



# CorHealth COVID-19 Heart Failure Stakeholder Forum #2

April 1, 2020 6:00-7:30 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"><li>Recap of March 25<sup>th</sup> Meeting</li><li>COVID-19 System Planning Updates</li><li>Meeting Objectives</li></ul>	Sheila Jarvis	18:00
2. Five Top Things You Need to Know About COVID-19	Dr. Heather Ross	18:05
3. Update on Virtual Care Resources	Alex Iverson	18:15
4. Information on Advance Care Planning	Dr. Leah Steinberg	18:20
5. CorHealth COVID-19 Heart Failure Memo#1 – Recommendations for an Approach to Monitoring & Managing HF Patients During COVID-19	Dr. Heather Ross	18:25
6. Next Steps	Dr. Heather Ross / Karen Harkness	18:55



# Welcome

**SHEILA JARVIS**

# Recap of March 25<sup>th</sup> Meeting

- Key themes discussed:
  - Managing patients who need decongestion with IV Lasix, or finding creative solutions to keep patients out of hospital
  - Supporting and advancing the care of patients using virtual options (e.g., OTN, Medly, etc.)
  - Supporting Primary Care
  - Guiding Principles & General Principles for Assessment of COVID-19
- Meeting summary notes can be found on our website:  
[https://www.corhealthontario.ca/COVID-19-CorHealth-Summary-Notes-Heart-Failure-Forum1-\(March-25-2020\).pdf](https://www.corhealthontario.ca/COVID-19-CorHealth-Summary-Notes-Heart-Failure-Forum1-(March-25-2020).pdf)

# COVID-19 System Planning Updates:

## Ontario Health - Critical Triage Protocol for Major Surge in COVID Pandemic

- Released March 28, 2020
- Development led by Dr. James Downar (The Ottawa Hospital) under the Ethics Table of the Ontario COVID Command Structure
- Describes surge and scale up of levels of triage protocol for acute and critical care services guided by ethical principles
- Use of triage protocol should be considered as last resort
- Document can be found on our website: [OH Guidance - Clinical Triage Protocol for Major Surge in COVID Pandemic \(March 28, 2020\)](#)

# Meeting Objectives

1. Review CorHealth COVID-19 Heart Failure Memo #1 – *Recommendations for an Ontario Approach to Managing Heart Failure During COVID-19*
2. Review virtual care options and resources
3. Provide information on advance care planning
4. Provide education highlighting 5 top things you need to know about COVID-19



# Five Top Things You Need to Know About COVID

**DR HEATHER ROSS**

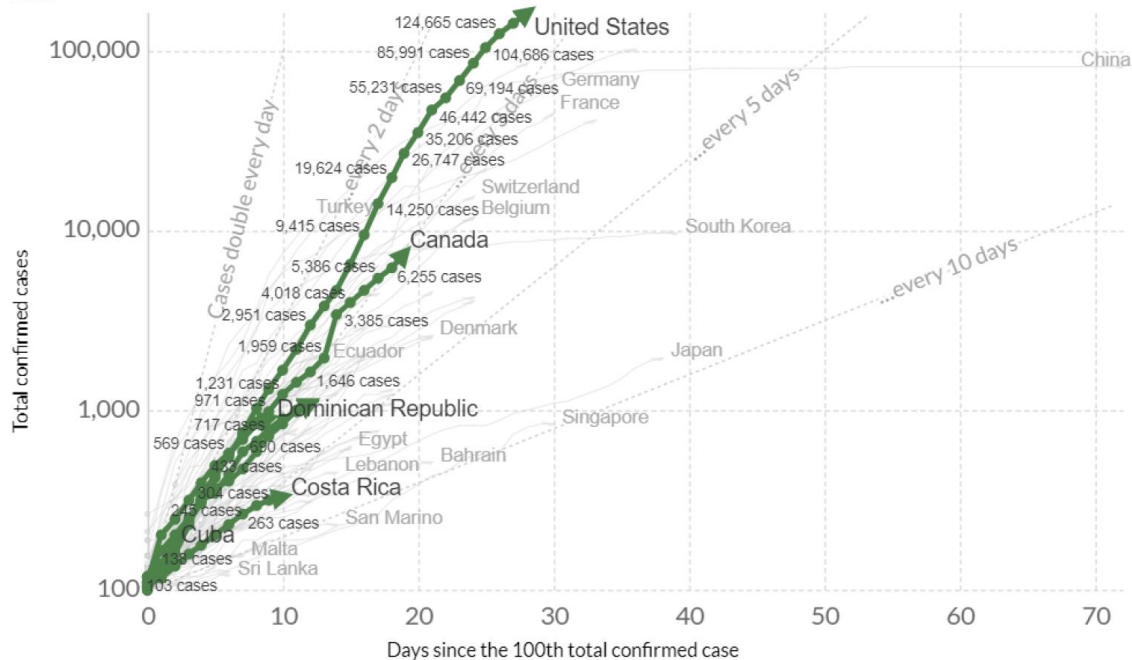
## Summary of cases of COVID19 Ontario Jan 15 - March 30

	number	%
Number of cases	1966	15% increase
Resolved	534	
deceased	33	

## Total confirmed cases of COVID-19

The number of confirmed cases is lower than the number of total cases. The main reason for this is limited testing.

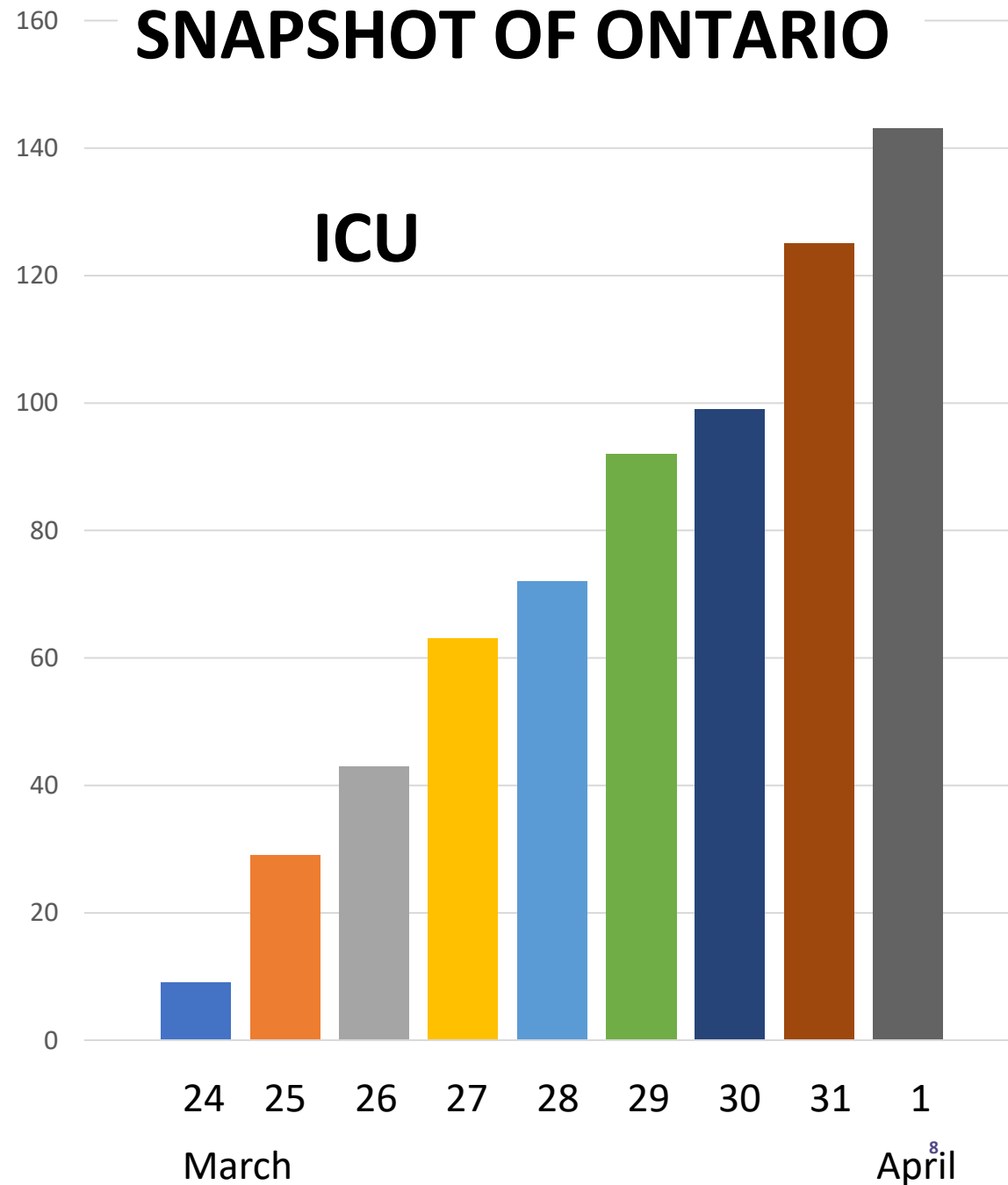
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Source: European CDC - Situation Update Worldwide - Last updated 31st March, 13:00 (London time)

# SNAPSHOT OF ONTARIO

## ICU



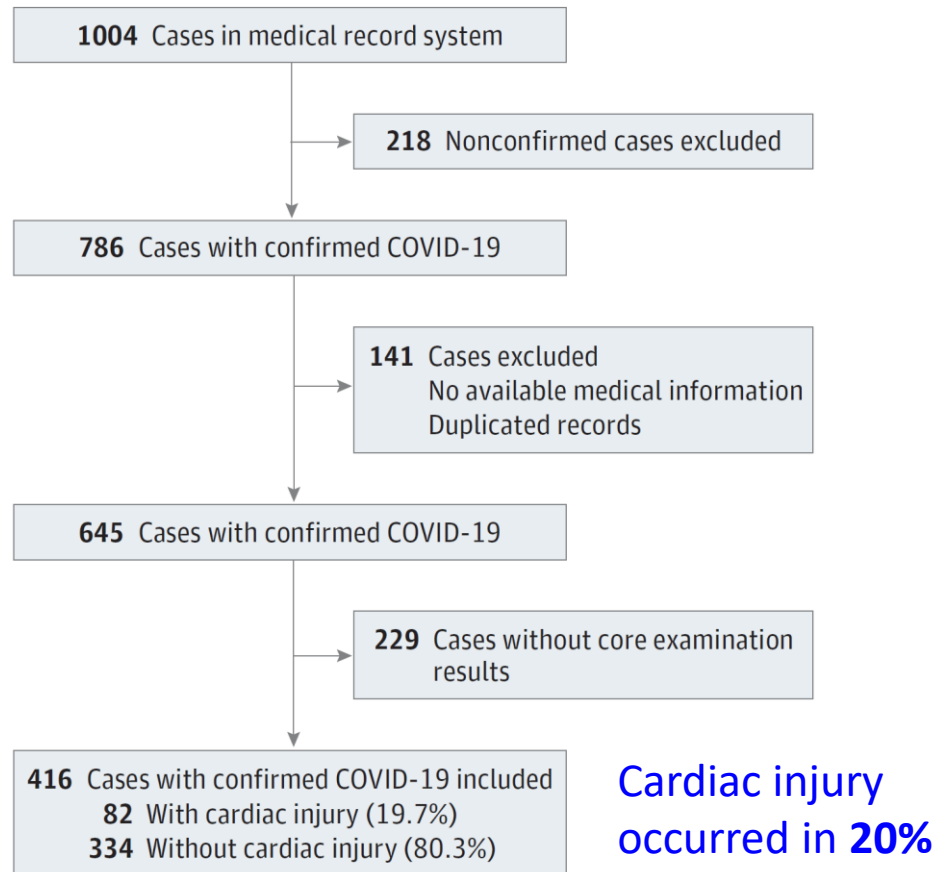


# The 5 things you need to know about COVID

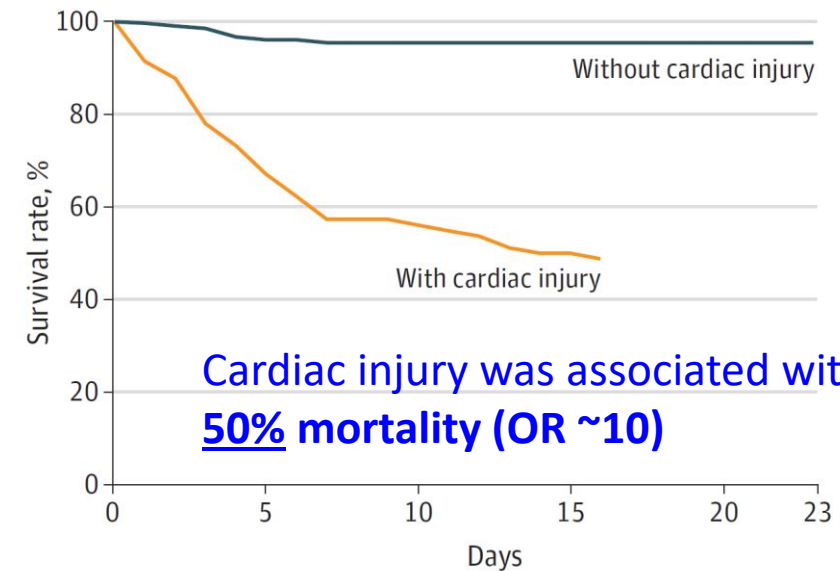
1. Cardiac injury can be identified in  $\approx 1/4$  of COVID19 hospitalized patients
2. Cardiovascular risk factors and CVD are associated with a higher risk of cardiac injury
3. Specific conditions may result in cardiac injury  
Pro-inflammatory, MI, myocarditis, supply/demand
4. Treatment for specific cardiac conditions **should not** be delayed
5. Cardiac manifestations from COVID-19 are associated with worse outcomes

# Association of Cardiac Injury With Mortality in Hospitalized Patients With COVID-19 in Wuhan, China

Figure 1. Flowchart of Patient Recruitment



B Time from admission



No. at risk	0	5	10	15	20	23
With cardiac injury	82	55	46	41	0	0
Without cardiac injury	334	321	319	319	319	319

**Mortal hazard: ~2 wk after sx, ~1 wk after hospital admission**

C Comparison of outcomes

	No. of events/ No. of patients	Time from symptom onset		Time from admission	
		Duration, mean (range), d	P value log-rank	Duration, mean (range), d	P value log-rank
With cardiac injury	42/82	15.6 (1-37)	<.001	6.3 (1-16)	<.001
Without cardiac injury	15/334	16.9 (3-37)		7.8 (1-23)	

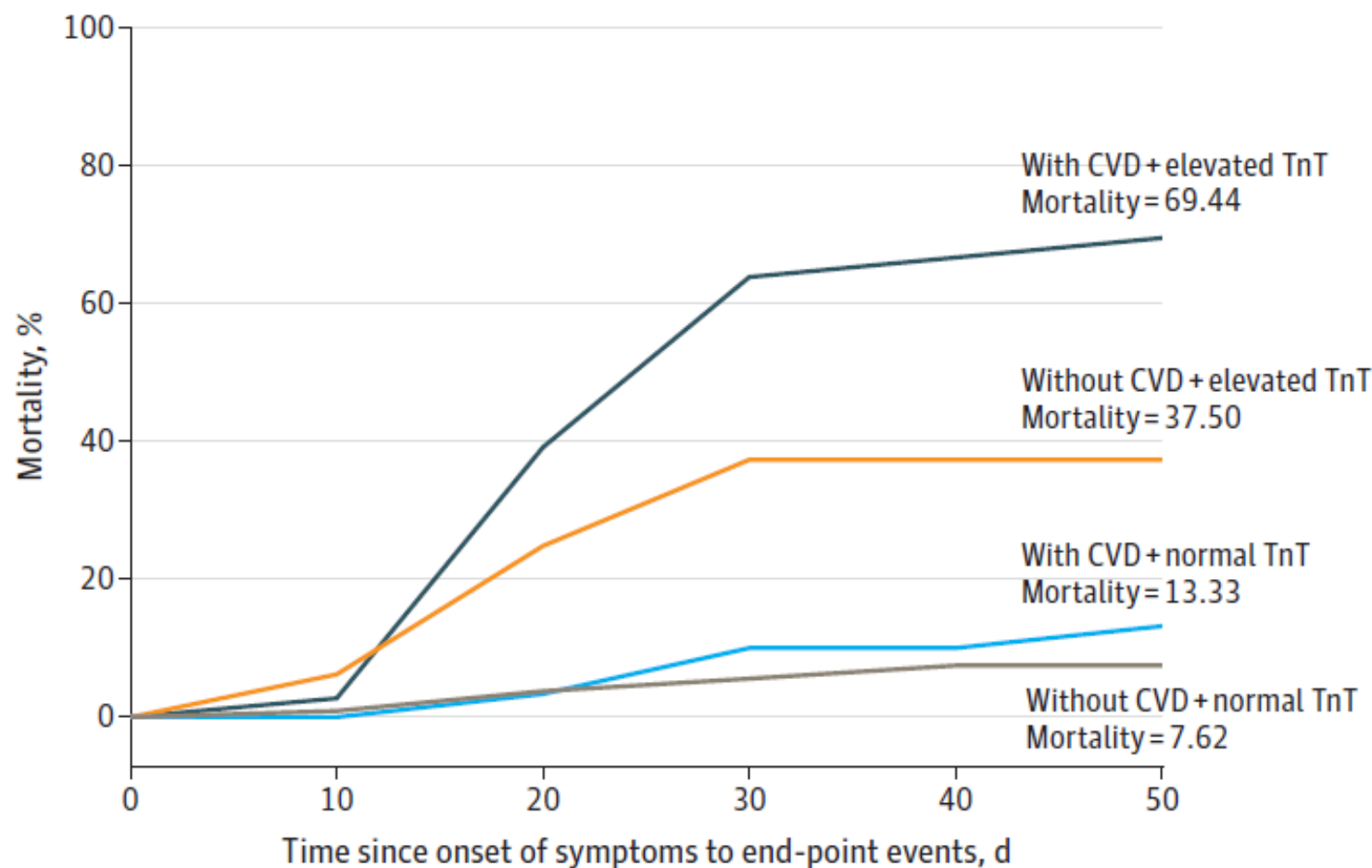
# Patients with COVID19 Cardiac Injury

- Patients with Covid-19 cardiac injury tend to have **HTN (60%), T2D (25%), CAD (30%)** and **HF (15%)**
- Patients with Covid-19 cardiac injury are **older** (mean age **74 vs 60**) and present more often with **CP (13% vs 1%)**
- Patients with Covid-19 cardiac injury are more likely to manifest **lymphopenia, elevated troponin, elevated BNP, AKI, mottled glass CXR**
- **Mortality 50% (OR ~ 10)**
- **ARDS 60%**
- **Rising cardiac biomarkers**, specifically **TnT** and **NT-proBNP**, were identified in fatal cases

**Take away message:** If you find Covid-19 patients with myocardial injury, consider them for more aggressive Rx, prepare to manage cardiac dysfunction and arrhythmias



Figure 2. Mortality of Patients With Coronavirus Disease 2019 (COVID-19) With/Without Cardiovascular Disease (CVD) and With/Without Elevated Troponin T (TnT) Levels



No. at risk

Without CVD + normal TnT (n = 105)	102	86	41	10	0
Without CVD + elevated TnT (n = 16)	15	12	7	1	0
With CVD + normal TnT (n = 30)	29	25	10	4	0
With CVD + elevated TnT (n = 36)	34	20	8	2	0

COVID-19 Infection	Concern	Interpretation
<b>Asymptomatic or early mild disease with constitutional symptoms (fever, dry cough, diarrhea and headache)</b>	Should background cardiovascular medications be modified?	<ul style="list-style-type: none"> <li>• There is no clear evidence that ACEi or ARB should be discontinued</li> <li>• NSAIDs should be avoided</li> </ul>
<b>Moderate disease with pulmonary complications and shortness of breath (including hypoxia)</b>	Is there a cardiovascular contribution to the lung complications?	<ul style="list-style-type: none"> <li>• Check troponin (evidence of myocardial injury and prognosis)</li> <li>• Check natriuretic peptides</li> <li>• Consider cardiac echocardiography to evaluate for evidence of underlying structural heart disease, high filling pressures</li> <li>• Avoid overuse of intravenous fluids which may worsen underlying pulmonary edema</li> </ul>
<b>Advanced stage disease with hypoxia, vasoplegia and shock</b>	Is there evidence of cardiogenic contribution to shock and what therapy may be potentially curative?	<ul style="list-style-type: none"> <li>• Check for evidence of hyperinflammation or a cytokine release storm (elevated troponin, natriuretic peptides, CRP and serum ferritin &gt; 1000 ng/ml (measure IL-6 levels if available))</li> <li>• If cardiac function is reduced (LVEF &lt; 0.50%), consider supportive care with inotropic therapy but move to consider anti-cytokine therapy with drugs such as tocilizumab and corticosteroids</li> </ul>

**Mild:**  
 No change in cardiac Rx  
 Avoid NSAIDs

**Moderate:** Covid19 pneumonia

**History or high likelihood of CVD?**  
**Elevated cardiac biomarkers?**  
**Consider POCUS/echo**

**Severe:** Covid19 sepsis/ARDS

**Ventricular dysfunction on POCUS?**

**NO:** serial biomarkers, needs ICU setting  
**YES:** *Inotropes (vaso- & cardio-plegia)*  
**Consider anti-inflammatory Rx?**



# Virtual Care Resources

ALEX IVERSON

# Resources and Supports to Enable Virtual or Remote Monitoring, Management and Care


## 1. Changes to the Schedule of Benefits for Physician Services in response to COVID-19 influenza pandemic effective March 14, 2020

- Providers are being encouraged to use virtual care whenever appropriate, and Ontario's Ministry of Health has introduced temporary billing codes and procedures in support of this effort.
  - Information on the temporary billing codes
  - Information on billing for virtual physician services and technical guidance

## 2. Virtual Care Resources

- Major sites hosting virtual and remote monitoring and care tools and resources available in Ontario
  - Ontario Telemedicine Network (OTN)
  - OntarioMD
  - Association of Family Health Teams of Ontario (AFHTO)
  - eHealth Centre of Excellence (eCE)
- Disease specific virtual and remote monitoring care tools and resources available in Ontario
  - MEDLY (heart failure)
  - The Ottawa Heart Institute's Telehome Monitoring Program (heart failure)
  - OTN Telehomecare for COPD and Heart Failure
  - Community Paramedicine Remote Patient Monitoring Program (heart failure)

# Resources and Supports to Enable Virtual or Remote Monitoring, Management and Care



**CorHealth Ontario**  
Advancing cardiac, stroke and vascular care

## Repository of Resources & Supports to Enable Virtual or Remote Monitoring, Management and Care Across Stroke, Vascular and Cardiac Patients During COVID-19

DISCLAIMER: This document represents a dynamic, central repository of resources for the enablement of virtual or remote monitoring and is not an exhaustive list of all existing resources. The resources included in this central repository will continue to be updated as applicable.

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### Changes to the Schedule of Benefits for Physician Services (Schedule) in Response to COVID-10 Influenza Pandemic, effective March 14, 2020

Providers are being encouraged to use virtual care whenever appropriate, and Ontario's Ministry of Health has introduced temporary billing codes and procedures in support of this effort. Information on the temporary billing codes, can be found here: <http://www.health.gov.on.ca/en/pro/programs/ohip/bulletins/4000/bul4745.aspx>  
Information on billing for virtual physician services and technical guidance, can be found here: <http://www.health.gov.on.ca/en/pro/programs/ohip/bulletins/4000/bul4746.aspx>

### Virtual Care Resources

- Ontario Telemedicine Network**  
OTN is a provincial platform that enables virtual care through two-way videoconferencing to provide access to care for patients in hospitals and hundreds of other health care locations across the province. For information on virtual care options and guides to support clinicians to use OTN-supported tools to deliver virtual care safely and effectively, refer to: <https://otn.ca/>
- OntarioMD**  
**OntarioMD** has curated a list of tools that they have visibility to, in order to raise awareness to physicians and their practices regarding tools they might consider in supporting their patient community during the COVID-19 pandemic. Information regarding digital tools, video visit platforms, and other virtual care resources can be found at the link below:  
[https://ontariomd.news/?utm\\_source=link.cep.health&utm\\_medium=urlshortener&utm\\_campaign=covid](https://ontariomd.news/?utm_source=link.cep.health&utm_medium=urlshortener&utm_campaign=covid)

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**CorHealth Ontario**


COVID-19 [clinical domain] Stakeholder Meeting  
[Month Day, 2020]

- Association of Family Health Teams of Ontario (AFHTO)**  
AFHTO has developed a repository of virtual care and digital health resources that is updated regularly, in order to assist teams to accommodate care for patients virtually as much as possible. The suite of resources includes, but is not limited to: clinical guidance for adopting and integrating virtual visits into care, telephone and virtual care fee codes FAQ. Refer to link below: <https://www.afhto.ca/news-events/news/virtual-care-digital-health-and-covid-19>
- eHealth Centre of Excellence**  
eCE organization offers support to healthcare professionals and organizations related to the deployment, adoption and appropriate use of digital health tools. Their current suite of digital health tools include, but are not limited to: eConsult, virtual visits, tablets, tools and coaching for electronic medical records (EMRs), eReferral, and tools of intelligent automation. Information regarding the full suite of digital health tools can be found here: <http://ehealthce.ca/Services.htm>

### Heart Failure-Specific Virtual Care Resources

- Medly**  
Medly is a digital program that allows heart failure patients to manage symptoms from home. Medly reduces hospitalizations and improves self care and quality of life. Medly provides heart failure patients with individualized self-care and coordinated clinical support. Patients record and store physiological measurements and symptoms via the Medly app. Medly runs this data through a clinically-validated algorithm which provides instant feedback and push instructions including diuretic dosing tailored to the patients and their clinicians. The model of care delivery incorporates 1 Medly nurse coordinator providing care for up to 350 HF patients. Additional information on Medly can be found at: [medly.ca](http://medly.ca)
- Ottawa Heart Institute's Telehome Monitoring Program (THM)**  
The Heart Institute's Telehome Monitoring Program (THM) is a nurse-run, intensive, post-discharge home health program designed to improve patient outcomes and reduce hospital readmissions. It is part of the Telehealth Programs run by the Cardiac Telehealth department. For more information, please visit the website: <https://www.ottawaheart.ca/healthcare-professionals/regional-national-programs/telehome-monitoring>

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**CorHealth Ontario**

COVID-19 [clinical domain] Stakeholder Meeting  
[Month Day, 2020]

- Telehomecare for COPD and Heart Failure**  
A free, six-month health coaching and remote monitoring program for your patients with chronic obstructive pulmonary disease (COPD) and congestive heart failure. Not all areas in Ontario provide this service. For more information, please visit the OTN website: <https://otn.ca/providers/telehomecare/>
- Community Paramedicine Remote Patient Monitoring (CPRPM) Program**  
The CPRPM program is an initiative of Community Paramedics across Ontario to keep patients with chronic illness, such as HF and chronic obstructive pulmonary disease (COPD), safe at home and out of the hospital. A unique feature of this program is the addition of highly mobile community paramedics who are able to respond, in real time, to alerts generated by built in program logic. Costs for the system are roughly \$70/month per patient. For more information please contact the program lead, Rick Whittaker at [rick@wwcf.ca](mailto:rick@wwcf.ca).

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# Advance Care Planning

**LEAH STEINBERG**

# The bad news.....

- Any patient with HF who contracts COVID is high risk for poor outcomes, including death.

AND

- Provincial triage criteria (if implemented) may limit Life Saving Treatment
- If province is in surge, HF may not get access to usual care in particular Life Saving Treatment

# How can you help.....

Talk to your patients about three things:

1. That they are at increased risk of severe illness with COVID, so STAY HOME
2. Who is their SDM – automatic...is that who they want?
3. Have they ever talked to anyone about **what is important to them** if they ever became so unwell that they might be at the end of their life...

How should you do this?

# A “dialogue guide” to help

- Introduce the conversation into your routine visits
  - I’ve been talking with my patients about the situation with coronavirus... I think that there are things I can help you with to be as safe and prepared as possible...
- What have you heard so far about the coronavirus and who it is affecting?
- If you give information:
  - short, slow sentences...pause and let them respond

# Advance Care Planning - Conversation Resources

## Speak Up Ontario ACP Conversation Guide

<https://www.speakupontario.ca/wp-content/uploads/2018/07/ACP-Conversation-Guide-Clinician-Oct-4.pdf>

## Serious Conversation Guide

Ontario resource in development- will be added to CorHealth COVID resource page

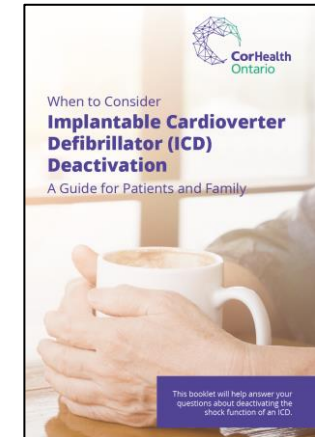
**SERIOUS ILLNESS CONVERSATION GUIDE**  
A CONVERSATION TOOL FOR CLINICIANS  
Adaptation for COVID-19



## For patients who have an Implantable Cardioverter Defibrillator (ICD):

Consideration regarding ICD deactivation to avoid unwanted shocks at EOL.

Provider version and Patient versions regarding ICD deactivation available on CorHealth Website





# CorHealth COVID-19 Heart Failure Memo #1

**DR HEATHER ROSS**

# Heart Failure Memo #1 Highlights

- In light of the evolving COVID-19 outbreak, the Ministry of Health has requested that all hospitals ramp down non-essential services, elective surgeries and other non-emergent clinical activity.
- Memo #1 summarizes guiding principles and recommendations to preserve health care capacity under these current circumstances.
- Principles and recommendations were developed by CorHealth through engagement with heart failure experts and stakeholders across the province.

# Heart Failure Memo #1 Highlights

## Guiding Principles:

1. Keeping front line health care providers healthy and patients protected is vital.
2. Minimizing the impact of COVID-19 on the mortality and morbidity of patients with cardiac disease is a priority.
3. Aligning with province- and hospital-specific infection prevention and control policies and protocols that exist is important.
4. Promoting clinical activities aimed at preserving hospital resources (i.e. health care human resources, personal protective equipment, procedure rooms, Intensive Care Units, Emergency Departments) is a priority.



# Heart Failure Memo #1 Highlights

## RECOMMENDATIONS

### Chronic Disease Management for All HF Patients

#### 1. Ongoing Monitoring of HF Condition

Patients should continue to be monitored for HF symptoms using virtual care options. Intensity and frequency should be arranged as per patient need and risk.

# Heart Failure Memo #1 Highlights

## RECOMMENDATIONS

### Chronic Disease Management for All HF Patients

### Assessing for COVID in someone with cardiac condition (CCS)

\*\* Document being released by the CCS today or tomorrow

Our recommendations in the memo will align with this resource

# Heart Failure Memo #1 Highlights

## RECOMMENDATIONS

### Chronic Disease Management for All HF Patients

#### 2. Pharmacological Optimization and Titration

- **Medication management to support decongestion** is critical to avoid escalating fluid congestion.
- **For patients with newly diagnosed HF**, follow Canadian Cardiovascular Society (CCS) Heart Failure guidelines (2017) for initiation of pharmacological management.
- **For patients with stable HF**, consider deferring medication titration that requires lab follow up for the next 2 months.
- **For patients with stable HF and no evidence of congestion**, consider titration of Beta Blocker therapy as per CCS HF guidelines as lab follow up is not necessary.

# Heart Failure Memo #1 Highlights

## RECOMMENDATIONS

### Chronic Disease Management for All HF Patients

#### 2. Pharmacological Optimization and Titration

The Canadian Cardiovascular Society and the Canadian Heart Failure Society **strongly discourage the discontinuation of guideline directed medical therapy (GDMT) involving Angiotensin Converting Enzyme Inhibitors (ACEi), Angiotensin Receptor Blockers (ARB) or Angiotensin Receptor Neprilysin Inhibitors (ARNi) in hypertensive or heart failure patients as a result of the COVID-19 pandemic.** (March 27, 2020)

# Heart Failure Memo #1 Highlights

## RECOMMENDATIONS

### Chronic Disease Management for All HF Patients

#### 3. Restricted Access to Laboratory Services

- Appreciate that serum creatinine, potassium necessary to guide clinical decision making

Tips for access to lab:

- Schedule an appointment at community lab
- Arranging for home lab visit for *routine* blood work, where available

**Note:** Due to COVID-19, community lab services may have reduced services or changed how they are providing services. Please call ahead to verify what services are in place.

# Heart Failure Memo #1 Highlights

## RECOMMENDATIONS

### Chronic Disease Management for All HF Patients

#### 4. Advance Care Conversations

As per Dr. Steinberg's earlier presentation

# Heart Failure Memo #1 Highlights

## RECOMMENDATIONS

### Management of High-Risk Patients

#### 5. Identification of High-Risk Patients

- Recent hospital discharge (< 30 days) for acute decompensated heart failure
- Multiple readmissions or ED utilization in the last 6 months
- Worsening cardiorenal syndrome
- Home IV inotropes
- Worsening volume overload and/or requiring IV Lasix
- NYHA Class III-IV symptoms
- Work up for advanced therapies (heart transplant or left ventricular assist device)

# Heart Failure Memo #1 Highlights

## RECOMMENDATIONS

### Management of High-Risk Patients

#### **Limit the use of IV diuretic therapy**

- Aggressive use of oral diuretic therapy ([www.decongest.ca](http://www.decongest.ca))
- Addition of metolazone 30 minutes prior to Lasix
- Switching Lasix to Bumetanide- compassionate supply

#### **Transition to in-person assessments outside of the hospital setting**

- Community nursing/paramedicine services
- Primary care/ specialist office



# Heart Failure Memo #1 Highlights

## RECOMMENDATIONS

### Management of High-Risk Patients

#### 6. Use of IV Lasix Therapy in the Community Setting

Logistics will become extremely difficult as COVID escalates.

- Consider a 'last resort' for those who are refractory to escalating oral diuretics or palliative symptom control
- Not for acute decompensated HF
- Partner with home care
- Consider PICC line insertion
- Advance care plan critical



# Question & Answer Period

**DR HEATHER ROSS**

# Questions

- What has changed within your hospital/program over the last week related to COVID-19?
- Are there other issues we should be considering/discussing?
- Are these meetings still helpful? How could they be more helpful?



# Next Steps

**DR HEATHER ROSS/KAREN HARKNESS**

# Next Steps & Wrap Up

- Next **COVID-19 Heart Failure Stakeholder Forum Meeting**: April 8<sup>th</sup>, 6 pm
- **Medly Information Session**: April 2<sup>nd</sup>, 6 – 7 pm
- CorHealth will be hosting a stakeholder forum to discuss **issues related to the provision of rehabilitation during COVID-19**: Date TBD
- **Central Repository of Resources & Supports to Enable Virtual or Remote Monitoring and Management** of Patients During COVID-19 is available at CorHealth's COVID-19 Resource Center: [https://www.corhealthontario.ca/CorHealth-Resources-Central-Repository-of-Virtual-resources-\(March-30-2020\)-Version-1.pdf](https://www.corhealthontario.ca/CorHealth-Resources-Central-Repository-of-Virtual-resources-(March-30-2020)-Version-1.pdf)
- CorHealth activities



# Appendix

# CorHealth COVID-19 Resource Centre

- Accessible from the [CorHealth homepage](#)
- Updated twice a day at 10:30am and 5:30pm
- Includes:
  - General COVID-19-related documents
  - CorHealth Guidance Documents
  - **Presentations & Summary notes from Cardiac, Stroke, and Vascular Forums**
  - Cardiac-, Stroke-, and Vascular-specific COVID-19-related documents
- Organized from most recent resources at the top to oldest at the bottom of each page

## COVID-19 Resource Centre Sections

COVID-19 Resource Centre

CorHealth Guidance Documents

CorHealth Stakeholder Forum Meetings

General Cardiac Resources

General Stroke Resources

General Vascular Resources

# COVID-19 System Planning Updates:

## Canadian Cardiovascular Society: Guidance Resources from the COVID-19 Rapid Response Team

- Reducing in-hospital spread and the optimal use of resources for the care of hospitalized cardiovascular patients during the COVID-19 pandemic (March 30, 2020)
- Archived Webinar: COVID-19 & the Cardiovascular Patient: Practical advice for implementing recommendation from the CCS COVID-19 Rapid Response Team (March 25, 2020)
- Guidance on Community-based Care of the Cardiovascular Patient During the COVID-19 Pandemic (March 25, 2020)
- COVID-19 and Cardiovascular Disease: What the Cardiac Healthcare Provider Should Know (March 22, 2020)
- For resources published prior to March 22, please visit the CCS website: [www.ccs.ca](http://www.ccs.ca)