

CorHealth COVID-19 Cardiac Stakeholder Forum Meeting #17

August 13, 2020 | 8:00-9:00 am

Teleconference: (647) 951-8467 or Long Distance: 1 (844) 304 -7743

Conference ID: 986393473



Time	Description		Presenter / Facilitator	
8:00	1.	WelcomeMeeting Objectives	Sheila Jarvis	
8:05	2.	COVID-19 Epidemiology Update & COVID-19 Treatment Updates	Dr. Heather Ross <i>MD, MHSc, FRCP (C), FACC, Professor of</i> <i>Medicine, Loretta Rogers Chair in Heart</i> <i>Function, University Health Network</i>	
8:25	3.	 COVID-19 Updates from B.C. & Planning for a Potential Increase in Cases / Second Wave A Glimpse into Case Forecast Modelling 	Mr. Sean Hardiman / Mr. Nicholas Schnee / Mr. Athar Syed	
8:45	4.	 eCTAS Data Update A Glimpse into the Emergency Departments for Cardiac Presentations 	Mirna Rahal	
8:55	5.	 Other Updates and Next Steps Cardiac Virtual Care Validation: Aug 27th Meeting Palliative Care Education Workshops 	Jana Jeffrey	





Welcome

SHEILA JARVIS

Meeting Objectives

- Highlight and discuss updated COVID-19 epidemiology data & provide an update on COVID-19 Treatments
- Provide a glimpse into B.C.'s case forecast modelling and planning for a potential increase in cases and second wave of COVID-19
- Provide an update on emergency department data for cardiac presentations through the eCTAS Data

Housekeeping Reminders:

- Please ensure that you are on mute, <u>not on hold</u>, when you are not speaking on the call
- Please be aware that when the call is put on hold, we often hear hold music or persistent beeping





COVID-19 Epidemiology & Treatment: *Updates*

DR. HEATHER ROSS



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 \rightarrow Open the Data Explorer in a new tab.

 \leftarrow \rightarrow C ourworldindata.org/coronavirus



(*)

Last data update 2020-08-11 19:00 EDT

• Hover over provinces and territories to see total cases, active cases, recovered cases, number of people tested or deaths in Canada over time. Click the play button to animate the map.

This information is based on data from our provincial and territorial partners. It is current as of August 11, 2020, 7 pm EDT. For the most up to date data for any province, territory or city, please visit their web site.

Key updates as of August 11, 2020, 7 pm EDT

- Daily epidemiology update: Text description
- This page will be updated once per day in the evening at 7:00PM Eastern Time.
- The majority of cases (83.8%) and deaths (94.3%) have been reported by Ontario and Quebec.
- Of the jurisdictions reporting updates (n=12), no new cases have been reported in 5 provinces or territories within the past 24 hours.

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Date of illness onset

Date of illness onset

Figure 3. Age · distribution of COVID-19 cases (n=117,689 1) in Canada as of August 11, 2020, 7 pm EDT 3

Figure 4. Age and gender 3 distribution of COVID-19 cases admitted to ICU \sim in Canada as of August 11, 2020, 7 pm EDT (n=2,287 1)

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Data note: Figure 4 includes COVID-19 cases hospitalized, admitted to ICU, and deceased for which age and gender information were available. Therefore, some COVID-19 hospitalizations, ICU admissions, and deaths may not be included

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Summary of cases of COVID-19: Ontario, January 15, 2020 to August 11, 2020

Severity	Number	Percentage
Number of cases ^[1]	40,289	N/A
Change from previous report (new cases)	95	0.2% increase
Resolved ^[2]	36,590	90.8
Change from previous report	134	0.4% increase
Subset of all cases that are reported to be long-term care residents ^{[3] [4] [5]}	5,902	14.6
Subset of all cases that are reported as a health care worker ^{[4] [5] [6]} associated with long-term care outbreaks	2,611	6.5
Total number of deaths ^[7]	2,787	6.9
Deaths ^[7] reported for residents in long-term care homes 1,800 [4] [5] [6]		
Deaths ^[7] reported for health care workers ^{[5] [6] [2]} in long- term care homes	8	0.3

Testing - Ontario, January 15, 2020 to August 11, 2020				
Testing	Number			
Total tests completed ^[8]				
Total tests completed in the previous day ^[9]				
Currently under investigation ^[10]				
Hospitalizations - Ontario, January 15, 2020 to August 11, 2020				
Hospitalizations				
Number of patients currently hospitalized with COVID-19 ^[11]				
Number of patients currently in ICU ^[12]				
Number of patients currently in ICU ^[12] on a ventilator with COVID-19				

Figure 3. Number of COVID-19 tests completed and percent positivity: Ontario, March 29, 2020 to August 10, 2020

Percentage of tests that were positive

Severity

Figure 4. Confirmed deaths among COVID-19 cases by date of death: Ontario, March 1, 2020 to August 11, 2020

Date of Death

Critical Care Services Ontario (CCSO) COVID-19 Daily Report

COVID-related critical illness* (CRCI) Census: Admission to the ICU because of a clinical syndrome consistent with COVID, AND patient has had a positive test that is consistent with acute COVID illness. New CRCI Census: New COVID+ patients to ICU.

CCSO is responsible for providing strategic oversight to CCIS. CritiCall Ontario houses CCIS and is responsible for technical implementation. To obtain more information or provide feedback about the reports, please contact info@ccso.ca

We are in the COVID valley....

Higher viral loads, but not higher disease severity

Antibody testing

Schematic of the pattern of antibody response to SARS-CoV-2 infection

Caeseele et al, CMAJ 2020. doi: 10.1503/cmaj.201588

Key Points

- Multiple commercial assays approved for use as serological tests by Health Canada
 - Some manufacturers claiming about 95% sensitivity and about 99.5% specificity
- SARS-CoV-2 antibodies have not been proven to confer meaningful or durable immunity to reinfection.
- Serological testing should not be used to guide individual decisions about personal or occupational exposures, use of personal protective equipment and physical distancing.
- Clinical indications for serologic testing in health care settings are limited, and SARS-CoV-2 serological testing has no role in routine clinical care.
- Serological testing at this time should be focused on research concerning immunity and population-level studies to inform public health responses

Prevalence and Impact of Myocardial Injury in Patients Hospitalized With COVID-19 Infection

Lala et al. JACC 2020:76:533-46

N = 3,069 hospitalized across 5 hosp in NYC 2,736 (89.1%) \geq 1 troponin-I measurement within 24 h of admission.

Median age 66.4 years, 40.7% of patients were older than age 70 years,

40.4% were female, 25% AA and 27.6% self identified as Hispanic or Latino

FIGURE 3 Cumulative Incidence Plots Displaying Probability for 3 Possible Outcomes (Mortality, Discharge From Hospital, or Continued Hospitalization) Over Time

Cardiac involvement

Figure 2. Scatterplots of Native T1, Native T2, and High-Sensitivity Troponin T Measures by Group

C High-sensitivity troponin T

There was a small but significant difference between patients who recovered at home vs in the hospital for native T1 (median [interquartile range], 1122 [1113-1132] ms vs 1143 [1131-1156] ms; P = .02) but not for native T2, high-sensitivity troponin T, or N-terminal pro–b-type natriuretic peptide. E LGE 3-chamber view

F LGE 4-chamber view

Pericardial effusion and enhancement (yellow arrowheads) and epicardial and intramyocardial enhancement (white arrowheads) were seen on late gadolinium enhancement (LGE) acquisition.

N = 100 recovering patients
Mean - 71 days after confirmed COVID-19 diagnosis
78% had cardiac involvement on CMR
76% detectable high-sensitivity troponin
60% active myocardial inflammation by abnormal
native T1 and T2

Puntmann et al, JAMA Cardiol 2020

Myocarditis

39 autopsies on COVID-19 deaths: mean age 85, 59% F

24 of 39 patients (~60%) - SARS-CoV-2 in myocardium

Viral load >1000 copies/µg RNA in 16 of 39 patients (~40%)

All 16 had pro-inflammatory cytokine response in heart

In 15 patients without cardiac infection, no differences in influx of inflammatory cells

Linder et al JAMA Cardiology 2020 10.1001/jamacardio.2020.3551

Persistent Symptoms in Patients After Acute COVID-19

Patients were assessed a mean of 60.3 (SD, 13.6) days after onset of the first COVID-19 symptom;

- only 18 (12.6%) were completely free of any COVID-19– related symptom
- 32% had 1 or 2 symptoms
- 55% had 3 or more
- Poor QoL observed among 44.1% of patients
- 53% reported fatigue
- 43% reported dyspnea

Carfi et al, Published Online: July 9, 2020. doi:10.1001/jama.2020.12603

The promise of a healthy heart.

Figure. COVID-19-Related Symptoms

OpenSAFELY – factors associated with mortality

NHS England's EHR of 17 M patients **10,926 COVID-19 deaths**

COVID-19 Deaths were associated with:

Advancing age [60, 70, 80] Male sex Obesity, [BMI >40] Deprivation Diabetes, [A1c >7.5%] CKD [eGFR<30] CVD COPD, Severe Asthma Ethnicity: Black, South Asian

Williamson et al. Nature 2020 10.1038/s41586-020-2521-4

Out-of-Hospital Cardiac Arrests – causal or random.....

	Description				
Province	Cases of OHCA, 2019	Cases of OHCA, 2020	% increase		
ALL	229	362	+58%		

Baldi et al. NEJM 2020 10.1056/NEJMc2010418

Potential mechanisms of acute myocardial injury in coronavirus disease 2019 (COVID-19) and related cardiac phenotypes.

Chapman et al, *Circulation.* 2020;141:1733–1735.

Long term sequelae?

'We see the plot thickening and we are inclined to raise a new and very evident concern that cardiomyopathy and heart failure related to COVID-19 may potentially evolve as the natural history of this infection becomes clearer'

Yancy and Fonarow - July 27, 2020. doi:10.1001/jamacardio.2020.357

Treatments...

Anti-viral

Mortality at 28 d (19.2% vs. 25.0%; 95% CI, -17.3 to 5.7). Patients (%) with detectable viral RNA at various time points were similar. Lopinavir-ritonavir led to a median time to clinical improvement shorter by 1-d vs standard care (HR, 1.39; 95% CI, 1.00 to 1.91).

DSM recommended unblinding. Patients receiving remdesivir had median recovery time 11-d (95% CI, 9-12), vs 15-d (95% CI, 13-19) for placebo (P<0.001). Mortality at 14-d was 7.1% with remdesivir vs. 11.9% with placebo (0.70; 95% CI, 0.47-1.04). Comparable SAE were observed: remdesivir (21.1%) vs. placebo (27.0%)

Control

Cao et al NEJM 2020 10.1056/NEJMoa2001282 Beigel et al NEJM 2020 10.1056/NEJMoa2007764

Anti-inflammatory

N= 2104 assigned to dexamethasone (po/iv, \leq 6mg/d, \leq 10d) N= 4321 assigned to usual care

Dexamethasone also reduced death in patients requiring **oxygen** (23.3% vs 26.2%, **HR 0.82**; 95% CI, 0.72-0.94) but <u>**not**</u> in those receiving **no respiratory support** (17.8% vs. 14.0%; **HR 1.19**; 95% CI, 0.91-1.55)

72 Studies found for: Vaccine | SARS-CoV Infection

https://www.clinicaltrials.gov/

A Phase 3 clinical trial designed to evaluate II an investigational vaccine can prevent symptomatic coronavirus disease 2019 (COVU-10) in adults has begun. The vaccine, known as mRNA-1273, was co-developed by the Cambridge, Massachusetts-based biotechnology

COVID-19 Updates from B.C. & Planning for a Potential Increase in Cases / Second Wave A Glimpse into Case Forecast Modelling

MR. SEAN HARDIMAN, MR. NICHOLAS SCHNEE, MR. ATHAR SYED

eCTAS - Cardiac ED Presentations Dec 1st 2019 – August 02nd 2020

A Glimpse into the Emergency Departments for Cardiac Presentations

MIRNA RAHAL

Cardiac ED Volumes: Summary of Activity Trends

Provincial trends in cardiac ED activity :

- Cardiac ED Presentations include Chest Pain and Cardiac Arrest. Chest Pain accounts for 98% of cardiac ED presentations.
- Overall, Chest Pain related ED presentations decreased by 30% in the first ten weeks of the pandemic. Volumes
 then gradually increased in subsequent weeks, going to 14% below pre-COVID levels in the most recent five
 weeks.
- Cardiac arrest related ED presentations had a relatively smaller degree of slowdown. In the first ten weeks
 following the pandemic activity went down by 25%, and in the most recent five weeks, volumes have been at 6%
 below pre-COVID levels.

Cardiac ED activity trends across age groups:

 Patients aged 70+ and 50-69 had relatively larger ED activity decrease in the first ten weeks of the pandemic: 45% and 35% compared to 30% across all age groups

Cardiac ED activity trends across OH Regions

- The West and East Regions noted the largest decrease of 39% and 37% in the first 10 weeks of the pandemic, with gradual increases in activity levels in subsequent weeks. In the most recent five weeks, ED volumes have been at 13% lower for each of the regions relative to pre-Covid levels
- The Toronto Region* ED activity had a relatively smaller decrease compared to other regions in the first 10 weeks of the pandemic (29%) with a relatively slower recovery in subsequent weeks. Toronto region cardiac ED volumes are currently 20% below pre-COVID levels

Cardiovascular Related Volumes

Data Source: eCTAS

Week of June 29 –July 05 data is excluded from all graphs. Due to a technical disruption on July 4th, eCTAS was unavailable for an extended period of time. As a result, daily triage volume is significantly understated (estimated ~40% lower) in all eCTAS reporting for July 4th. Week of August 3rd to 9th is excluded from all graphs due to a technical disruption, a portion of eCTAS hospitals were unavailable for an extended period of time. As a result, ~1000 records were not transmitted to eCTAS. Data excludes Sunnybrook Hospital due to recent eCTAS implementation

Chest Pain (Cardiac Features), By CTAS Level

Cardiac Arrest, By CTAS Level

Data Source: eCTAS

Chest Pain (Cardiac Features), By Age Group

Cardiac Arrest, By Age Group

Central Region – Chest pain + Cardiac arrest

North Region - Chest pain + Cardiac arrest

East Region – Chest pain + Cardiac arrest

Toronto Region – Chest pain + Cardiac arrest

West Region – Chest pain + Cardiac arrest

Other Updates and Next Steps

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- Hospice Palliative Care Organization (HPCO) Person Centred Decision Making (PCDM) Workshop (August 31, 2020)
 - HPCO is offering a free PCDM skills building workshop on Engaging Patients in Advanced Care Planning and Goals of Care Conversations (<u>See attached PDF for details</u>)
- Next COVID-19 Cardiac Forum Meeting #18 Thursday, Aug 27th, 8:00 9:00 AM
 - Focus of Meeting #18 Validating the Cardiac Virtual Care Stakeholder Engagement Findings
- If group members would like to share any innovative resumption planning models implemented at their sites, please email <u>jana.jeffrey@corhealthontario.ca</u> to share this information at a future forum

Appendix

Cardiac Workstreams

Cardiac Workstream	Moderator(s)
Echocardiography	Dr. Tony Sanfilippo Dr. Howard Leong-Poi
Rehab	Dr. Paul Oh Dr. Mark Bayley
Cardiac Surgery Cath/PCI	Dr. Chris Feindel Dr. Eric Cohen
Heart Failure	Dr. Heather Ross
STEMI	Dr. Steve Miner
Cardiac Electrophysiology	Dr. Atul Verma
Structural Heart (TAVI, Mitral Clip)	Dr. Sam Radhakrishnan
Managing Referrals	Dr. Chris Feindel Dr. Eric Cohen

