COVID-19 Community of Practice for Ontario Family Physicians

Jan 20, 2023

Dr. Gerald Evans
Dr. Andrew Pinto
Mr. Norm Umali

COVID Therapeutics
COVID Therapeutics

Co-Moderators:
• Dr. Tara Kiran, Fidani Chair, Improvement and Innovation, DFCM, Toronto, ON
• Dr. Ali Damji, Division Head (Primary Care), THP, Mississauga, ON

Panelists:
• Dr. Gerald Evans, Kingston, ON
• Dr. Andrew Pinto, Toronto, ON
• Mr. Norm Umali, Toronto, ON

Co-hosts:
• Dr. Mekalai Kumanan, Cambridge, ON
• Dr. Liz Muggah, Ottawa, ON

The COVID-19 Community of Practice for Ontario Family Physicians is a one-credit-per-hour Group Learning program that has been certified for up to a total of 32 credits.
Land Acknowledgement

We acknowledge that the lands on which we are hosting this meeting include the traditional territories of many nations.

The OCFP and DFCM recognizes that the many injustices experienced by the Indigenous Peoples of what we now call Canada continue to affect their health and well-being. The OCFP and DFCM respects that Indigenous people have rich cultural and traditional practices that have been known to improve health outcomes.

I invite all of us to reflect on the territories you are calling in from as we commit ourselves to gaining knowledge; forging a new, culturally safe relationship; and contributing to reconciliation.
Medical advice shouldn’t be different for Indigenous kids

When the COVID-19 pandemic first struck, remote and northern Indigenous communities – which already lacked doctors, properly stocked and supplied health clinics and clean running water – had to scramble. First Nations leaders had to create public-health systems out of thin air. And in Northern Ontario, it seemed like the region was headed into another health crisis that would disproportionately hurt Indigenous people.

Instead, in January, 2021, there was a swift health response, thanks in large part to Nishnawbe Aski Nation leaders, who pulled together a team of physicians, nurses, government officials, and members of the Canadian Armed Forces and the Canadian Rangers to organize or deliver vaccinations to remote fly-in communities. This unprecedented, three-phase effort was called Operation Remote Immunity.

https://www.theglobeandmail.com/opinion/article-medical-advice-shouldnt-be-different-for-indigenous-kids/
Changing the way we work

A community of practice for family physicians during COVID-19

At the conclusion of this series participants will be able to:

• Identify the current best practices for delivery of primary care within the context of COVID-19 and how to incorporate into practice.
• Describe point-of-care resources and tools available to guide decision making and plan of care.
• Connect with a community of family physicians to identify practical solutions for their primary care practice under current conditions.

Disclosure of Financial Support

This CPD program has received in-kind support from the Ontario College of Family Physicians and the Department of Family and Community Medicine, University of Toronto in the form of logistical and promotional support.

Potential for conflict(s) of interest:
N/A

Mitigating Potential Bias

• The Scientific Planning Committee has full control over the choice of topics/speakers.
• Content has been developed according to the standards and expectations of the Mainpro+ certification program.
• The program content was reviewed by a three-member national/scientific planning committee.

Planning Committee: Dr. Tara Kiran (DFCM), Dr. Mekalai Kumanan (OCFP); Dr. Ali Damji (DFCM), Dr. Liz Muggah (OH), Kimberly Moran (OCFP), Mina Viscardi-Johnson (OCFP), Adrienne Spencer (OCFP), Marisa Schwartz (DFCM), Erin Plenert (DFCM)

Previous webinars & related resources:
https://www.dfcm.utoronto.ca/covid-19-community-practice/past-sessions
Dr. Gerald Evans – Panelist
Twitter: @skepticalIDdoc
Infectious Disease Specialist and Chair of the Division of Infectious Diseases, Queen’s University

Dr. Andrew Pinto– Panelist
Twitter: @AndrewDPinto
Director of the Upstream Lab, Public Health and Preventive Medicine Specialist and Family Physician, St. Michael’s Hospital

Mr. Norm Umali– Panelist
Pharmacist, VHA Home HealthCare
Dr. Mekalai Kumanan – Co-Host
Twitter: @MKumananMD
President, Ontario College of Family Physicians
Family Physician, Two Rivers Family Health Team
Chief of Family Medicine, Cambridge, ON

Dr. Liz Muggah – Co-Host
Twitter: @ElizabethMuggah
Senior Clinical Advisor, Primary Care, Ontario Health
Family Physician, Bruyère Family Health Team
Speaker Disclosure

- Faculty Name: **Dr. Andrew Pinto**
- Relationships with financial sponsors:
  - Grants/Research Support: **None from for-profit/commercial entities.**
    Canadian Institutes for Health Research; Ontario government, including the Ministry of Health and Long-Term Care; TD Financial Literacy Grant Fund, administered by Prosper Canada; PSI Foundation; Legal Aid Ontario; Maytree Foundation; Atkinson Foundation; Metcalf Foundation; Healthier Cities and Communities Hub, DLSPH, University of Toronto; Toronto Central LHIN; St. Michael’s Hospital Foundation; Gambling Research Exchange Ontario; Institute for Global Health Equity and Innovation, DLSPH, University of Toronto; Ontario SPOR Support Unit; Newfoundland Health Accord (Memorial University)
  - Speakers Bureau/Honoraria: **None from for-profit/commercial entities.**
    I have received honoraria for presentations at Queen’s University (2010), University of Saskatchewan (2012), Mount Sinai Hospital (2012), Toronto Reference Library (2016), Law Society of Ontario (2016), Japan Network of Health Promoting Hospitals & Health Services (2018), Ghent University, Belgium (2020), Joint Centre for Bioethics, University of Toronto (2019, 2021), North American Primary Care Research Group (2021), Ryerson University (2021).
  - Salary support: **None from for-profit/commercial entities.**
    Department of Family and Community Medicine, St. Michael’s Hospital; Department of Family and Community Medicine, Faculty of Medicine, University of Toronto; Li Ka Shing Knowledge Institute, St. Michael’s Hospital. Recipient of the 2019 PSI Graham Farquharson Knowledge Translation Fellowship. Recipient of a CIHR Applied Public Health Chair in Upstream Prevention.
  - Consulting Fees: **None.**
  - Others: I serve as an unpaid scientific advisor to a start-up company, Mutuo Health Solutions.
Speaker Disclosure

• Faculty Name: **Dr. Gerald Evans**
  - Relationships with financial sponsors:
    • Grants/Research Support: N/A
    • Speakers Bureau/Honoraria: N/A
    • Others: Ontario Covid-19 Science Advisory Table

• Faculty Name: **Benita Hosseini**
  - Relationships with financial sponsors:
    • Grants/Research Support: CIHR
    • Speakers Bureau/Honoraria: Ontario College of Family Physicians
    • Others: N/A

• Faculty Name: **Norm Umali**
  - Relationships with financial sponsors:
    • Grants/Research Support: CanTreatCOVID Randomized Clinical Trial
    • Speakers Bureau/Honoraria: Lifemark Health and Wellness, 4 Villages Community Health Care, Unity Health Toronto
    • Others: Salvation Army Research Ethics Board
Speaker Disclosure

- Faculty Name: **Dr. Mekalai Kumanan**
- Relationships with financial sponsors:
  - Grants/Research Support: N/A
  - Speakers Bureau/Honoraria: Ontario College of Family Physicians
  - Others: Chief of Family Medicine, Cambridge Memorial Hospital

- Faculty Name: **Dr. Liz Muggah**
- Relationships with financial sponsors:
  - Grants/Research Support: N/A
  - Speakers Bureau/Honoraria: N/A
  - Others: Ontario Health
Speaker Disclosure

• Faculty Name: **Dr. Ali Damji**
  • Relationships with financial sponsors:
    • Grants/Research Support: N/A
    • Speakers Bureau/Honoraria: N/A
    • Others: N/A

• Faculty Name: **Dr. Tara Kiran**
  • Relationships with financial sponsors:
    • Speakers Bureau/Honoraria: St. Michael’s Hospital, University of Toronto, Health Quality Ontario (HQO), Canadian Institutes for Health Research (CIHR), Ontario College of Family Physicians (OCFP), Ontario Medical Association (OMA), Doctors of BC, Nova Scotia Health Authority, Osgoode Hall Law School, Centre for Quality Improvement and Patient Safety, Vancouver Physician Staff Association, University of Ottawa, Ontario Health, Canadian Medical Association, McMaster University, Queen’s University, North American Primary Care Research Group.
    • Grants/Research Support: Canadian Institute for Health Research, Ministry of Health and Long-Term Care, St. Michael’s Hospital Foundation, St. Michael’s Hospital Medical Services Association, Women’s College Hospital Academic and Medical Services Group Innovation Fund, University of Toronto, Health Quality Ontario, Ontario Ministry of Health, Gilead Sciences Inc., Staples Canada, Max Bell Foundation.
Today’s Outline

• COVID update
• Outpatient COVID therapeutics
How to Participate

• All questions should be asked using the Q&A function at the bottom of your screen.

• Press the thumbs up button to upvote another guest’s questions. Upvote a question if you want to ask a similar question or want to see a guest’s question go to the top and catch the panel’s attention.

• Please use the chat box for networking purposes only.
Dr. Gerald Evans – Panelist
Twitter: @skepticalIDdoc
Infectious Disease Specialist and Chair of the Division of Infectious Diseases, Queen’s University

Dr. Andrew Pinto – Panelist
Twitter: @AndrewDPinto
Director of the Upstream Lab, Public Health and Preventive Medicine Specialist and Family Physician, St. Michael’s Hospital

Mr. Norm Umali – Panelist
Pharmacist, VHA Home HealthCare
Ontario 7-Day Running Average of New COVID-19 Cases/Day

- Day Running Average: 1,603
- Day Running Average: 591
- Day Running Average: 905
SARS-CoV-2 RNA in Ontario Wastewater – January 12, 2023
Ontario Variant Watch – December 31, 2022

Figure 1. Percentage of COVID-19 cases by the most prevalent lineages and week, representative surveillance, Ontario, January 2, 2022 to December 31, 2022

BF lineage
BQ lineage
XBB.1 & 1.5
Recombinant SARS-CoV-2 Sub-variant XBB.1.5

• Derived from a recombination of two BA.2 subvariants
• Bears a specific mutation known as F486P
  • This mutation changes a segment of the spike protein that many antibodies from vaccination or previous infection target

1. The change makes anti-spike antibodies less effective at neutralising XBB.1.5 in vitro

2. The F486P mutation also allows the virus to bind more strongly to the ACE2 receptor, potentially driving up its infectivity
  • This may allow for a smaller inoculum of XBB.1.5 to efficiently transmit COVID to a susceptible individual
Relative Growth Rate of Current SARS-CoV-2 Variants – Ontario Projections

<table>
<thead>
<tr>
<th>WHO label/ Pango lineage</th>
<th>Weekly relative growth rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>BQ.1.1</td>
<td>1.00 (reference)</td>
</tr>
<tr>
<td>BQ.1</td>
<td>0.85 (0.83 - 0.86)</td>
</tr>
<tr>
<td>BQ.1.1.10</td>
<td>1.40 (1.28 - 1.53)</td>
</tr>
<tr>
<td>BA.5.1</td>
<td>0.59 (0.57 - 0.6)</td>
</tr>
<tr>
<td>BA.5.2</td>
<td>0.56 (0.55 - 0.57)</td>
</tr>
<tr>
<td>BA.5.2.1</td>
<td>0.56 (0.55 - 0.57)</td>
</tr>
<tr>
<td>BF.7</td>
<td>0.73 (0.72 - 0.75)</td>
</tr>
<tr>
<td>XBB.1.5</td>
<td>2.38 (1.93 - 2.93)</td>
</tr>
</tbody>
</table>
Figure 2. Estimated daily prevalence (%) by Pango lineage, using Nowcast model, Ontario, October 9, 2022 to January 21, 2023
COVID-19 in China

• Very little up to date numbers since policy change from “Zero-COVID”

• China reported 59,938 COVID-related deaths between 8 Dec - 12 Jan

• On the ground observations suggest higher numbers with widespread hospitalizations & deaths
SARS-CoV-2 Variants – China

- Last reported genomics suggest circulating variants
  - BF.7
  - BA.5.2
  - BQ.1
- Global impact most likely to be from the potential emergence of a novel variant

https://doi.org/10.2807/1560-7917.ES.2023.28.2.2300008
Vaccination rates for over-80s in China
Share of population vaccinated by dose

- **Booster**: November 2022 - 40.4%, April 2022 - 19.7%
- **2nd dose**: November 2022 - 65.8%, April 2022 - 50.7%
- **1st dose**: November 2022 - 76.6%, April 2022 - 58.8%

Source: Chinese National Health Commission
Viral Interference & COVID

• Infection by a first virus can reduce infection from a second virus

• Viral interference has been demonstrated at the cellular, host, and population levels

• This year’s seasonal influenza rise shows the effect on SARS-CoV-2

Trends in SE Ontario Test Positivity for COVID & Influenza

- COVID Positivity
- Influenza Positivity
Trends in SE Ontario Test Positivity for COVID & RSV

- RSV Positivity
- COVID Positivity

Graph showing trends from 5-Nov-22 to 4-Jan-23.
# Effectiveness of Bivalent COVID-19 Vaccines

## Bivalent BA.5 Booster Neutralizing Antibody Lab Assessments

<table>
<thead>
<tr>
<th>Lab</th>
<th>Assay</th>
<th>Bivalent vs. BA.5 Compared to Original</th>
<th>Bivalent vs. XBB Compared to Original[^]</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderna</td>
<td>Live virus</td>
<td>5 to 6-fold improved</td>
<td>4-fold increased</td>
<td>MedRxiv 13 December 2022</td>
</tr>
<tr>
<td>Suthar</td>
<td>Live virus</td>
<td>4-fold improved</td>
<td>5-fold increased</td>
<td>NEJM 21 December 2022</td>
</tr>
<tr>
<td>Shi</td>
<td>Live virus</td>
<td>3-fold improved</td>
<td>5-fold increased</td>
<td>Nat Medicine 6 December 2022</td>
</tr>
<tr>
<td>Zhou/CDC</td>
<td>Live virus</td>
<td>8-fold improved</td>
<td>4-fold increased</td>
<td>bioRxiv 9 January 2023</td>
</tr>
<tr>
<td>UT Galveston</td>
<td>Live virus</td>
<td>4-fold improved</td>
<td>2 to 6-fold increased[^*]</td>
<td>bioRxiv 17 November 2022</td>
</tr>
<tr>
<td>Ho</td>
<td>Pseudovirus</td>
<td>No difference</td>
<td>Not assessed</td>
<td>NEJM 11 January 2023</td>
</tr>
<tr>
<td>Barouch</td>
<td>Pseudovirus</td>
<td>1.3-fold increase</td>
<td>Not assessed</td>
<td>NEJM 11 January 2023</td>
</tr>
<tr>
<td>Barouch</td>
<td>Pseudovirus</td>
<td>No difference</td>
<td>Not assessed</td>
<td>bioRxiv 25 October 2022</td>
</tr>
</tbody>
</table>

[^*]: range related to prior Covid or not;[^]: by geometric median titer GMT

@erictopol
Effectiveness of Bivalent COVID-19 Vaccines

Source: Arbel et al Preprint
CanTreatCOVID
Canadian Adaptive Platform Trial of Treatments for COVID in Community Settings

COVID-19 Community of Practice Session
January 20, 2023

Andrew Pinto MD CCFP FRCPC MSc
Benita Hosseini MSc PhD

Upstream Lab, MAP/Centre for Urban Health Solutions, Li Ka Shing Knowledge Institute, Unity Health Toronto
Department of Family and Community Medicine, Fac. of Medicine, University of Toronto
Department of Family and Community Medicine, St. Michael’s Hospital
Dalla Lana School of Public, University of Toronto
CanTreatCOVID
Canadian Adaptive Platform Trial of Treatments for COVID in Community Settings

CIHR IRSC
Canadian Institutes of Health Research
Instituts de recherche en santé du Canada

Health Canada
Santé Canada

Public Health Agency of Canada
Agence de la santé publique du Canada
Why are we doing this research?

• Most research has focused on treatments for those already sick enough to be admitted to hospital. As SARS-CoV-2 becomes a common out-patient concern, we need effective treatments.

• Existing studies have been in unvaccinated patients. **It is unclear whether and to what extent existing therapeutics are effective in partially or fully vaccinated patients.**

• Currently, **no therapeutic has been evaluated specifically for its potential in reducing the likelihood of post-acute sequelae of SARS-CoV-2** (long COVID).
What are we trying to solve?

• What is the effectiveness of different SARS-CoV-2 therapeutics? Are they cost-effective?

• How does this differ by risk and across diverse populations?

• What is the effectiveness in reducing post-acute sequelae of SARS-CoV-2?
We are looking at....

Usual care (general supportive measures)

VS

Existing and novel treatments for COVID-19 in primary care and outpatient settings
Who is eligible?

• **Positive SARS-CoV-2 test** (RAT or PCR) with proof of a positive test provided via a picture of the result

• **Symptoms started in the past 5 days** and ongoing (must be enrolled and begin the study therapeutic within 5 days of symptoms onset)

• Age 50+, OR age 18-49 with a pre-existing condition
Pre-existing conditions include:

- Chronic respiratory disease (including COPD, cystic fibrosis and asthma requiring at least daily use of preventative and/or reliever medication)
- Chronic heart or vascular disease
- Chronic kidney disease
- Chronic liver disease
- Chronic neurological disease (including dementia, stroke, epilepsy)
- Severe and profound learning disability
- Down’s syndrome
- Diabetes (Type 1 or Type 2)
- Immunosuppression: primary (e.g. inherited immune disorders resulting from genetic mutations) or secondary due to disease or treatment (e.g. sickle cell, HIV, cancer, chemotherapy)
- Solid organ, bone marrow and stem cell transplant recipients
- Morbid obesity (BMI >35)
- Severe mental illness
What are our exclusion criteria?

• Currently admitted to hospital (inpatient)
• Admitted in an ED for more than 24 hours
• Previously randomized to CanTreatCOVID
• Currently participating in a clinical trial of a therapeutic agent for acute SARS-CoV-2 infection
• Already taking a study therapeutic or contraindication to a study therapeutic
• Inability for participant or caregiver to provide informed consent
What does the trial involve?

• Patients will be randomized to either active treatment or usual care.

• The trial is carried out remotely. This means participants can participate from home (across Ontario), with the study drug rapidly mailed directly to them.

• Questionnaires and diaries can be filled out online or if needed via phone call with one of our team members.
Our first treatment arm

nirmatrelvir/ritonavir (Paxlovid) x 5 days
Our assessment of the evidence

• Safety and efficacy of nirmatrelvir/ritonavir warrant further large-scale RCTs
• No evidence on effects on long COVID
• PANORAMIC and CanTreatCOVID aim to pool data
Future intervention arms

- CanTreatCOVID will go beyond nirmatrelvir/ritonavir (Paxlovid) x 5 days
- Strong interest in nirmatrelvir/ritonavir x 10 days, fluvoxamine, budesonide, nutrient/antioxidant supplement, etc.
Why refer patients?

1. **This will help you save time.** You can refer adults who tested positive for COVID to our study, and we will screen if they are eligible to receive COVID medications, including nirmatrelvir/ritonavir (Paxlovid).

2. This study is the **fastest way to answer whether these medications are effective**, particularly in a highly vaccinated population.

3. This is **by family physicians, for family physicians!** CanTreatCOVID is helping us launch the new Canadian Primary Care Trials Network, finally creating evidence in the real world of primary care.
How do I refer patients?

www.cantreatcovid.org

1-888-888-3308
info@cantreatcovid.org

Refer any patient with a positive COVID test if 50+ or 18-49 with a comorbidity

Also, with your permission, we can use EMR data to prepare a list of potentially eligible participants and mail a letter to them to notify them about the study and how they can get in touch if become symptomatic.
Questions?

www.CanTreatCOVID.org

info@cantreatcovid.org

Scan the QR code to subscribe to our newsletter, or go to www.upstreamlab.org
Accessing nirmatrelvir-ritonavir in Ontario

- Covid-19 assessment centres
- Acute care
- Primary care clinics
- Pharmacies

Supply
No cost for pharmacies to carry on hand
Nirmatrelvir/ritonavir adverse effects

- Hypertension (1%)
- Dysgeusia (6%)
- Diarrhea (3%)
- Myalgia (1%)
Managing drug interactions with nirmatrelvir-ritonavir

Ritonavir

https://www.covid19-druginteractions.org/

“Liverpool Drug Interactions Checker”
CanTreatCOVID project

Pharmacists confirm the screen for renal and liver issues

Pharmacists do the medication review and drug interactions assessment

Counselling and follow up

First day of symptoms = Day 0!
Prescribing Nirmatrelvir/Ritonavir (Paxlovid®) for COVID-19: A Decision Aid for Community Practices


Digital Health Supports for COVID-19 Therapeutics (i.e. Paxlovid)

We continue to support primary care with digital health resources for COVID-19. We are happy to share that we have some newly available tools; please click the buttons below for more information.

- Paxlovid eligibility EMR search
- Paxlovid prescription form

Paxlovid eligibility EMR search*

These searches have been developed by our team and use EMR data to find patients who are eligible to be tested and assessed for COVID-19 antiviral treatments (i.e. Paxlovid).

Important notes:
- If individuals identified by these searches don’t have a recent serum creatinine this may present an opportunity to order this for the highest-risk patients while they are well
- The ultimate decision for treatment is to be determined by the clinician and patient; these searches only use the general eligibility criteria
- Please note that due to variations in the use of the EMR data, searches may pull up patients that do not meet the criteria and clinical review is required

https://ehealthce.ca/COVID-Therapeutics.htm
Administered by the British Columbia Centre for Disease Control (BCCDC) and Public Health Ontario (PHO)

Benefits
- Specimens submitted inform local respiratory virus surveillance and assist in estimating influenza and COVID-19 vaccine effectiveness.
- Enables accurate measurement of circulating respiratory viruses in Ontario and BC which also contributes to our national surveillance.

Eligibility and Compensation
- Provider of primary patient care in the community
- Able to collect specimens for respiratory virus testing in your practice
- $20 compensation for each specimen submitted with a completed questionnaire
- CFPC Members and Non-Member Mainpro+ participants can submit the total number of hours of participation as non-certified credits in Mainpro+

More Info
- For more details and consent form, please [Click Here to Start the Survey](#)
- Contact: Ontario Vaccine Effectiveness Coordinator Mandy Kwok, by phone (647-792-3627) or email ([mandy.kwok@oahpp.ca](mailto:mandy.kwok@oahpp.ca)).
The Ontario Health Quality team has updated the Post-COVID Condition Clinical Guidance for primary care. The documents include hyperlinks to all available assessment tools and resources. [https://www.ontariohealth.ca/sites/ontariohealth/files/2021-12/PostCovidConditionsClinicalGuidance_EN.pdf](https://www.ontariohealth.ca/sites/ontariohealth/files/2021-12/PostCovidConditionsClinicalGuidance_EN.pdf)
Register now and join the livestream on January 27 and 28, 2023.

* All attendees gain access to additional on-demand sessions, with content available until July 31, 2023.

### Keynote Speakers

- **Lieutenant-General (ret) The Honourable Roméo Dallaire**
  Global humanitarian, PTSD and mental health advocate

- **Dr. Mekalai Kumanan**
  President, Ontario College of Family Physicians

- **Dr. Alika Lafontaine**
  President, Canadian Medical Association

- **Dr. Robert Varnam**
  Leadership coach and ex-national director Primary Care Improvement, NHS England

### Livestream Panels and Sessions

- **Burnout or Breakthrough, How to Find Work-Life Balance**

- **Self-Care for Family Doctors Who Prefer Swearing to Yoga**

- **How Culturally Inclusive Care can provide optimal health outcomes for all**

- **A Hybrid Approach: Combining in-person and virtual care options to increase access**

- **Plus more! View the complete FMS agenda**
Join the COVID-19 Community of Practice Planning Committee

Looking for members of this community to participate in the planning of these sessions who:

• represent different practice models
• practice in different regions within Ontario

ocfpcme@ocfp.on.ca
Questions?

Webinar recording and curated Q&A will be posted soon
https://www.dfcm.utoronto.ca/covid-19-community-practice/past-sessions

Our next Community of Practice: February 3, 2023

Contact us: ocfpcme@ocfp.on.ca

Visit: https://www.ontariofamilyphysicians.ca/tools-resources/covid-19-resources

The COVID-19 Community of Practice for Ontario Family Physicians is a one-credit-per-hour Group Learning program that has been certified for up to a total of 32 credits.

Post session survey will be emailed to you. Mainpro+ credits will be entered for you with the information you provided during registration.