to HHM
- Changes in patient's condition and other concerns
- Discharge from HHM

Our clinicians send electronic communications via **Provider Communication Note** in PowerChart straight to your EMR using Excellaris or by fax.

HHM patient-driven data is available in an electronic interactive view on the **Remote Patient Monitoring mPage** in **PowerChart**.





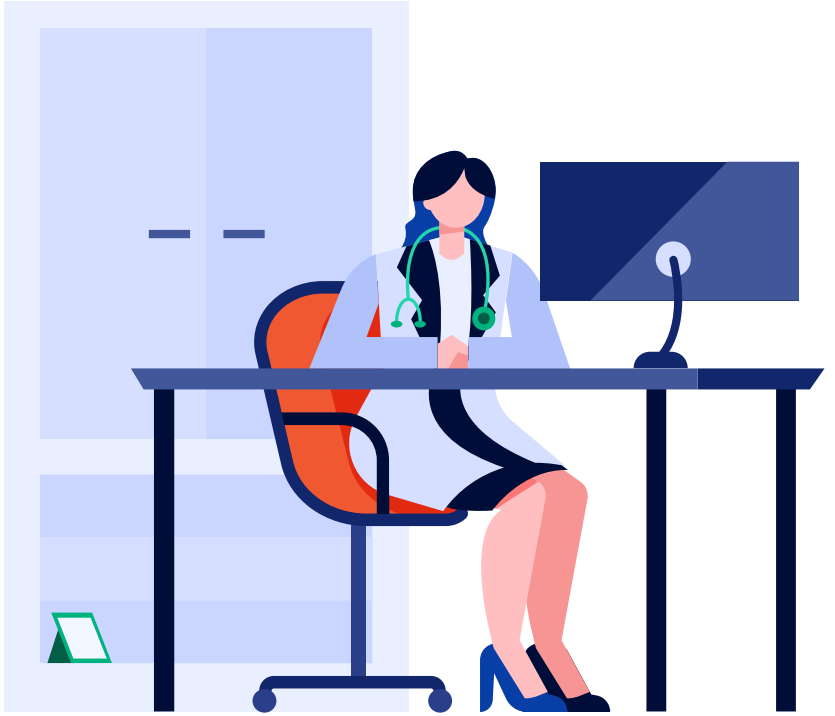
**Educational resources are available in PowerChart through eCoach. Documents also available on Remote Patient Monitoring intranet page.*

WHERE IS HHM OFFERED?

HHM SERVICES LOCATED WITHIN ISLAND HEALTH

Island Health's HHM service is available throughout the region. Eight full-time CHS nurses are stationed across the island and support patients within their community, with offices in their local Community Health Care Centre.

HHM technology (devices and monitoring platform) is funded through a provincial contract between MoH and TELUS and is available from each regional Health Authority. Services offered may vary per region.



1. **Campbell River** – *HHMCampbellRiver@viha.ca*
2. **Comox Valley** – *HHMComoxValley@viha.ca*
3. **Nanaimo** – *HHM.Nanaimo@viha.ca*
4. **Cowichan Communities** – *HHMCowichan@viha.ca*
5. **Saanich Peninsula** – *HHMPHU@viha.ca*
6. **Esquimalt/ Westshore** – *HHMEWHU@viha.ca*
7. **Greater Victoria** – *HHMOBGH@viha.ca*

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MAKING A REFERRAL

HOW TO REFER A PATIENT TO HHM

Referrals to HHM are processed through Island Health's Community Intake & Access department. Faxable forms are available from Island Health's internal website.

Nanaimo Community Access Centre - serves Cowichan Communities, Nanaimo, Port Alberni, West Coast, and Oceanside
Community Professional Line: **250-739-5748**

North Island Community Access - serves Comox Valley, Campbell River, and Mt. Waddington
Community Professional Line: **250-331-8530**

Victoria Community Access Centre - serves Greater Victoria, Westshore, Sooke, Peninsula, and Gulf Islands
Community Professional Line: **250-388-2210**

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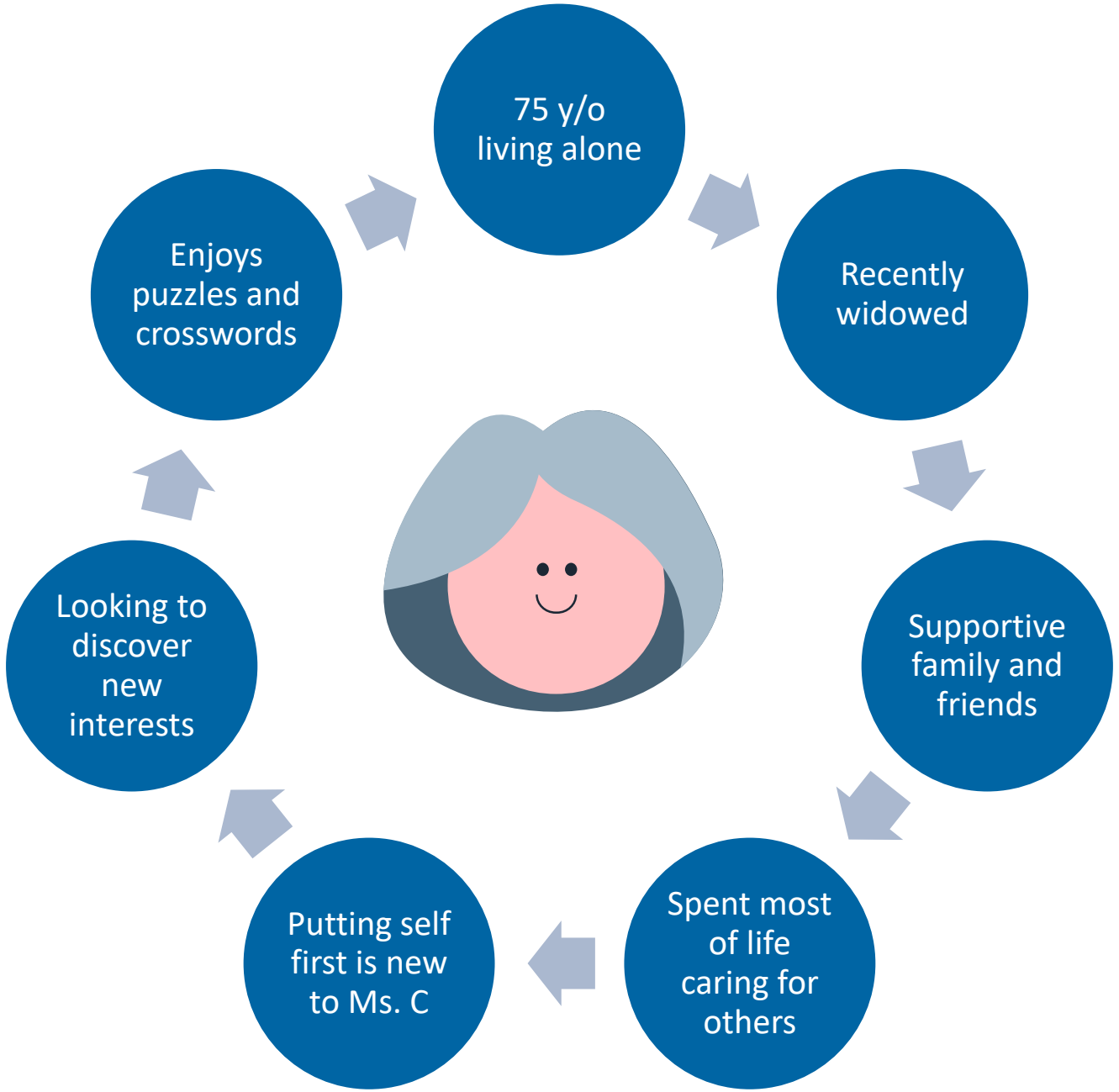
HHM CASE PRESENTATION

MS. C's STORY



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MRS. C

DISCHARGE SUMMARY

Recent Medical History:

- Recent 10-day admission for COPD exacerbation
- History of severe COPD (FEV1/FVC = 0.41)
- 50 pack a year smoker for decades

Recent Health Assessments:

- Medical Research Council (MRC) Breathlessness Scale
  - Score of 4
- COPD Assessment Test (CAT)
  - Score of 16

Acute Care Discharge Plan:

- Smoking cessation, stopped in hospital using Nicotine Replacement Therapy
- Discharge medications
  - Ventolin 100 mcg/puff MDI 1-2 puffs q4h prn
  - Atrovent 20mcg/puff MDI 2 puffs q4h prn
- Follow-up with Primary Care Provider
- Referral to Home Health Monitoring

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MRS. C

HHM CARE PLAN

Health Plan developed with HHM Nurse:

- Primary goal: maintaining smoking cessation
- Plan components:
  - Use distraction techniques when cravings occur
  - Connect with supportive family and friends
  - Currently lives in a non-smoking apartment building

COPD Care Goals:

- Recognizing signs and symptoms of COPD exacerbation
- Optimal inhaler technique
- Energy conservation
- COPD action planning

COPD Action Plan:

- Provided with antibiotics and prednisone prescriptions to use with flare-ups, with understanding that follow-up with her PCP is required within 48 hours of activating her plan.

How is your breathing today?

Green Zone: My COPD is well controlled

- My breathing problems have not changed (shortness of breath, cough, and sputum).
- My appetite is normal.
- I am able to exercise and do my daily activities as normal.
- I have no trouble sleeping.

What should I do?

☑ Continue to take my medications as prescribed

Yellow Zone: My symptoms are works | Take Action – FLARE-UP

If you experience one or more of these symptoms, this may be the start of a COPD flare-up.

- I am more short of breath than usual.
- I am coughing or wheezing more than usual.
- I have more sputum or mucus than usual.
- I have green, yellow or rust coloured sputum.

What should I do?

☑ Take additional treatment prescribed by my doctor depending on my symptoms (review my COPD Flare-Up Action Plan)

☑ Plan my day, get rest, relax, using breathing techniques, huff and cough to clear phlegm as required

If after taking the above action, your symptoms don't improve within 48 hours, SEEK MEDICAL CARE IMMEDIATELY!

Red Zone: DANGER | Take action – get help!

- I am extremely short of breath.
- I am confused, agitated, or drowsy.
- I have sudden chest pain.

What should I do?

☑ Call 9-1-1 for an ambulance to take you the emergency room.

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MRS. C

HEALTH OUTCOMES

Health Outcomes after 3 Months of HHM Participation:

- Reported increased confidence in knowledge of COPD signs and symptoms, including when to activate COPD action plan
- Using medications more effectively, including using an aerochamber with inhalers to improve technique and intake of medication
    - PCP also updated medication to 2 puffs of Zenhale at bedtime, which Ms. C could feel benefits of after only 2 weeks
- COPD Assessment Test (CAT) score improved from 16 to 3
- No visits to ED or hospital during or after participation in HHM program
- Ongoing success with smoking cessation
- Emergency plan in place
- Carries medication list on person
- Has a daily safety check-in with her daughter
- Started Advance Directives conversation with family aware of Ms. C's wishes
- Self-monitoring with her own BP monitor and scale, with plans to purchase own oximeter
- Has made new community connections to Better Breathers and other local Health & Wellness programs through CHS

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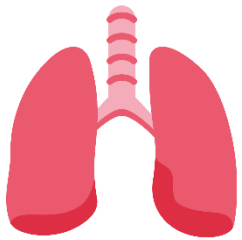
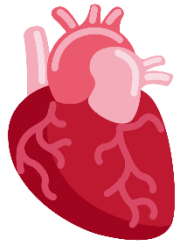
EFFECTIVENESS OF HHM

COST OF CARE

Annual Expense of Care In-Hospital

- Across Canada, the top 5 conditions that generate the most cost to hospitals are as follows (estimated average of expenditure for one year):
  - **COPD ($753.3 million)**
  - **Heart Failure ($575.2 million)**
  - Pneumonia ($505.8 million)
  - Knee replacements (486.4 million)
  - Dementia ($404.4 million)





Inpatient Hospitalizations

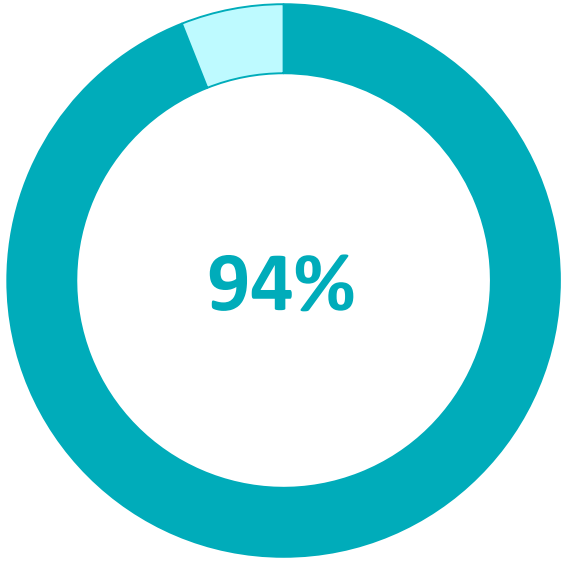
- For patients aged 65 years or older, these conditions are also among the highest ranking diagnoses for inpatient hospitalizations

	Most Responsible Diagnosis for Hospitalization	Number of Hospitalizations	Average Length of Stay (LOS)
1	**COPD and Bronchitis**	**73,078**	**7.6**
2	**Heart Failure**	**59,455**	**8.9**
3	Acute Myocardial Infarction	42,535	5.7
4	Pneumonia	42,435	7.8
5	Osteoarthritis of the Knew	41,792	3.4

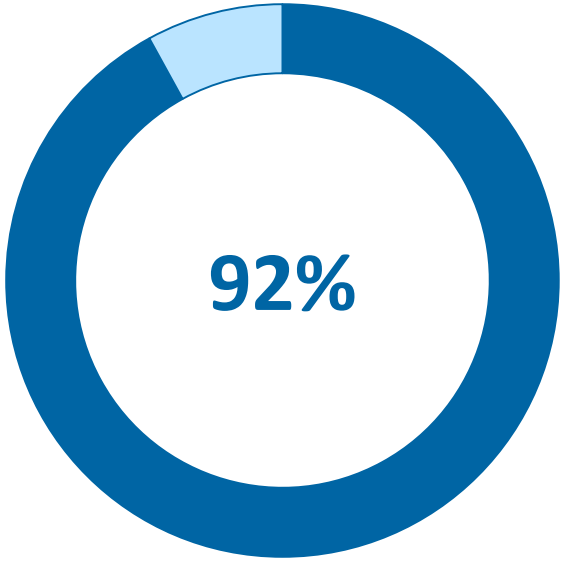
Data from CIHI, 2019

QUALITATIVE EVALUATION

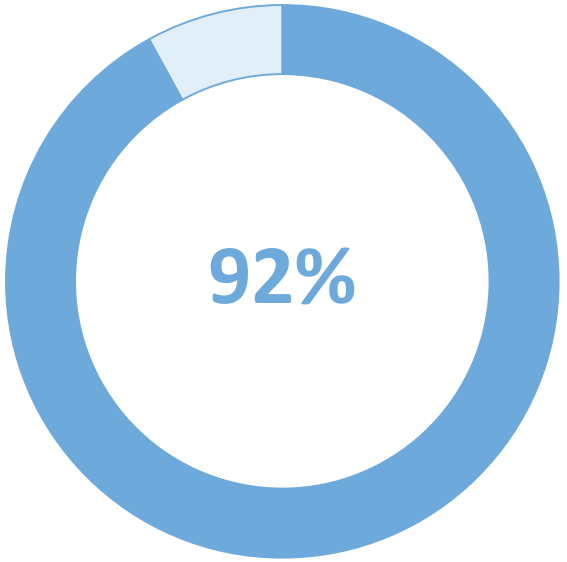
Overall Satisfaction



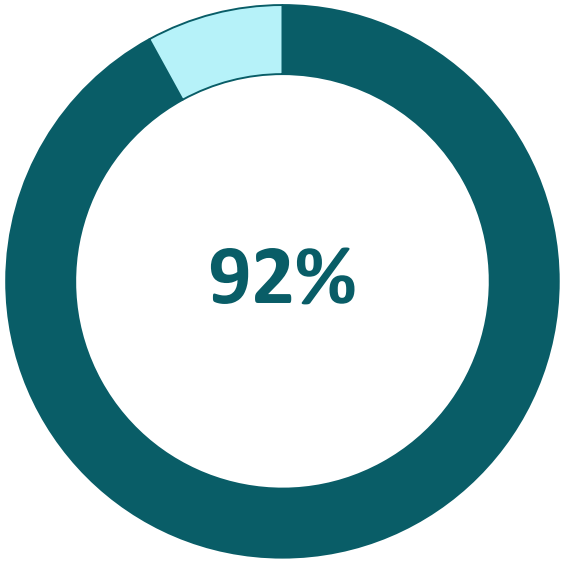
Likely to Recommend



Satisfied with Coaching



Improved Self-managing



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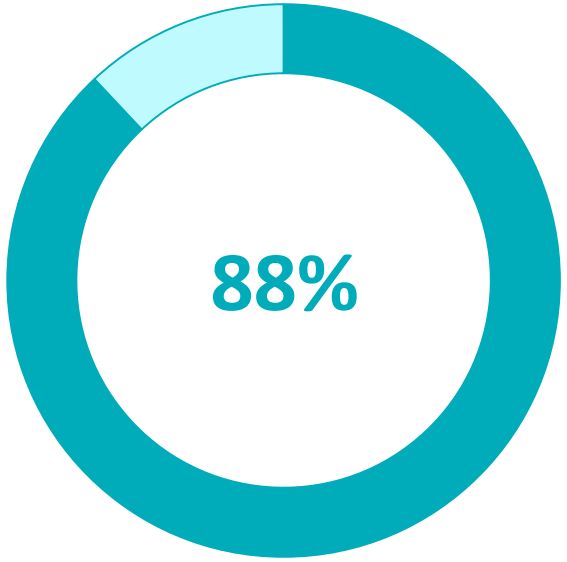
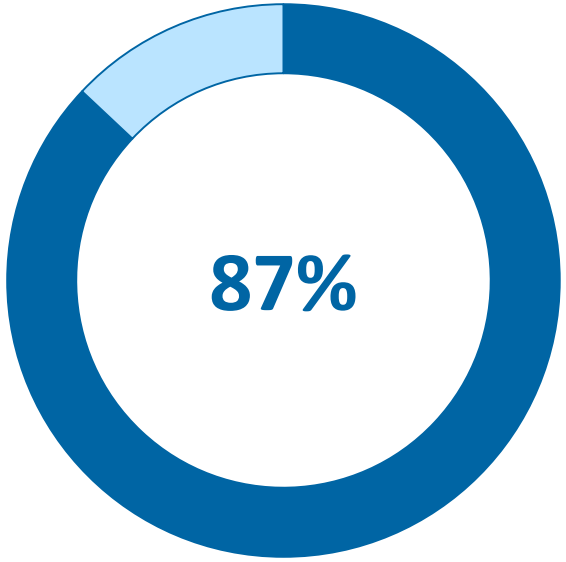
QUALITATIVE EVALUATION

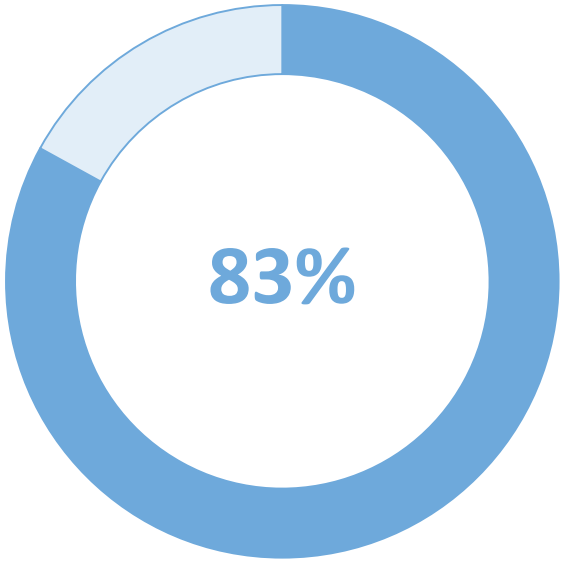
Feel More Informed



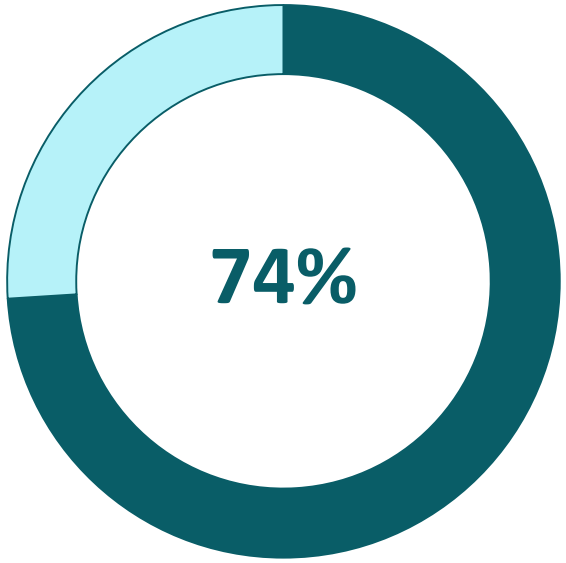
Improved QOL



User-friendly Equipment



Reduced ED Used



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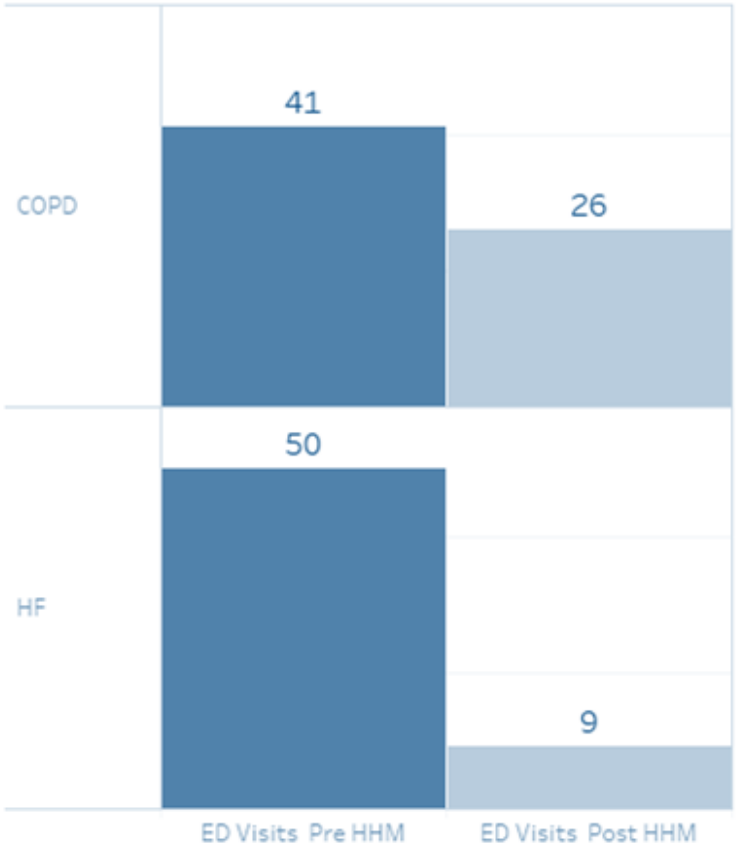
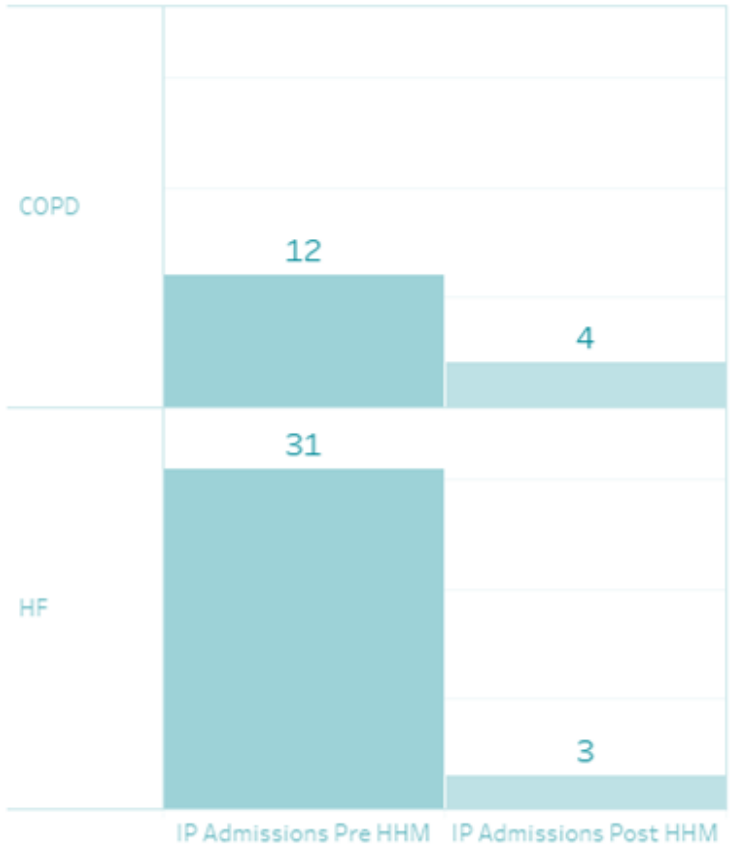
ED VISITS



37% reduction in ED visits

82% reduction in ED visits

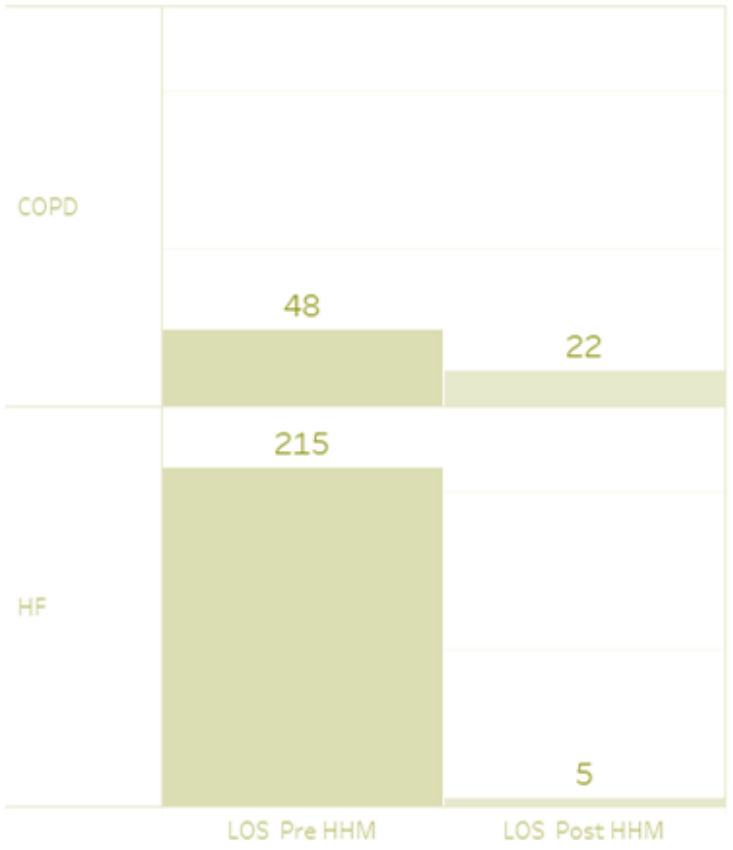
INPATIENT ADMISSIONS



67% reduction in admissions

90% reduction in admissions

LENGTH OF STAY



54% reduction in LOS

98% reduction in LOS

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LONG TERM GOALS OF HHM

FUTURE QUALITATIVE EVALUATION

Our next evaluation of HHM will include the following:

- *BP trends over 3 months of participation*
- *Blood glucose trends over 3 months of HHM*
- *Patient's ability to self manage, comparing at start of monitoring versus completion of monitoring program*

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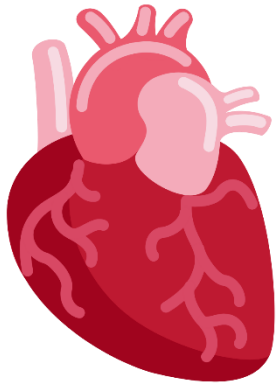

HEART FAILURE

Heart Failure Monitoring Service Goals:

- Recognizes heart failure exacerbations
- Reviews Heart Failure Zones daily to assess status
- Activates Heart Failure Zones appropriately
- Self monitors daily weights
- Manages daily fluid intake
- Manages sodium restrictions
- Manages diet and nutrition
- Balances rest and activity
- Manages medications
- Manages dyspnea, including recognizing and taking action for triggers
- Manages stress and mood
- Manages chronic pain (if applicable)
- Advanced Care Planning as appropriate
- Emergency plan in place

- Biometrics:
  - BP, Pulse, Weight, Oxygen Saturation, Activity Minutes from last 24 hours

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COPD

COPD Monitoring Service Goals:

- Recognizes COPD Flare ups
- Reviews COPD Action Flare Up Plan daily to assess status
- Activates COPD Action Flare Up Plan appropriately
  - Patients are asked to bring the plan to their GP within 3 weeks of starting program
  - Use the same plan as BC Guidelines
- Balances rest and activity
- Manages medications, including correct inhaler techniques and use of an aerochamber as appropriate
- Manages dyspnea, including recognizing and taking action for stress and environmental triggers.
- Manages stress and mood
- Manages chronic pain (if applicable)
- Advanced Care Planning as appropriate
- Emergency plan in place

- Biometrics:
  - BP, Pulse, Oxygen Saturation, Activity Minutes from last 24 hours
  - Weight if applicable

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DIABETES

Diabetes Monitoring Service Goals:

- Reviews Diabetes Action Plan daily to assess status
- Activates Diabetes Action Plan appropriately
- Self monitors blood glucose
- Manages hypoglycemia and hyperglycemia
- Manages medications
- Completes foot assessments and does foot care
- Understands importance of preventing diabetes complications
- Manages diet and nutrition
- Manages stress and mood
- Manages chronic pain (if applicable)
- Advanced Care Planning as appropriate
- Emergency plan in place

- Biometrics:
  - BP, Pulse, Blood Glucose, Activity Minutes from last 24 hours
  - Weight if applicable

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CHRONIC KIDNEY DISEASE

CKD Monitoring Service Goals:

- Manages sodium restrictions
- Manages diet and nutrition
- Balances rest and activity
- Manages medications
- Manages dyspnea
- Monitors edema
- Recognizes hypotension symptoms
- Manages stress and mood
- Manages chronic pain (if applicable)
- Advanced Care Planning as appropriate
- Emergency plan in place

- Biometrics:
  - BP, Pulse, Weight, Activity Minutes from last 24 hours
  - BP is measured twice in AM and twice in PM

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HYPERTENSION

Hypertension Monitoring Service Goals:

- Manages medications
- Recognizes hypotension symptoms
- Recognizes hypertension symptoms
- Monitors edema
- Manages sodium restrictions
- Balances rest and activity
- Manages stress and mood
- Manages chronic pain (if applicable)
- Advanced Care Planning as appropriate
- Emergency plan in place

- Biometrics:
  - BP, Pulse, Activity Minutes from last 24 hours
  - BP is measured twice in AM and twice in PM

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INTENSIVE HOME MONITORING

Intensive Home Monitoring

Wave One Deployment (April – July)

When we ask people to isolate or quarantine at home, we create vulnerability, especially if the individual lives alone.

Intensive Home Monitoring utilized redeployed Community Health nurses to provide regional monitoring support for vulnerable patients with COVID-19 symptoms.

Intensive Home Monitoring

- Patients were monitored multiple times each day for respiratory distress and overall wellbeing
- The service is delivered 7 days a week, 10 hours a day
- Patients are provided with an oximeter, either from ED visit, hospital admission or shipped to home
- Evaluation showed successful delivery of service, from patient and clinical perspective

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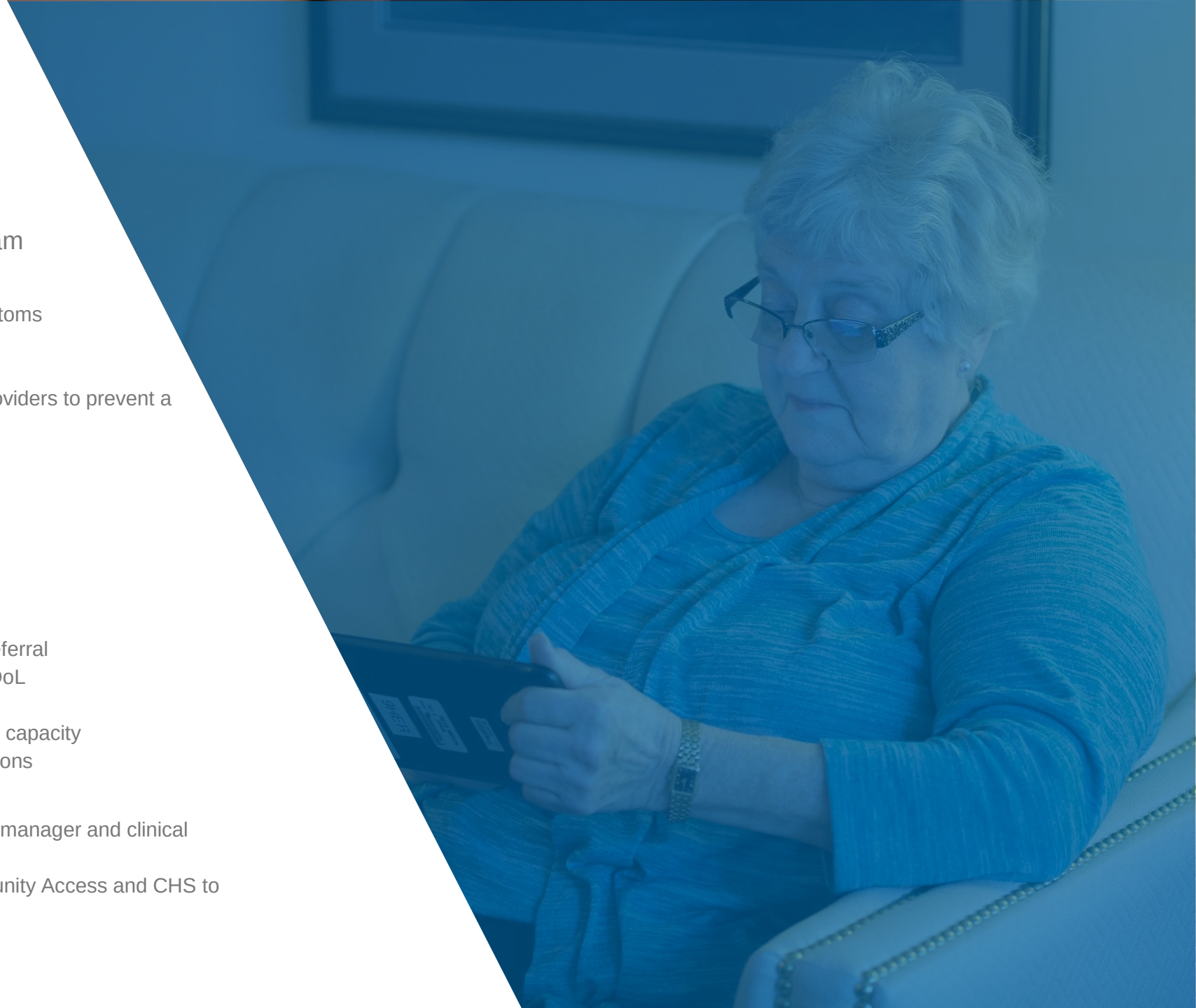
Intensive Home Monitoring

Redeployment Plan

- Community Health Virtual Rapid Response team
- Patient populations:
  - ✓ Vulnerable adults with COVID-19 symptoms
  - ✓ Surgical patients post discharge
  - ✓ Medical patients post discharge
  - ✓ Patients referred from Primary Care Providers to prevent a hospitalization or ED visit
- Monitoring kit dependent on patient needs:
  - ✓ Tablet or web version of MyMobile
  - ✓ BP Monitor
  - ✓ Weight Scale
  - ✓ Pulse Oximeter
- Program goals:
  - ✓ On board patients within 2-4 hours of referral
  - ✓ Improved patient outcomes, including QoL
  - ✓ Reduce initial length of stay
  - ✓ Support acute sites to stay below 100% capacity
  - ✓ Reduce ED visits and 30-day readmissions
- Project Status
  - Awaiting confirmation of funding to hire manager and clinical resources
  - Revising intake processes from Community Access and CHS to align with care being delivered virtually



CONTACT US

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