



CorHealth COVID-19 Heart Failure Stakeholders Forum

March 25, 2020; 6:00 – 7:00 pm

Teleconference: (647) 951-8467 / Toll Free 1 (844) 304-7743

Conference ID: 822279661

Agenda

Description	Presenter	Time
1. Welcome <ul style="list-style-type: none">• System Planning Updates• Meeting Objectives	Sheila Jarvis	18:00
2. MOH Memo and CCS Recommendations Overview	Dr Heather Ross	18:05
3. Ambulatory Heart Failure Care and COVID-19 in Ontario <ul style="list-style-type: none">• Current approaches and strategies• Virtual care: UHN example	Dr Heather Ross	18:15
4. Other Considerations and Next Steps	All	18:50



Welcome

SHEILA JARVIS

System Planning Updates: Important to Acknowledge

- COVID-19 landscape is rapidly evolving
- Keeping front line health care providers healthy is vital as we manage the COVID-19 pandemic.
- Minimizing the impact of COVID-19 on the mortality and morbidity of patients with heart failure is a priority
- Province and hospital specific infection prevention and control policies and protocols exist
- Promoting clinical activities aimed at preserving hospital resources (i.e. health care human resources, PPE, ICU's, ER's) is also a priority.

Meeting Objectives

1. To understand whether programs have already begun to develop guidance documents and/or strategies for the management of ambulatory heart failure clinic visits during the COVID-19 outbreak.
2. To identify the need for provincial guidance documents to monitor and manage ambulatory heart failure patients during the COVID-19 outbreak.



MOH Memo March 15, 2020: Ramping Down Elective Surgeries and Other Non-Emergent Activities

DR HEATHER ROSS

Consistent Patient Management

- **“Each hospital, health system, and physician should review all scheduled elective procedures with a plan to postpone or cancel electively scheduled operations, endoscopies, or other invasive procedures until such time that hospitals are able to accommodate these additional procedures.”**
- **“Non-emergent activity should be reduced in a step-wise manner in order to preserve, to the greatest degree possible, access for time-sensitive care.** This would include, but is not limited to:
 - Time-related disease like certain cancers, particularly if the outcome is treatment-related;
 - Cardiac procedures for which there is risk of significant morbidity or mortality if delayed; and,
 - Non-emergent activity that will or may convert to emergent.”
- **Immediately adopt a stewardship approach to minimize use of essential items needed to care for patients,** including but not limited to: ICU beds, PPE, cleaning supplies, and ventilators.

MOH Memo & CCS Recommendations

- **MOH** has issued memos related to OHIP payments to support virtual visits, virtual home care delivery
- **CCS** has released a number of recommendations, including ambulatory care and specialty clinics



Ambulatory Heart Failure Care and COVID-19 in Ontario

Current Approaches & Strategies

DR HEATHER ROSS

Discussion

Face-to-Face Visits

- How are people responding to the direction from the MOH and CCS recommendations for ambulatory management of HF patients?

Scenarios	Approaches in the setting of COVID-19
Face-to-face clinic visits	Are you continuing with any in-person clinic visits? <ul style="list-style-type: none">• Who and how is triaging/decision making occurring?• Who will remain scheduled?• What processes are in place to minimize COVID risk to patients and staff?

Discussion

Virtual Care Options

Scenarios	Approaches in the setting of COVID-19
Patient monitoring/surveillance	What are the minimum, critical requirements for patient monitoring/surveillance? For example: <ul style="list-style-type: none">• What resources are needed - clinical, administrative and technical?• What key pieces of information should be routinely collected from patients?• How often should this information be formally collected?
Patient management/intervention	What are the minimum, critical requirements for virtual care patient management? For example: <ul style="list-style-type: none">• Are there additional resources needed that are not identified above?• Is there additional information that may be required to guide patient management decisions not identified above?• How are you accessing and arranging for these resources or information to guide treatment?

UHN Guiding Principles

	Low risk	Medium risk	Medium risk	High risk
NYHA FC	1	2-3	2-3	3-4
GDMT	yes	optimized	Still titrating	
Symptoms	none	No orthopnea, PND or syncope	No orthopnea, PND or syncope	Recent or new syncope, ICD shock,
Other		Stable/low BNP	Stable/low BNP	Home iv inotropes Requiring iv diuretics High and/or increasing BNP Worsening cardiorenal syndrome Multiple admissions in last 6 mo Recent (<30d) hospital discharge for ADHF Worsening volume overload Work up for advanced therapies (HTx, VAD)
Follow up	Defer follow up 6 mo	As per usual	More frequent for titration Medly enabled	Early follow-up
Mode of Follow up	standard	Medly/telephone/OTN	Medly/telephone/OTN	On board Medly/OTN/*in person

*Note: in-person visits should be limited to patients for whom critical volume assessment is required, or for those with high likelihood of requiring admission and/or IV therapies

Caveat: chronic HF patients with worsening cough, breathlessness should be considered for COVID19 testing

Discussion

- Do we need to consolidate this information into general guidance for all HF clinics?



Virtual Care: UHN Program

EXAMPLE: MEDLY

The Medly Program

The Medly Program was developed through **philanthropic** funding by a University Health Network (UHN)-led team of healthcare professionals, patients, engineers, and researchers.

Medly is...

- A Health Canada licensed class II medical device.
- An Ontario **public asset**.
- Costs are cost-recovery only.



Patient Application

Enter daily measurements of weight, blood pressure, heart rate, and symptoms

Receive instant feedback through the in-app Medly algorithm, which compares readings against personalized thresholds

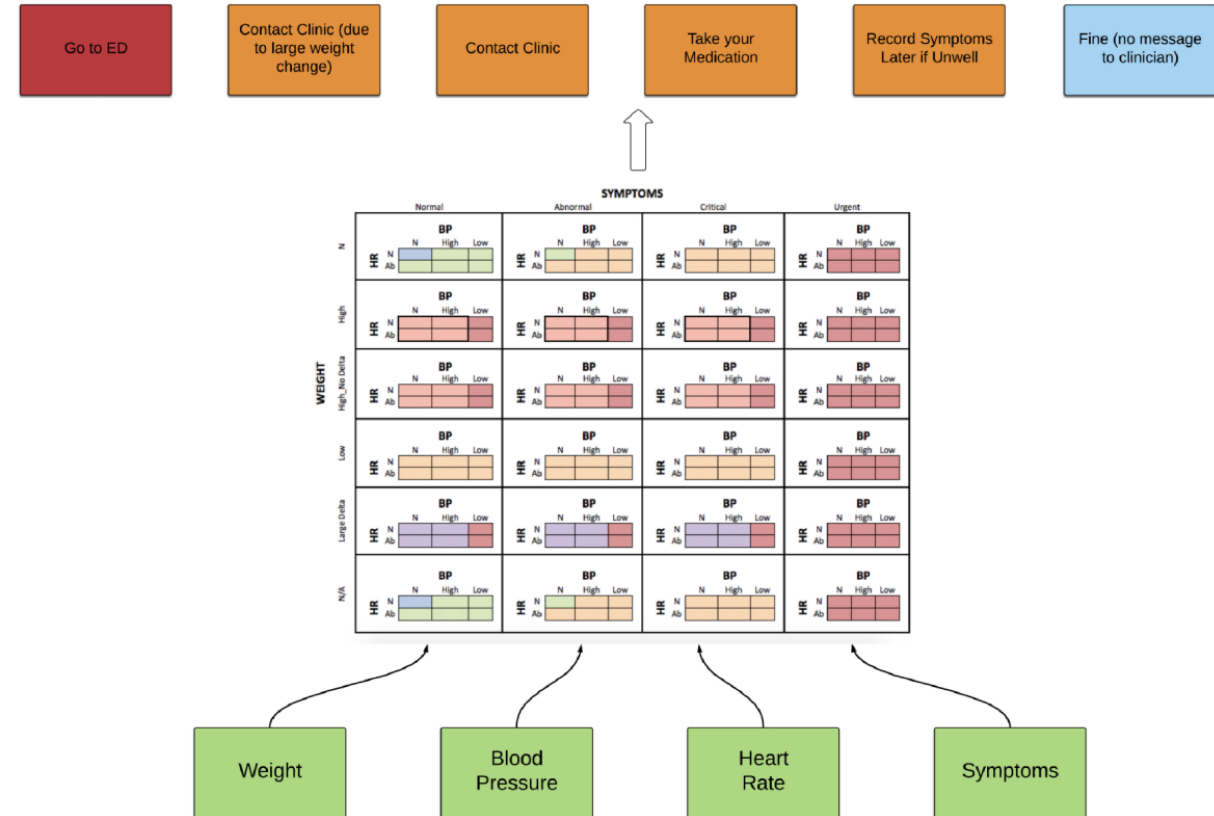
Monitor your health status through reviewing trends, laboratory data, and alert history



Medly Algorithm

The Medly algorithm is a rules-based expert system that was developed and vetted by heart failure clinicians at UHN.

- Analyzes the vitals taken by the patients and generates self-care feedback messages based on individualized patient thresholds
- Parameters that fall outside the threshold alert clinicians to assess for further clinical intervention

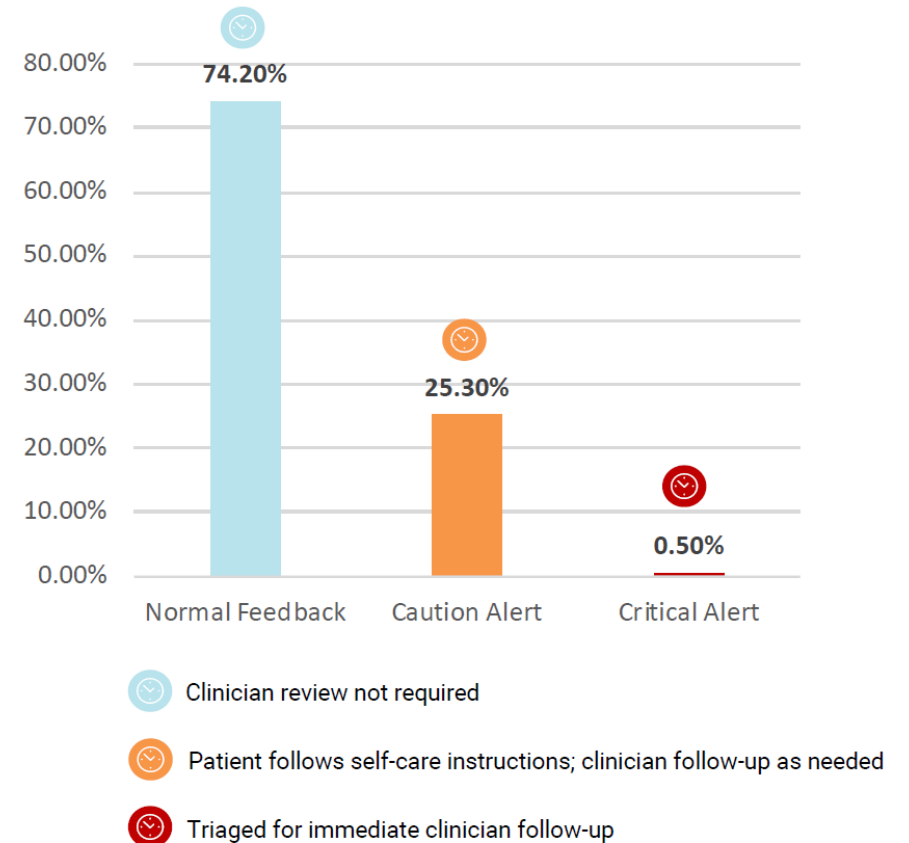


Seto E, Leonard KJ, Cafazzo JA, Barnsley J, Masino C, Ross HJ. **Developing healthcare rule-based expert systems: case study of a heart failure telemonitoring system.** *International journal of medical informatics.* 2012;81(8):556-65.

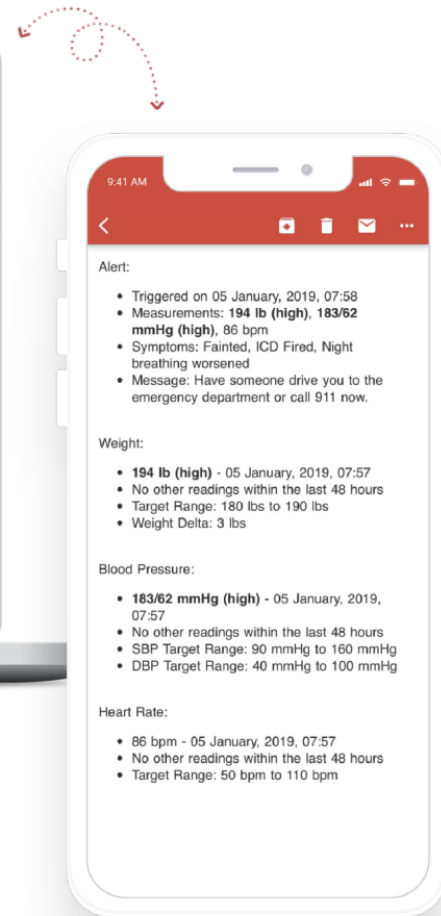
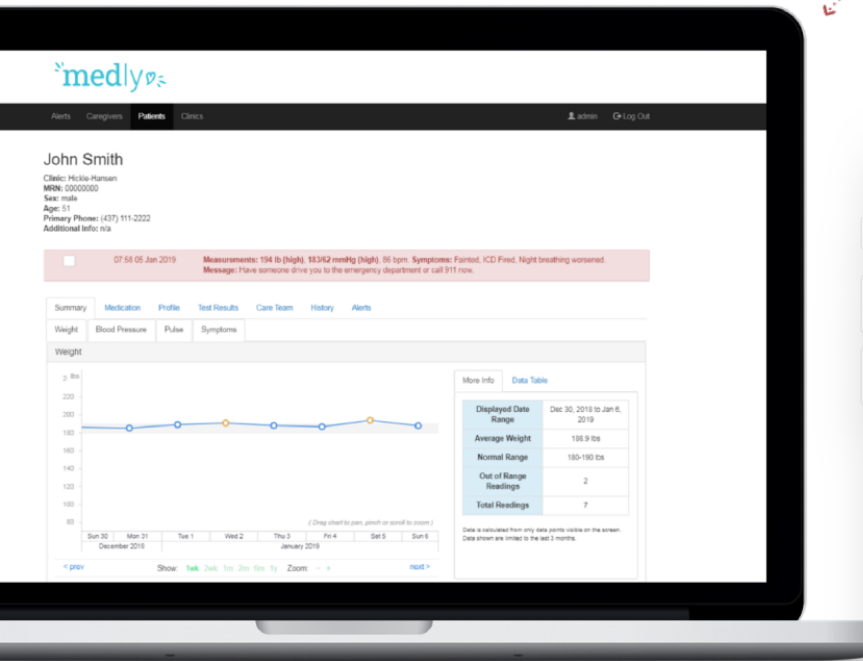
Medly Algorithm

- The rules based advanced clinical decision support tool reduces the number of actionable alerts
- Clinicians are able to prioritize, focus on the patients who need immediate clinical care or those who may benefit from educational or clinical interventions
- The Medly software is a **Health Canada Class II Medical Device**, due to its robust clinical evidence base and advanced clinical-decision support functionality.

PATIENT ALERT STATES



Clinician Dashboard



Review the alerts centre to rapidly identify and respond to patients who have alerted through Medly

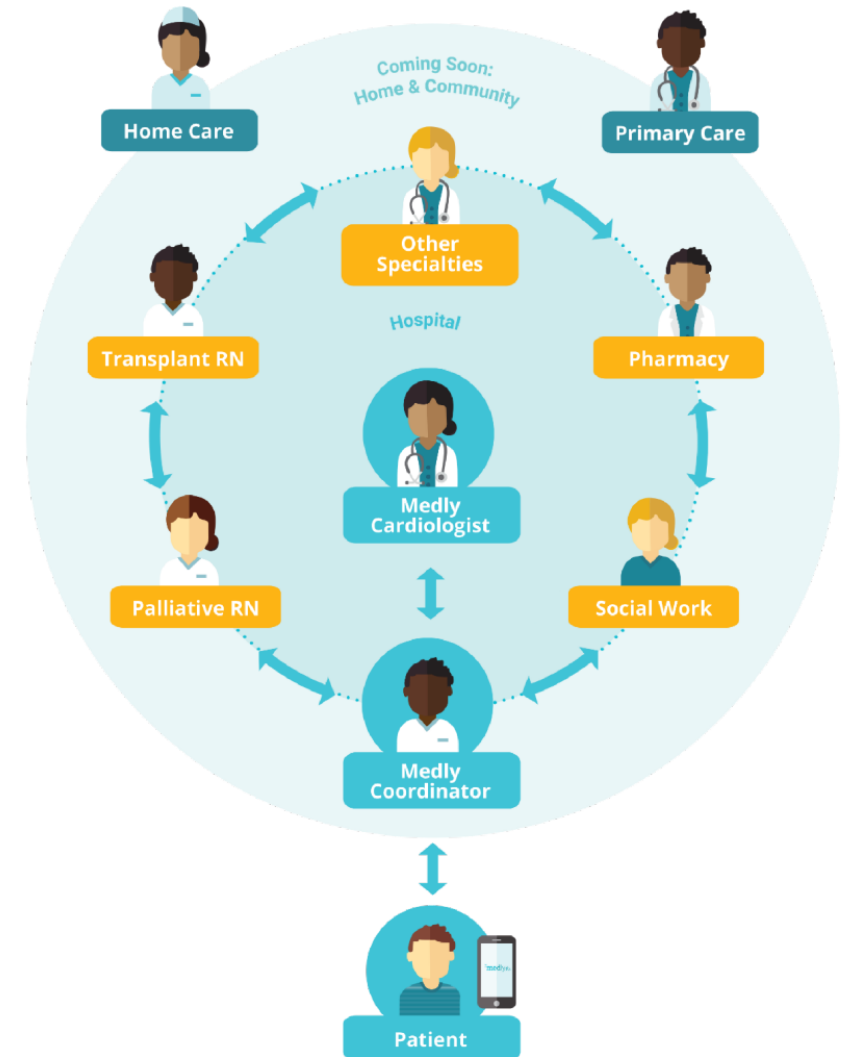
Assess patient health status through the patient profile (e.g. thresholds, medication list, lab data and historical trends)

Review critical alerts and communications from patient care team through secure email

Model of Care Delivery

1 Medly Nurse Coordinator is able to provide comprehensive care for up to 350 complex chronic patients.

- Single point of contact for patients and caregivers
- Provides patient education and supports care navigation over the course of the Medly Program experience
- Care is coordinated amongst all hospital providers in the patient's circle of care
- The model leverages straightforward technology to improve the delivery of care



UHN Program Snapshot – March 2020



NURSE COORDINATORS

1



ACTIVE PATIENTS

387



ALL TIME PATIENTS

560

Medly's Impact

Patient Outcomes



- ✓ Improved heart failure-related quality of life (MLHFQ scale)
- ✓ Reduction in B-Type Natriuretic Peptide values (59%)
- ✓ Average adherence of 74% over 1 year

Patient Experience



- ✓ Self-reported peace of mind and improved relationships with clinicians
- ✓ Significant improvement in self-care maintenance & management (SCHFI scale)

Clinician Experience



- ✓ 100% adoption among Cardiologists at UHN Toronto General Hospital and Toronto Western Hospital
- ✓ Perceive program to provide quality, patient-centered care

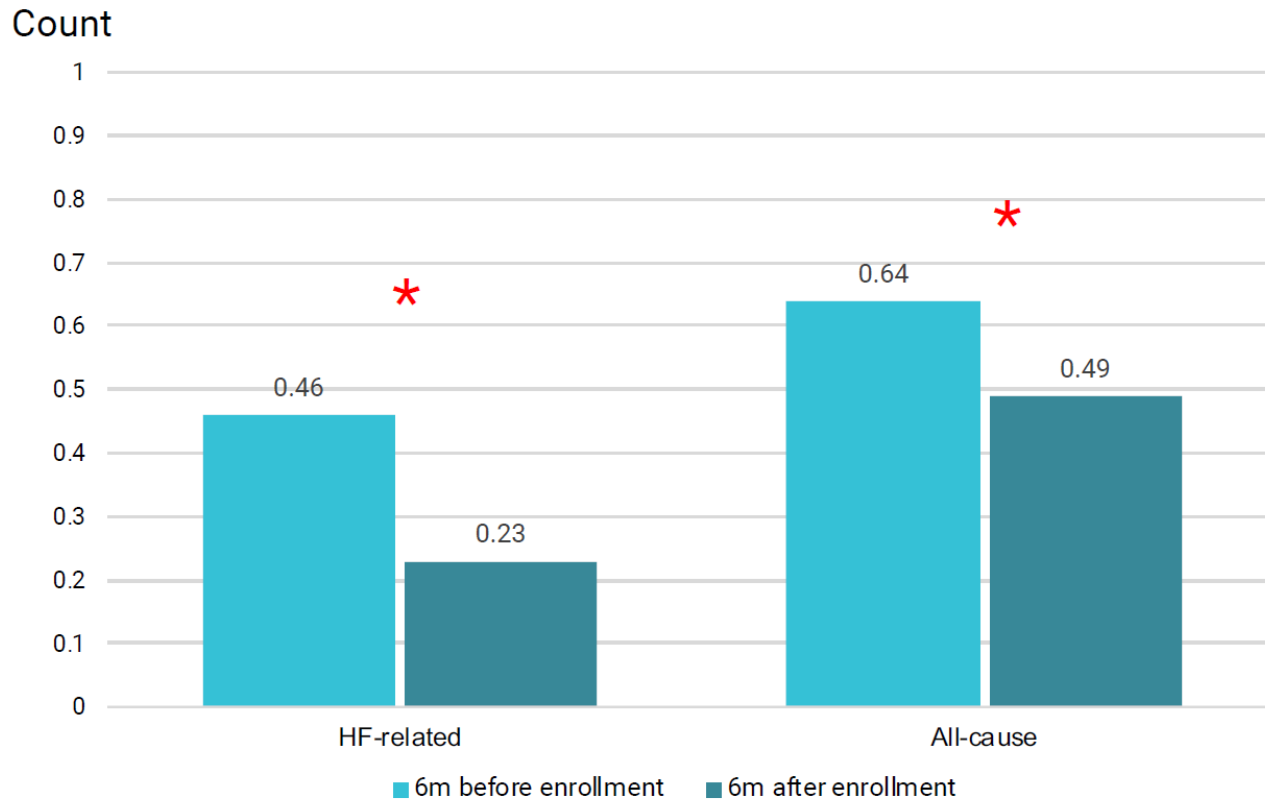
Cost of Care Provided



- ✓ 50% reduction in the number of heart failure-related hospitalizations
- ✓ 24.1% reduction in reduction in all-cause hospitalizations

HEALTH SERVICE UTILIZATION

Number of Hospitalizations



* Statistically significant change ($P < .05$)

INTERPRETATION

Enrollment in the Medly program resulted in a...

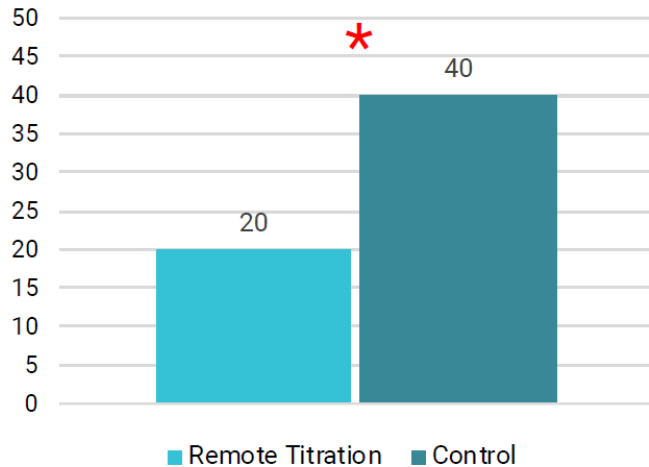
50 % reduction in HF-related hospitalizations

24% reduction in all-cause hospitalizations

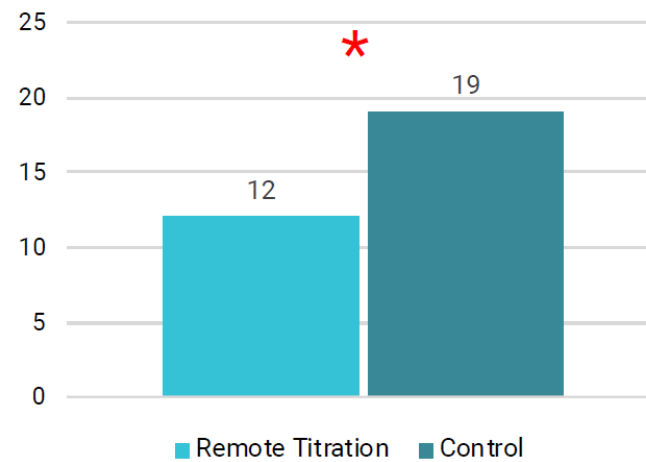
REMOTE TITRATION

Interim analysis of RCT comparing remote titration using Medly to in-office titration

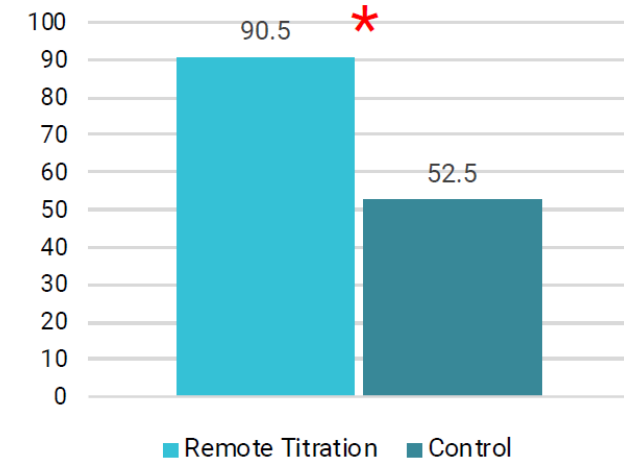
of in-clinic visits



Time (weeks) to dose optimization



% of patients achieving target dose within 6 months



* Statistically significant change (P<.05)

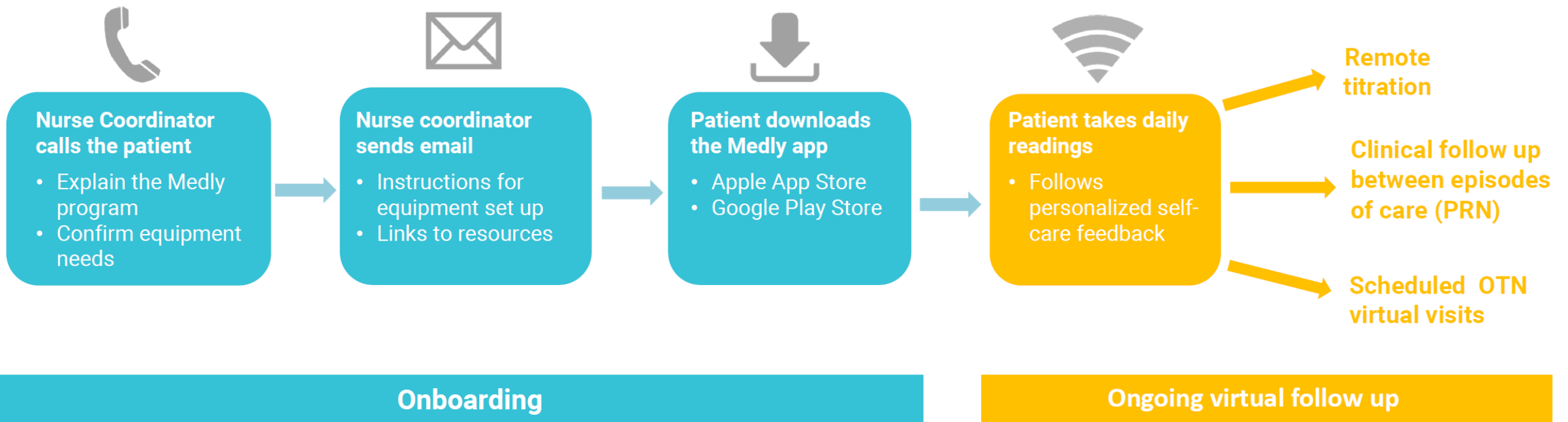
INTERPRETATION

Remote titration using Medly was found to be **safe and effective** at:

- Reducing the number of in-person visits
- Increasing % of patients who achieved target dose in 6 months
- Reducing time to dose optimization

**PUBLICATION PENDING,
FOR INTERNAL USE ONLY**

COVID-19: Remote Onboarding and Follow Up



COVID-19: UHN Ramp-Up Numbers



NURSE COORDINATORS

4



ACTIVE PATIENTS

400



PATIENTS ANTICIPATED TO BE ONBOARDED

1500

in 4-8 weeks

COVID-19: UHN'S Virtual Heart Function Clinic

Ambitious measures were taken to virtualize the UHN Heart Function clinic to minimize risk to patients and clinicians, while maintaining consistent high-quality clinical outcomes.

REMOTE MONITORING

“Low risk” patients are remotely onboarded onto the Medly Program. In-person appointments are re-scheduled for 3 months later.

Patients continue to be monitored via Medly and receive clinical intervention via phone calls as needed.

REMOTE MONITORING + TITRATION

Patient undergoing medication up-titration are remotely onboarded onto the Medly Program.

Continuous monitoring of vitals and symptoms enables the replacement of in-person titration appointments with virtual assessments and dose adjustment by phone or Ontario Telemedicine Network (OTN) virtual visits.

REMOTE MONITORING + VIRTUAL VISITS

“Intermediate risk” patients are remotely onboarded onto the Medly Program. OTN virtual visit replace scheduled in-person visits.

In addition to continuous monitoring and clinical intervention as needed, Medly provides longitudinal patient data that enhances the quality of virtual cardiology visits.



Other Considerations & Next Steps

Other Considerations

- Are there other issues we should be considering/discussing?
- How should we compile and address this list?
- Are you willing to share your resources with other centres?
- Are you willing to have your document integrated into a provincial summary document?

Next Steps

- CorHealth activities
- Future meetings



Appendix

MOH- Supporting Expansion of Virtual Home Care Delivery- March 18, 2020

Virtual care delivery

Virtual care delivery includes the meaningful communication of a patient's health status and/or the treatment/intervention needed to support their care needs.

Virtual care includes:

- Phone calls
- Video conferencing
- Secure messaging
- Remote monitoring

LHINs, approved agencies and providers should scale up existing, proven virtual care models where they exist, and consider other models as appropriate.

National recommendations



March 19, 2020

Guidance on hospital-based care and cardiac procedure use during the COVID-19 crisis

Recommendations across key clinical service areas

2. **Ambulatory cardiology (please see CCS's [Guidance on ambulatory management and diagnostic testing during the COVID-19 crisis](#))**

- a) Transition to virtual health/telehealth if possible and/or cancellation/rescheduling of routine follow-up visits
- b) Continue emergency clinic visits based on local triage algorithms, as a mechanism to avoid pressures on the emergency room and to avert potential hospitalization
 - i. Urgent appointments by virtual health/telehealth preferred
 - ii. When in-person is deemed necessary, consider a “consultant of the day” model
 - iii. Use ambulatory facilities where available
- c) If face-to-face consults are required, limit the number of health care providers involved to the minimum number required (especially multi-disciplinary clinics)

GUIDANCE FROM THE CCS COVID-19 RAPID RESPONSE TEAM

March 17, 2020

Ambulatory management and diagnostic testing during the COVID-19 crisis

Many speciality clinics are initiating a telephone screening physician or nurse-led consultation as a care and triage mechanism, to determine those patients best suited to in-person clinic assessment. When seeing patients that require a face-to-face visit, appropriate disinfectant and droplet precautions should be utilized. When a face-to-face appointment is required, the number of health care providers should be kept to a minimum. Subspecialty Affiliates are also communicating more detailed, patient group specific recommendations (see www.ccs.ca).