

COVID-19  
Community of  
Practice for Ontario  
Family Physicians

Jan 20, 2023

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



***COVID Therapeutics***



Family & Community Medicine  
UNIVERSITY OF TORONTO

Ontario College of  
Family Physicians



# COVID Therapeutics

## Co-Moderators:

- Dr. Tara Kiran, Fidani Chair, Improvement and Innovation, DFCCM, 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.

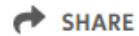
I invite all of us to reflect on the territories you are calling in from as we commit ourselves to gaining knowledge; forging a new, culturally safe relationship; and contributing to reconciliation.

# Medical advice shouldn't be different for Indigenous kids

**TANYA TALAGA** >

SPECIAL TO THE GLOBE AND MAIL

PUBLISHED NOVEMBER 17, 2022



SHARE



BOOKMARK

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. Mekali 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

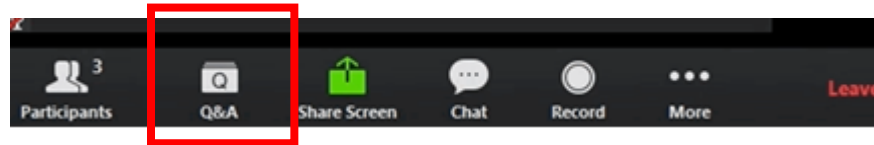
- Faculty Name: **Dr. Ali Damji**
- Relationships with financial sponsors:
  - Grants/Research Support: N/A
  - Speakers Bureau/Honoraria: N/A
  - Others: N/A
  
- Faculty Name: **Dr. Tara Kiran**
- Relationships with financial sponsors:
  - Speakers Bureau/Honoraria: St. Michael's Hospital, University 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

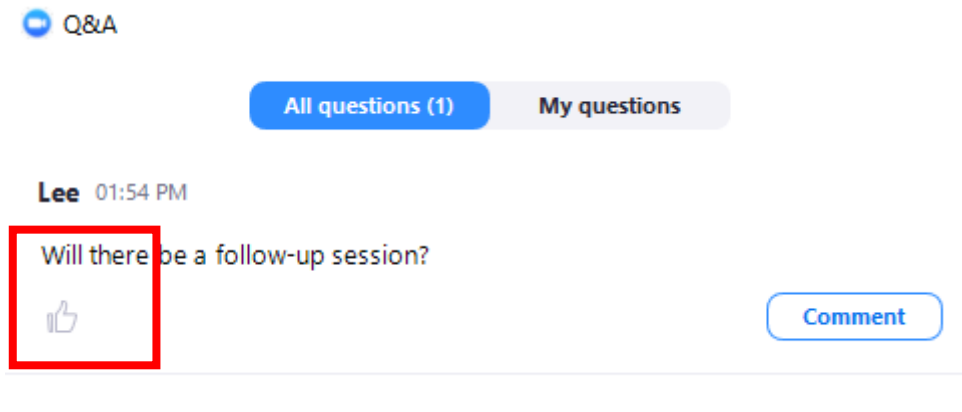
- COVID update
- Outpatient COVID therapeutics

# How to Participate

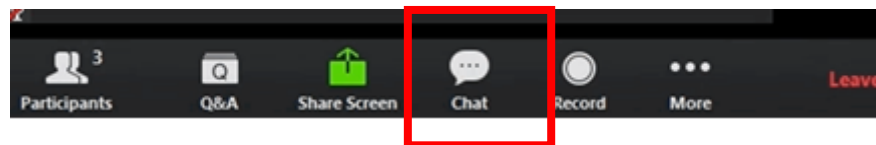
- All questions should be asked using the Q&A function at the bottom of your screen.



- Press the thumbs up button to upvote another guests 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 panels attention.



- Please use the chat box for networking purposes only.





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**Twitter: @skepticalIDdoc**

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## **Mr. Norm Umali– Panelist**

Pharmacist, VHA Home HealthCare





# COVID-19 Update: Ontario

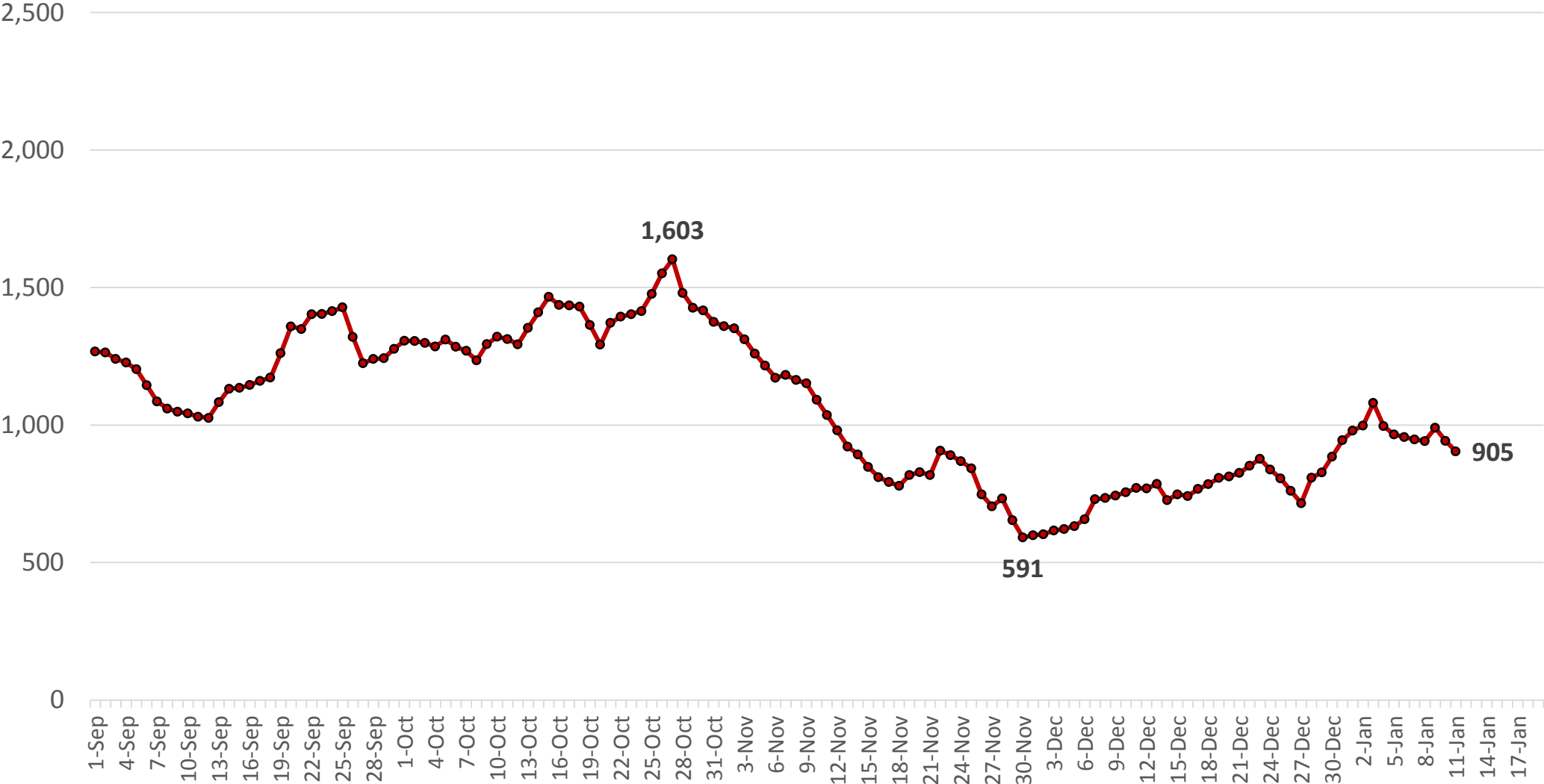
Ontario College of Family Physicians

Community of Practice

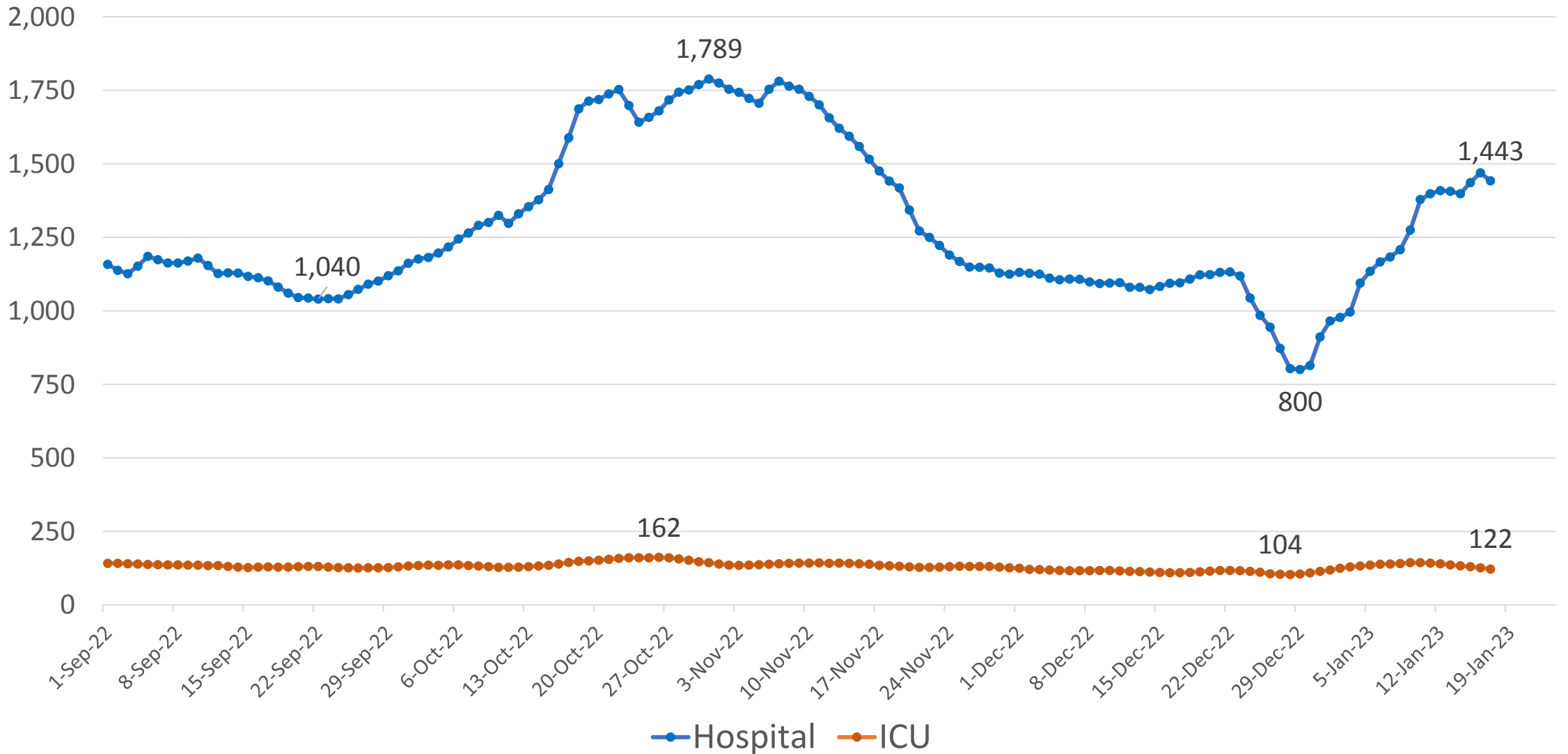
January 20, 2023

Dr. Gerald Evans

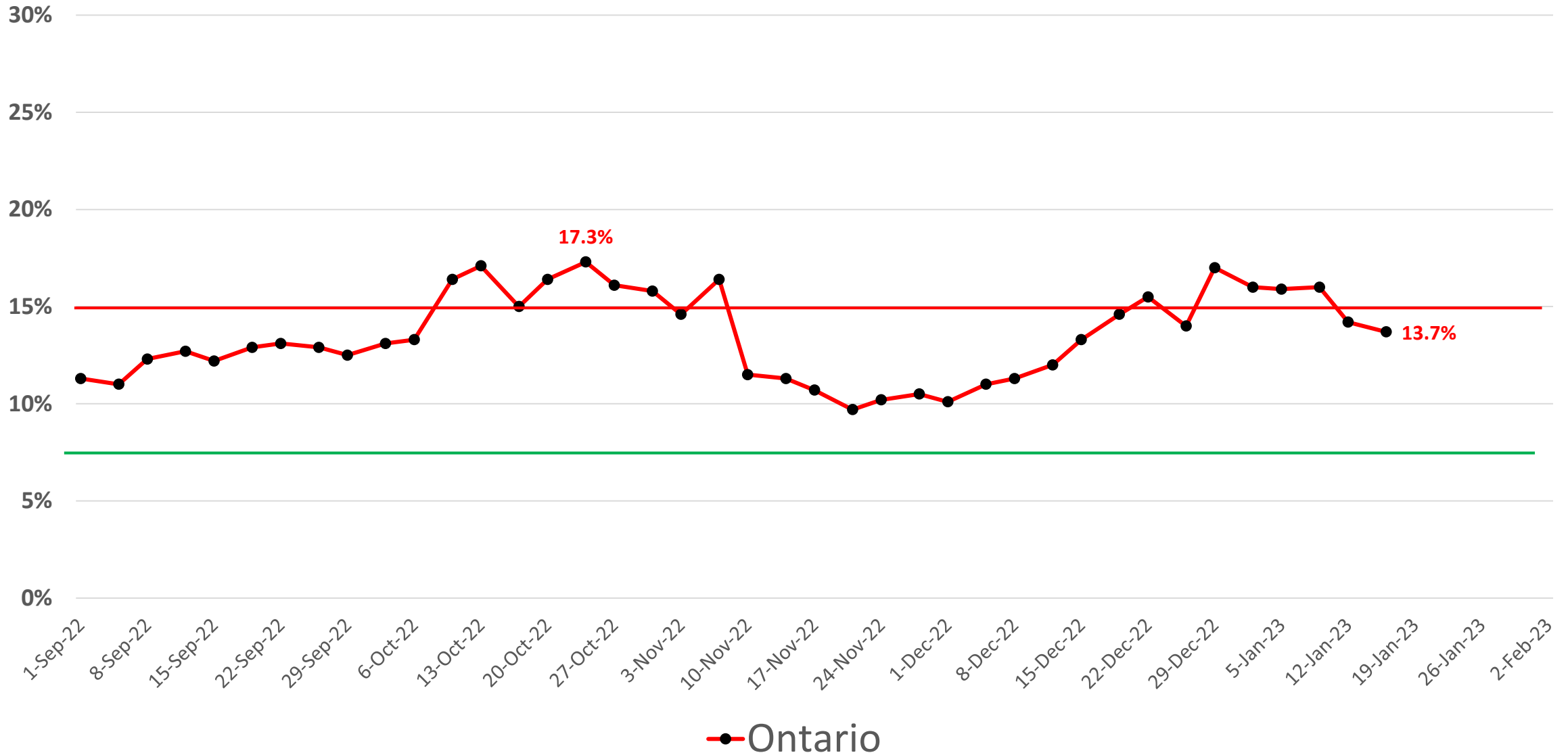
# Ontario 7-Day Running Average of New COVID-19 Cases/Day



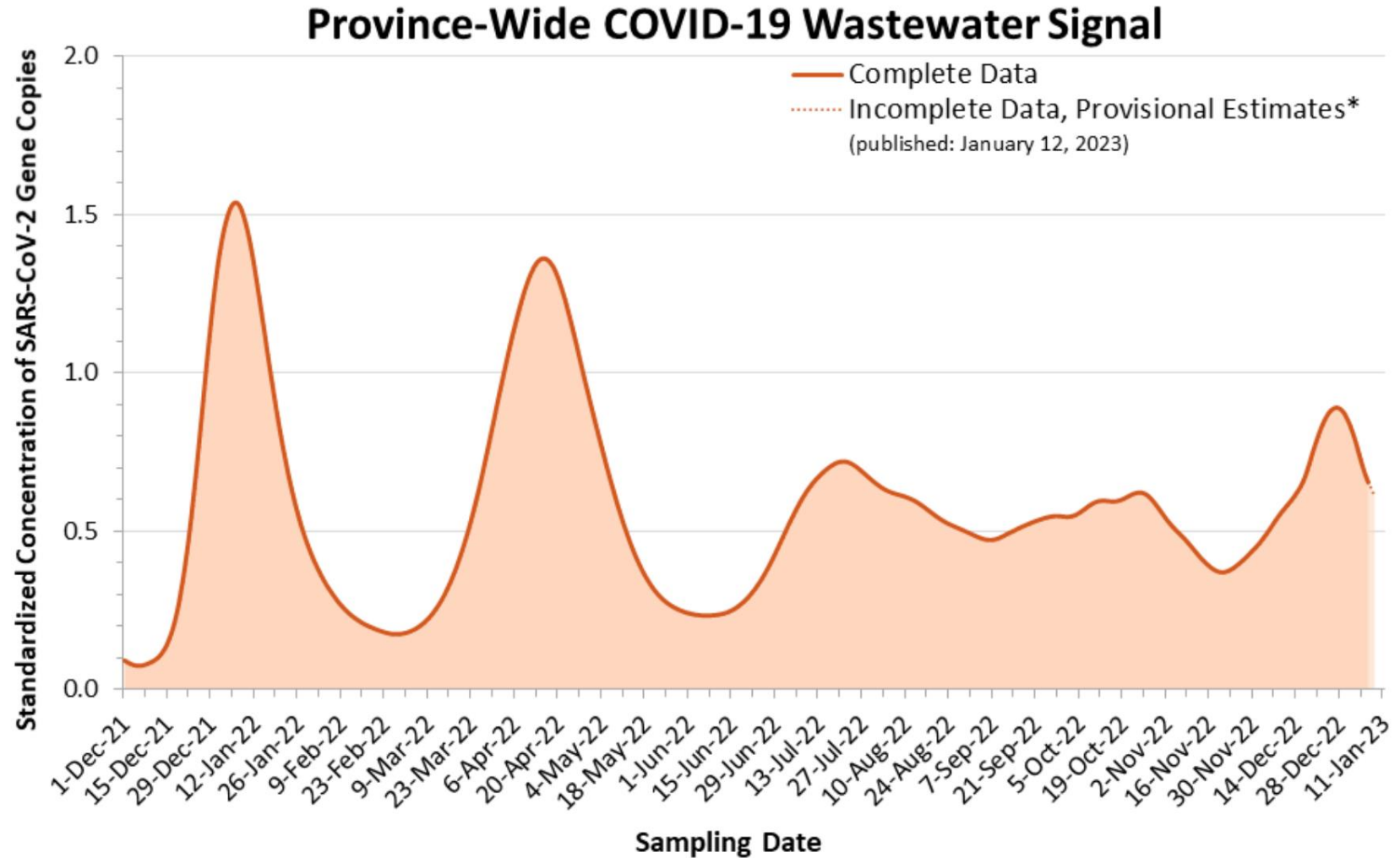
7-Day Running Average Ontario COVID-19 Hospital & ICU Occupancy



# Ontario COVID-19 Test Positivity

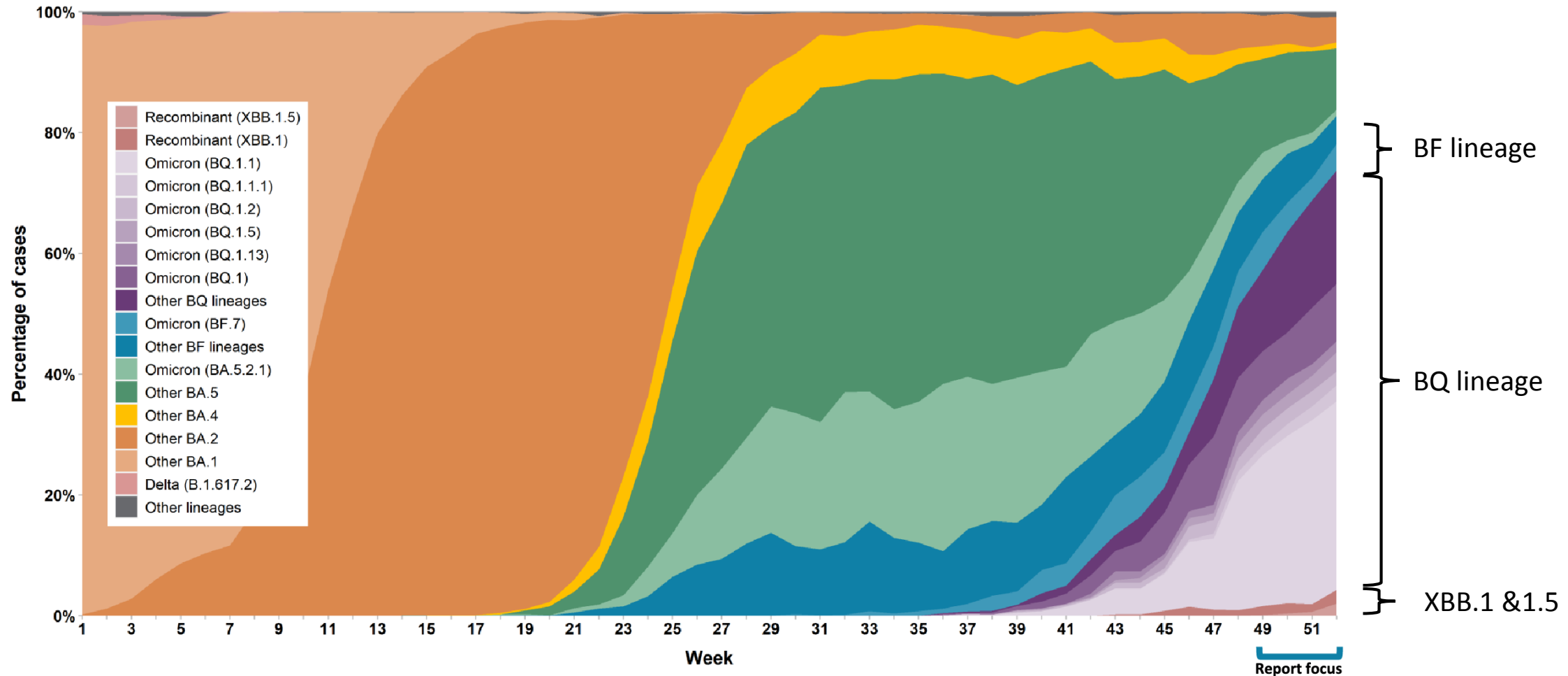


# SARS-CoV-2 RNA in Ontario Wastewater – January 12, 2023



# 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**





# Recombinant SARS-CoV-2 Sub-variant XBB.1.5

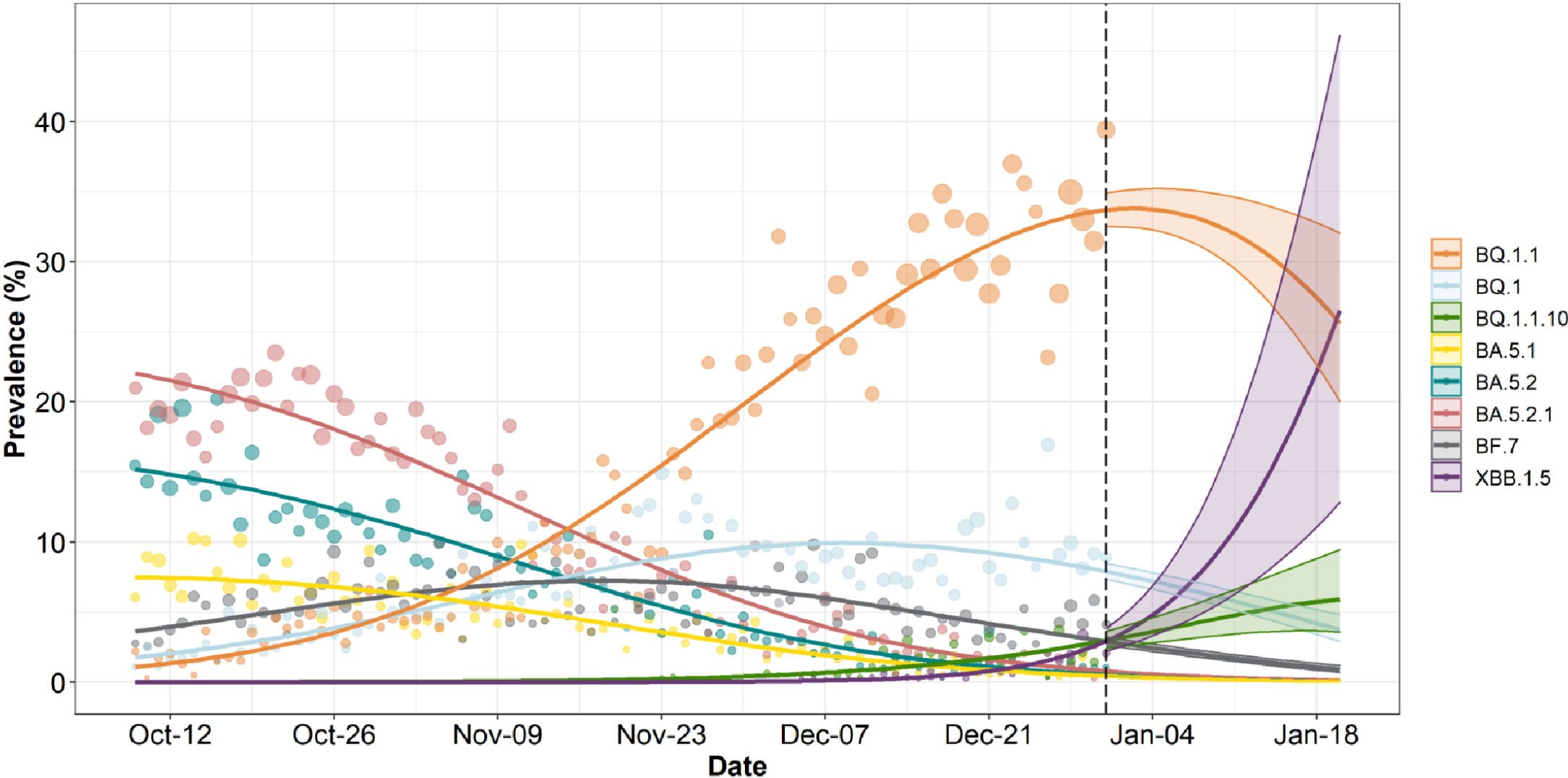
- Derived from a recombination of two BA.2 subvariants
  - Bears a specific mutation known as F486P
    - This mutation changes a segment of the spike protein that many antibodies from vaccination or previous infection target
1. The change makes anti-spike antibodies less effective at neutralising XBB.1.5 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

WHO label/ Pango lineage	Weekly relative growth rate
BQ.1.1	1.00 (reference)
BQ.1	0.85 (0.83 - 0.86)
BQ.1.1.10	1.40 (1.28 - 1.53)
BA.5.1	0.59 (0.57 - 0.6)
BA.5.2	0.56 (0.55 - 0.57)
BA.5.2.1	0.56 (0.55 - 0.57)
BF.7	0.73 (0.72 - 0.75)
XBB.1.5	2.38 (1.93 - 2.93)

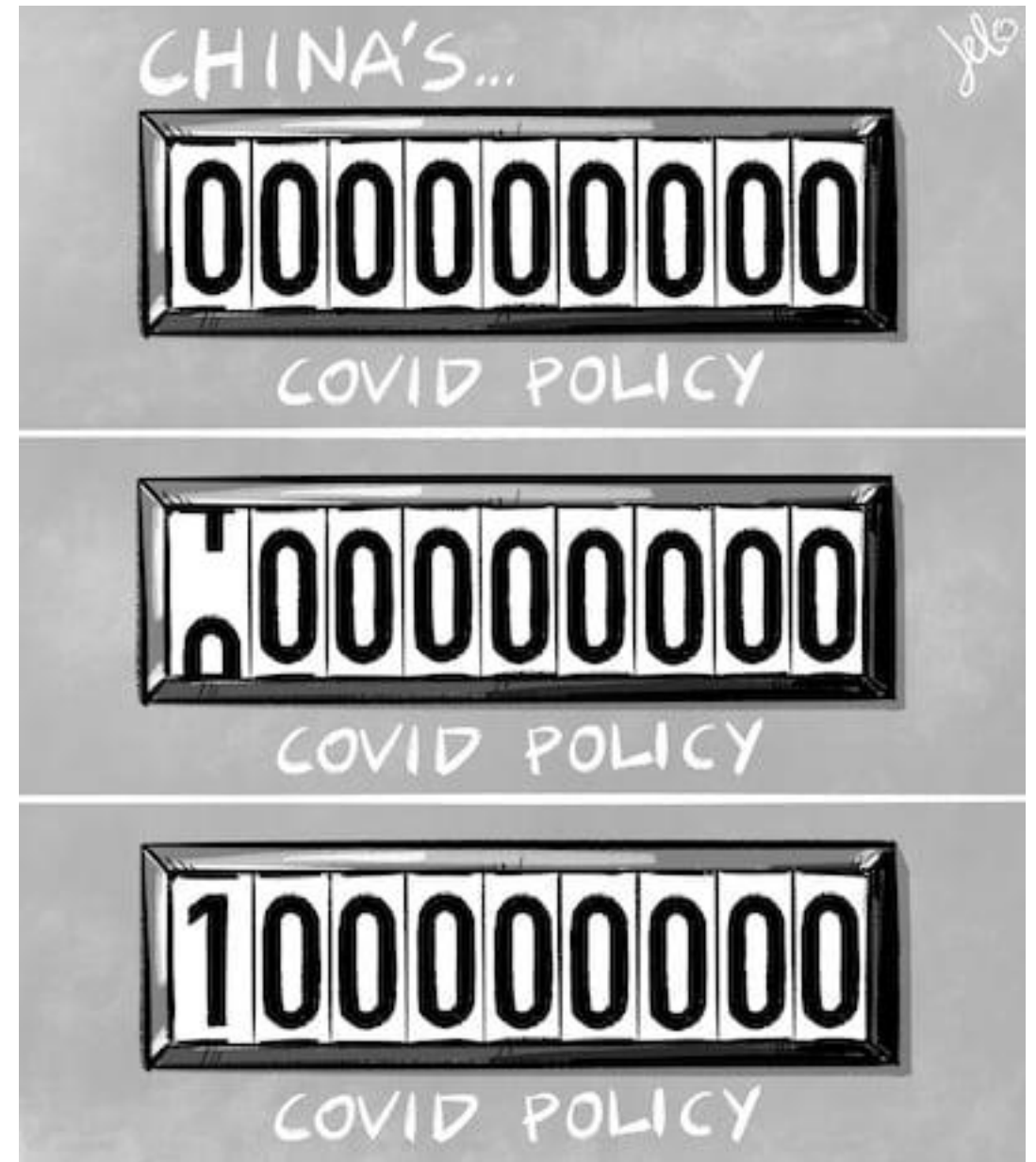


Figure 2. Estimated daily prevalence (%) by Pango lineage, using Nowcast model, Ontario, October 9, 2022 to January 21, 2023



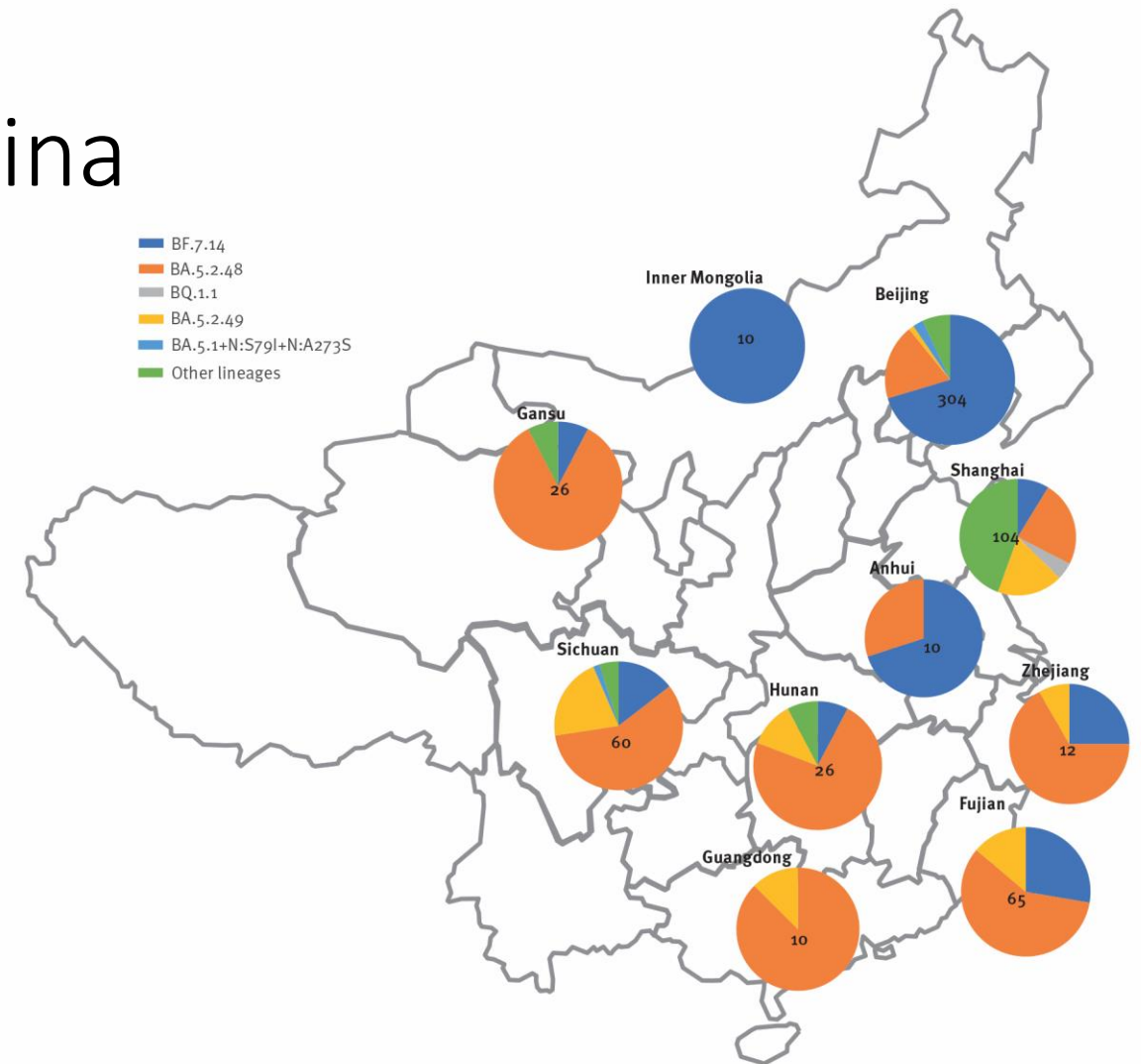
# COVID-19 in China

- 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

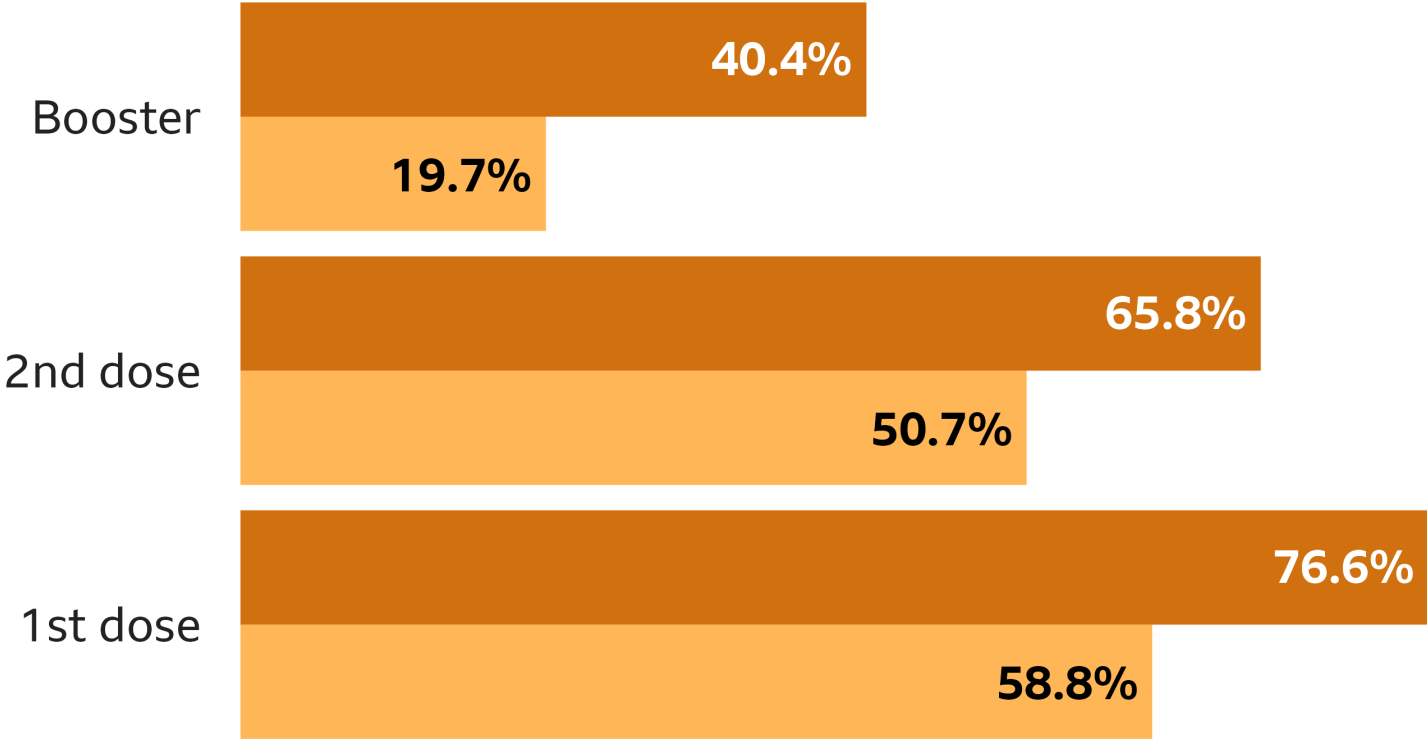


Geographic distribution by province of Omicron sub-lineages among sequences with case date after Sept 2022 submitted from China in GISAID as of 11 January 2023 (n = 627 sequences)

# Vaccination rates for over-80s in China

Share of population vaccinated by dose

■ November 2022 ■ April 2022

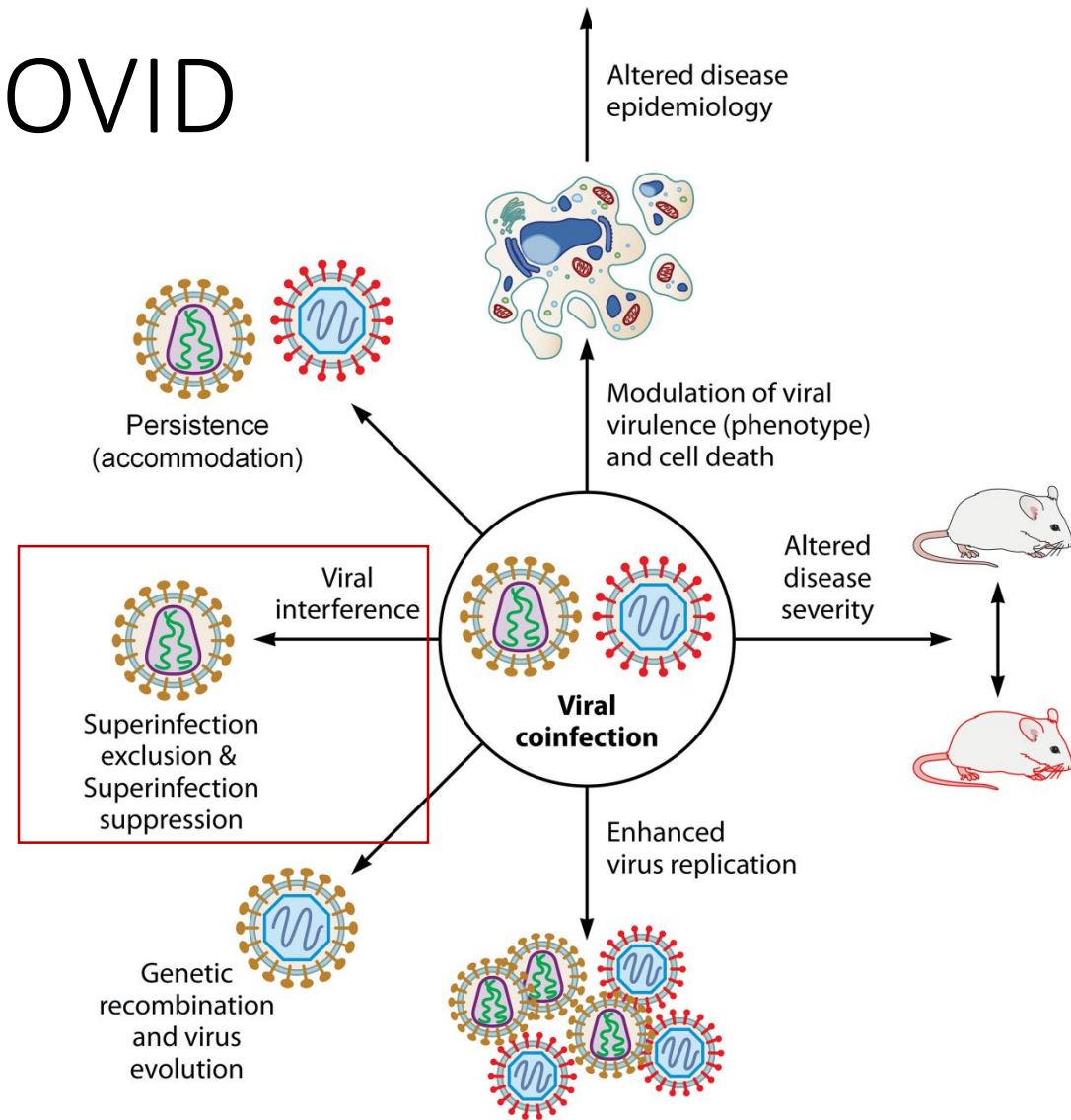


Source: Chinese National Health Commission

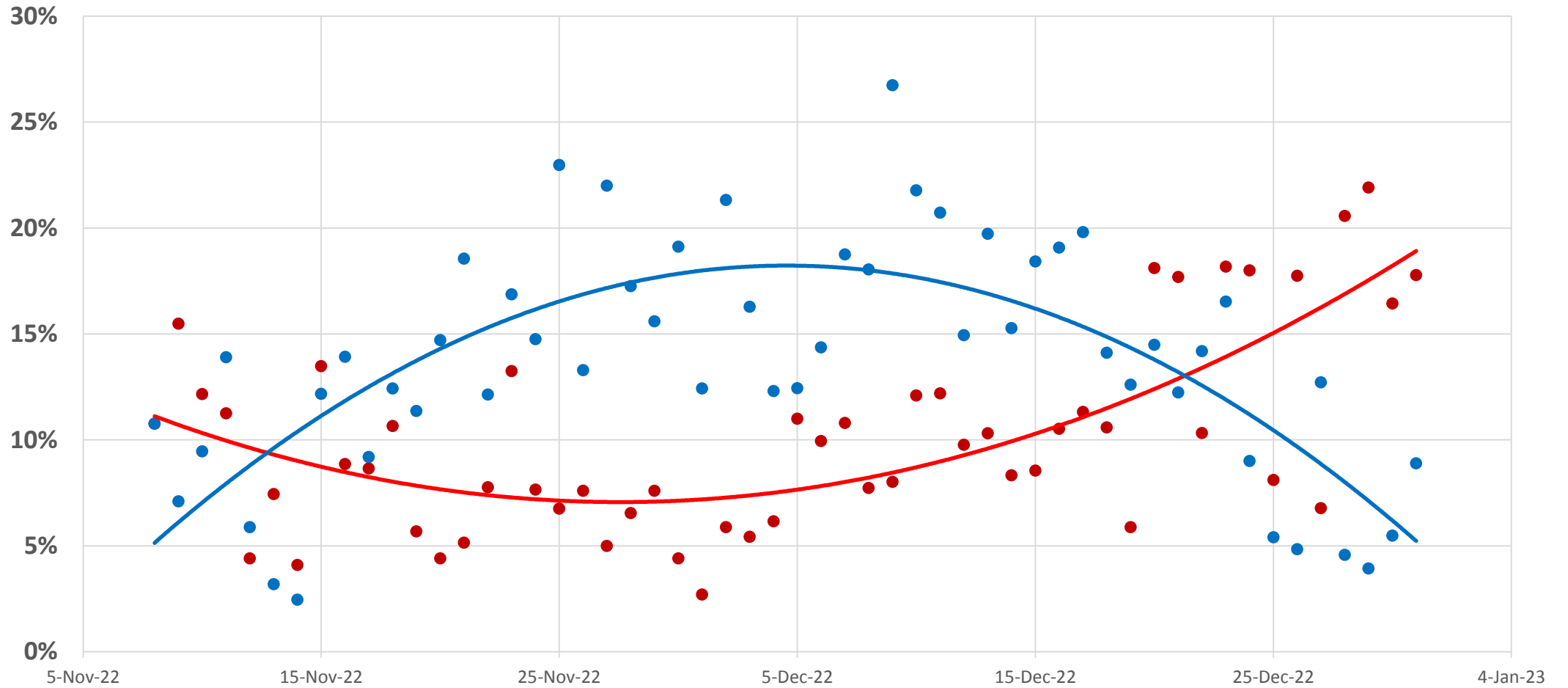


# Viral Interference & COVID

- 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

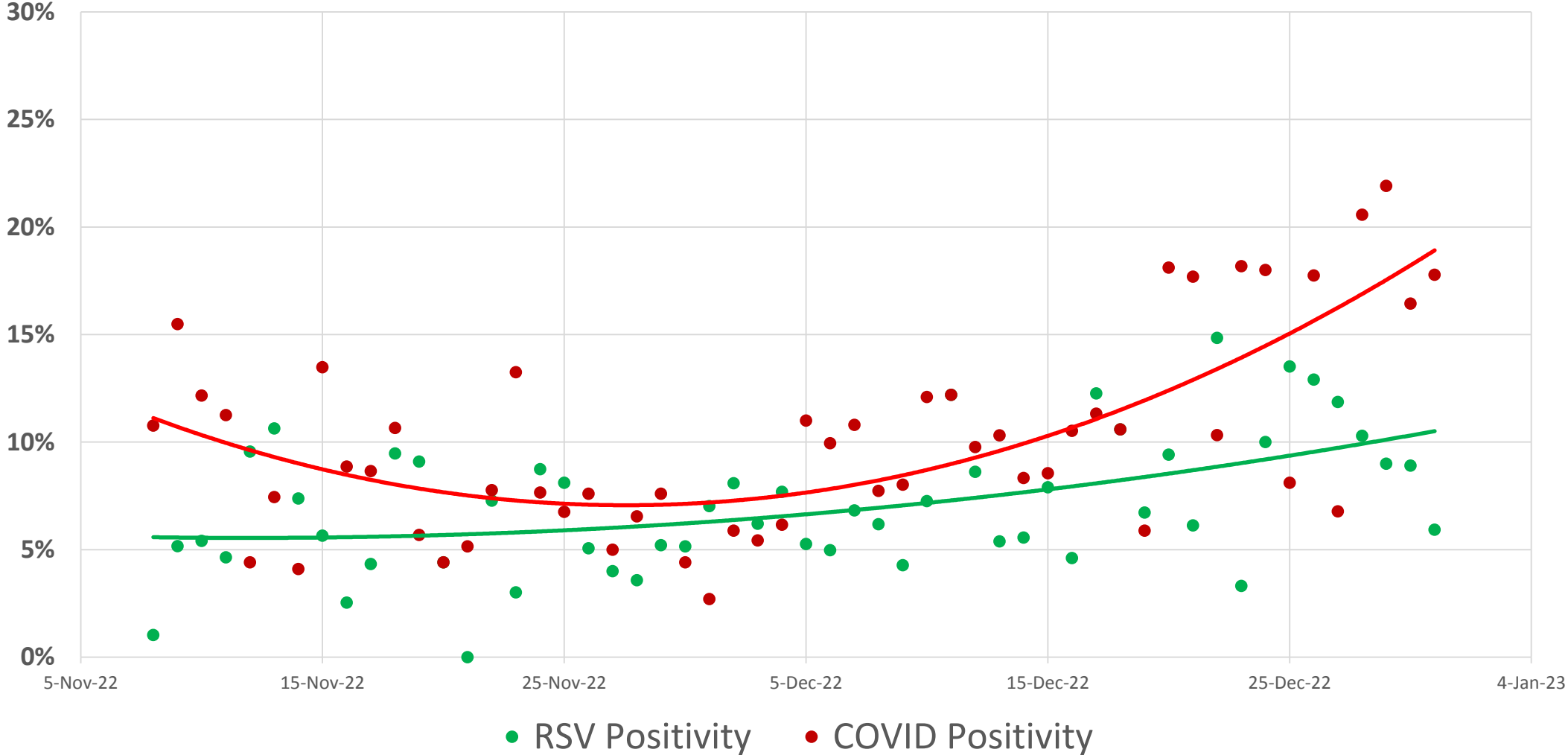


# Trends in SE Ontario Test Positivity for COVID & Influenza



● COVID Positivity ● Influenza Positivity

# Trends in SE Ontario Test Positivity for COVID & RSV



# Effectiveness of Bivalent COVID-19 Vaccines

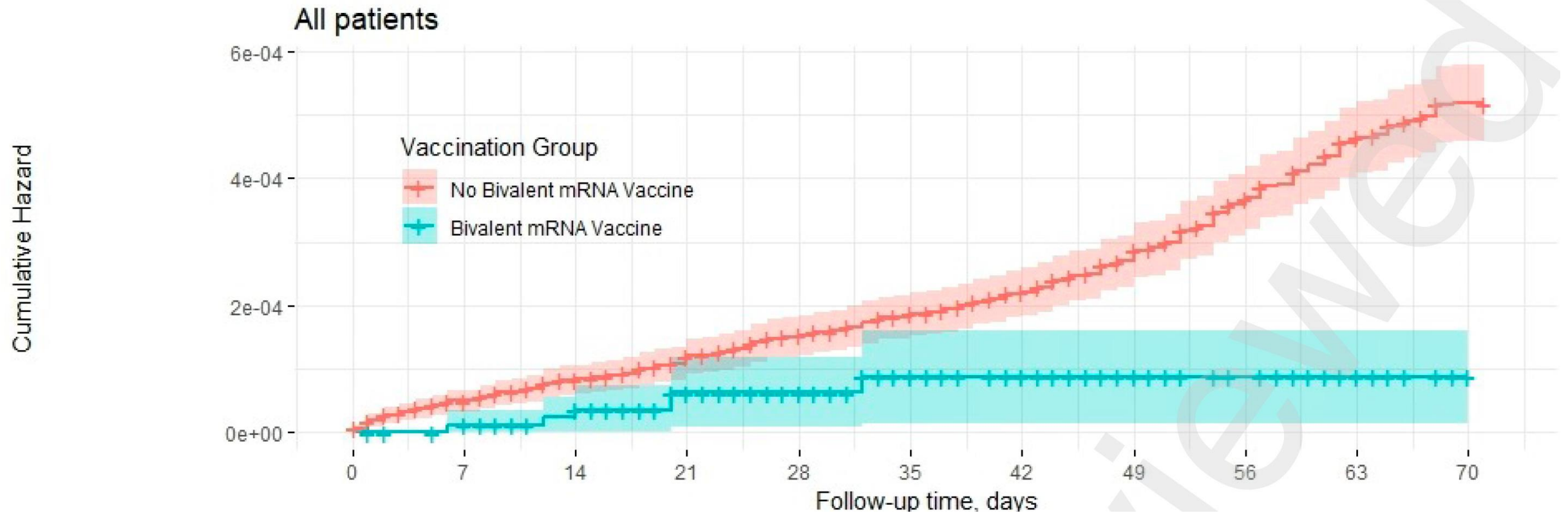
## Bivalent BA.5 Booster Neutralizing Antibody Lab Assessments

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

\*range related to prior Covid or not; <sup>^</sup> by geometric median titer GMT

@erictopol

# Effectiveness of Bivalent COVID-19 Vaccines





# COVID-19 January 5, 2023

## BIVALENT BOOSTERS

**The National Advisory Committee on Immunization strongly recommends bivalent boosters for<sup>1</sup>:**

- People 65 years and older
- People who are pregnant
- People 12+ who:
  - Identify as First Nations, Métis, Inuit
  - Belong to a racialized or marginalized community (e.g., living with disability)
  - Live in a group setting (e.g., long-term care)
- People 5+ who:
  - Haven't received a booster dose yet **AND**
  - Have a weakened immune system or serious health condition

**NEW!** Bivalent vaccines are approved for people 5 years+ ✓

**When to get your next booster dose:**

**RECOMMENDED:**  
6 MONTHS after:  
↳ last vaccine dose  
↳ or last COVID-19 infection

People can get their next booster dose after 3 months if they are at high risk of severe illness.

**RESEARCH SHOWS THAT COVID-19 VACCINE BOOSTERS**

- give strong protection from severe illness
- lower the risk of COVID-19 symptoms
- lower the risk of complications, like Long COVID

Don't know if your recent illness was COVID-19 or not?  
**GET VACCINATED NOW!**  
**BOOK NOW!**

<https://www.canada.ca/en/public-health/services/diseases/coronavirus-disease-covid-19/vaccines/how-vaccinated.html#f>

Find the NACI guidance here: <https://www.canada.ca/content/dam/phac-aspc/documents/services/immunization/national-advisory-committee-on-immunization-naci/updated-recommendations-use-covid-19-vaccine-boosters-doses-children-5-11-years-concurrent-administration.pdf>

<sup>1</sup> <https://www.canada.ca/en/public-health/services/publication/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-26-covid-19-vaccine.html#risk>  
<sup>2</sup> <https://covid19-scienceable.ca/sciencebrief/understanding-the-post-covid-19-condition-long-covid-in-adults-and-the-expected-burden-for-ontario/>

[https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/covid-19\\_bivalent\\_boosters\\_simplified.pdf](https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/covid-19_bivalent_boosters_simplified.pdf)

# COVID-19 January 5, 2023

## BIVALENT BOOSTERS

**NEW!** Bivalent vaccines are approved for people 5 years+ ✓

**Bivalent vaccines contain 2 different mRNA components:**



**Compared to the original mRNA vaccine:**  
Early data in adults shows the updated bivalent vaccines help your body make more antibodies to fight COVID-19<sup>1</sup> and have similar mild side effects (e.g., sore arm, fatigue).

**Everyone 5 years+ (who has had their initial doses)<sup>2</sup> can consider getting a bivalent booster.**

<sup>1</sup>Initial doses = at least 2 doses of an approved COVID-19 vaccine (or 1 dose of the Johnson & Johnson (Janssen Jcoviden<sup>TM</sup>) vaccine).

**RESEARCH SHOWS THAT COVID-19 VACCINE BOOSTERS**

- give strong protection from severe illness
- lower the risk of COVID-19 symptoms
- lower the risk of complications, like Long COVID

**How to Time a Bivalent Vaccine Dose**

	After last vaccine dose	After last COVID-19 infection
Earliest	3 months	3 months
Recommended	6 months	6 months

Find the NACI guidance here: <https://www.canada.ca/content/dam/phac-aspc/documents/services/immunization/national-advisory-committee-on-immunization-naci/updated-recommendations-use-covid-19-vaccine-boosters-doses-children-5-11-years-concurrent-administration.pdf>

**National Advisory Committee on Immunization**

**NACI strongly recommends bivalent boosters for<sup>2</sup>:**

- People 65 years and older
- People who are pregnant
- People 12+ who:
  - Identify as First Nations, Metis, Inuit
  - Belong to a racialized or marginalized community (e.g., living with disability)
  - Live in a group setting (e.g., long-term care)
- People 5+ who:
  - Haven't received a booster dose yet **AND**
  - Have a weakened immune system or serious health condition

**Timing your vaccine is more important than the brand.**

If you are at higher risk of severe illness from COVID-19, it's strongly recommended you get your bivalent booster as soon as you can.

<sup>1</sup> <https://www.nejm.org/doi/full/10.1056/NEJMoa2208343>  
<sup>2</sup> <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-26-covid-19-vaccine.html#risk>  
<sup>3</sup> <https://covid19-scienceable.ca/sciencebrief/understanding-the-post-covid-19-condition-long-covid-in-adults-and-the-expected-burden-for-ontario/>  
<sup>4</sup> <https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/updated-recommendations-use-bivalent-omicron-containing-mrna-covid-19-vaccines.html#f>

Focused Covid Communication is: Andrea Chittle, MD, CCFP, Kelly Grindrod, BScPharm, PharmD, Adrian Poon, BA, Noah Ivers, MD, PhD, CCFP, Samira Jaimy, MD, PhD, FRCP, Kate Miller, MD, Sabrina Vohra-Miller, MSc, Kristen Watt, BScPhm, RPh, Holly Witterman, PhD, Samantha Yarmine, PhD. Reviewed by: Rosemary Killean, BScPhm, PGCert, RPh.

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Financial contribution from: Public Health Agency of Canada

[https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/covid-19\\_bivalent\\_boosters.pdf](https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/covid-19_bivalent_boosters.pdf)

# UPDATED! January 5, 2023

## FREQUENTLY ASKED QUESTIONS COVID-19 VACCINE BOOSTER DOSES

For people 5 years and older



More than 13 billion doses of COVID-19 vaccines have been given around the world.<sup>1</sup> The National Advisory Committee on Immunization (NACI) recommends a Fall 2022/Winter 2023 booster vaccine dose for people aged 5 and older.

**Why are Fall 2022/Winter 2023 COVID-19 booster doses recommended?**  
COVID-19 booster doses in Fall 2022/Winter 2023 will make sure that people have the strongest protection from infection, serious illness, and death.<sup>2</sup> Booster doses **build back protection**, and give more protection against new variants.<sup>2,3</sup>

**NATIONAL ADVISORY COMMITTEE ON IMMUNIZATION**

**NACI STRONGLY recommends a Fall 2022/Winter 2023 COVID-19 booster for<sup>3</sup>:**

- People 65 years and older
- People who are pregnant
- People 12+ who:
  - Identify as First Nations, Metis, Inuit
  - Belong to a racialized or marginalized community (e.g., living with disability)
  - Live in a group setting (e.g., long-term care)
- People 5+ who:
  - Haven't received a booster dose yet **AND**
  - Have a weakened immune system or serious health condition

Everyone 5 years and older can consider getting a Fall 2022/Winter 2023 COVID-19 booster dose.

**Does it matter which bivalent vaccine I get?**  
No. All bivalent booster vaccines give good protection against Omicron variants.

Find the most recent NACI guidance here: <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-26-covid-19-vaccine.html>

**What are the new BIVALENT mRNA COVID-19 vaccines?**

A "bivalent" vaccine targets 2 variants of a virus: the original COVID-19 virus and the Omicron strain.

Approved bivalent vaccines in Canada:

**Moderna (Spikevax<sup>TM</sup>)**  
COVID-19 mRNA bivalent vaccine  
• For people 18 years and older  
• Approved by Health Canada (Sept 2022)  
• Targets original COVID-19 virus plus Omicron BA.1

**Moderna (Spikevax<sup>TM</sup>)**  
COVID-19 mRNA bivalent vaccine  
• For people 18 years and older  
• Approved by Health Canada (Nov 2022)  
• Targets original COVID-19 virus plus Omicron BA.4/5

**Pfizer (Comirnaty<sup>TM</sup>)**  
COVID-19 mRNA bivalent vaccine  
• For people 5 years and older  
• Approved by Health Canada (Oct 2022)  
• Targets original COVID-19 virus plus Omicron BA.4/5

Focused Covid Communication is: Andrea Chittle, MD, CCFP, Kelly Grindrod, BScPharm, PharmD, Noah Ivers, MD, PhD, CCFP, Samira Jaimy, MD, PhD, FRCP, Kate Miller, MD, CCFP, Monika Pai, MSc, MD, FRCP, Adrian Poon, BA, Sabrina Vohra-Miller, MSc, Kristen Watt, BScPhm, RPh, Holly Witterman, PhD, Samantha Yarmine, PhD. Reviewed by: Rosemary Killean, BScPhm, PGCert, RPh.

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[https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/covid-19\\_boosters\\_faq\\_0.pdf](https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/covid-19_boosters_faq_0.pdf)



# 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](http://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](http://www.CanTreatCOVID.org)

info@cantreatcovid.org



Scan the QR code to  
subscribe to our newsletter,  
or go to  
[www.upstreamlab.org](http://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



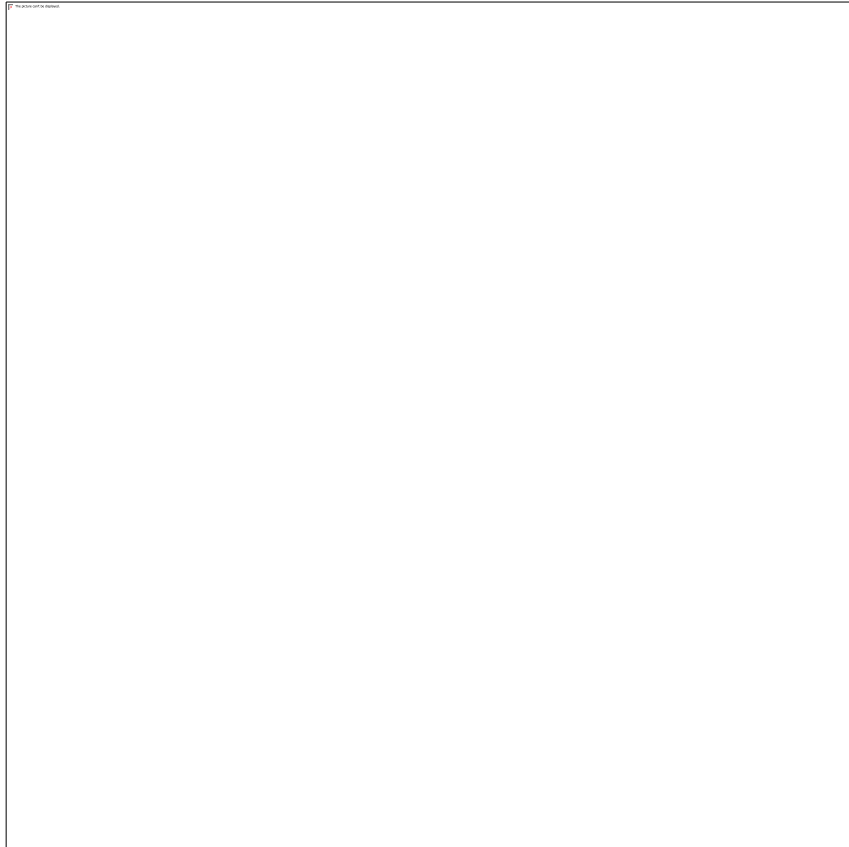


# Nirmatrelvir/ritonavir adverse effects

- Hypertension (1%)
- Dysgeusia (6%)
- Diarrhea (3%)
- Myalgia (1%)



# Managing drug interactions with nirmatrelvir-ritonavir



Ritonavir

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

“Liverpool Drug Interactions Checker”

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## CanTreatCOVID project

### pharmacists role

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Pharmacists confirm the screen for renal and liver issues

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Pharmacists do the medication review and drug interactions assessment

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Counselling and follow up

**First day of symptoms = Day 0!**

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# Prescribing Nirmatrelvir/Ritonavir (Paxlovid®) for COVID-19: A Decision Aid for Community Practices



Centre for Effective Practice

Ontario College of Family Physicians  
Leaders for a healthy Ontario



## Prescribing Nirmatrelvir/Ritonavir (Paxlovid®) for COVID-19: A Decision Aid for Community Practices

January 13, 2023

The chart below highlights key evidence to help guide your Paxlovid® treatment decisions. It is based on Ontario Health's [recommendation](#) (Dec. 2022) on which patients would benefit from receiving Paxlovid for COVID-19 infection. For a short evidence brief, including NNT/NNH, see the [Centre for Effective Practice](#).

In general, Paxlovid is **recommended for people age 18+ who are at higher risk of severe illness from COVID-19 infection**. The treatment should be considered for those with confirmed COVID-19 (i.e., positive PCR or rapid antigen test), who are within 5 days of symptom onset and experiencing mild-to-moderate COVID-19 (i.e., not requiring hospitalization or supplemental oxygen), and who meet one or more of the criteria below.

This information serves as a helpful guide. Continue to apply clinical judgment in assessing the potential benefits and risks of Paxlovid, including assessing contraindications and risks for your patient.

### Considerations for Paxlovid Treatment

Benefit is likely to increase with the number of coincident factors.	
<b>60 years of age or older</b>	Increasing age is the most consistent and important risk factor for hospitalization due to COVID-19; evidence suggests that <i>older patients would be the most likely to benefit from Paxlovid treatment</i> .
<b>18 to 59 years old and with inadequate vaccine/booster protection</b> > Unvaccinated or incomplete primary vaccine series OR > Completed primary vaccine series AND last COVID-19 vaccine dose was more than 6 months ago or last COVID-19 infection was more 6 months ago (see pp. 6-9 of <a href="#">Ontario's Vaccine Guidance</a> )	Benefit of treatment may be greater in those who are unvaccinated or have not completed a primary series; however, <i>vaccination status alone should not determine whether a patient is offered Paxlovid</i> . OR In higher-risk groups, risk of severe infection/poor outcomes from infection does not appear to be mitigated by booster doses.
<b>Immunocompromised and age 18 or older</b>	Immunocompromised individuals may be especially vulnerable to poor outcomes from COVID-19 infection despite vaccine boosters, especially if they have multiple risk factors. Groups include those receiving B-cell depleting therapies, some solid organ and hematopoietic transplant recipients, some hematologic cancer patients, individuals with primary immunodeficiency, people with HIV and hemodialysis patients.



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<b>18 to 59 years old with at least one comorbidity</b>	BMI of 30 or higher, immunosuppression, cardiovascular disease and neurological disease are among the conditions that may confer the greatest benefit with Paxlovid. See Health Canada's <a href="#">list of underlying conditions associated with more severe COVID-19 disease</a> .
<b>Belong to a group that is vulnerable due to social determinants</b>	Certain groups are at higher risk of disease progression and poor outcomes from COVID-19 due to social determinants. Prioritize the following groups: <ul style="list-style-type: none"> <li>- Indigenous people</li> <li>- Black people</li> <li>- other members of racialized communities</li> <li>- individuals with intellectual, developmental, or cognitive disability</li> <li>- people who use substances regularly (e.g., alcohol)</li> <li>- people who live with mental health conditions</li> <li>- people who are underhoused.</li> </ul>

### SAFETY | RISKS

There are at present low rates of reported serious adverse events and treatment-related adverse events for Paxlovid (most commonly dysgeusia and diarrhea). New adverse events are likely to be revealed with continued use. Key safety considerations for Paxlovid treatment are:

- renal impairment
- potential drug interactions with medications that are highly dependent on liver enzyme CYP3A4-mediated metabolism
- clinical impact of interrupting or replacing another medication to mitigate drug interactions.

Especially for complex patients, consult with a pharmacist or other clinician experienced in managing drug-drug interactions or refer to [Nirmatrelvir/Ritonavir: What Prescribers and Pharmacists Need to Know](#) (Dec. 12, 2022, University of Waterloo/University of Toronto schools of pharmacy).

Evidence Brief: [https://tools.cep.health/wp-content/uploads/2023/01/Paxlovid-PC-evidence-summary-Final-Jan-17-2023-Updated.pdf?utm\\_source=link.cep.health&utm\\_medium=urlshortener&utm\\_campaign=covid-](https://tools.cep.health/wp-content/uploads/2023/01/Paxlovid-PC-evidence-summary-Final-Jan-17-2023-Updated.pdf?utm_source=link.cep.health&utm_medium=urlshortener&utm_campaign=covid-)

Decision Aid: <https://www.ontariofamilyphysicians.ca/tools-resources/covid-19-resources/clinical-care-office-readiness/paxlovid-decision-tool.pdf>

## 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



# Sentinel Practitioner Surveillance Network (SPSN)

- 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.

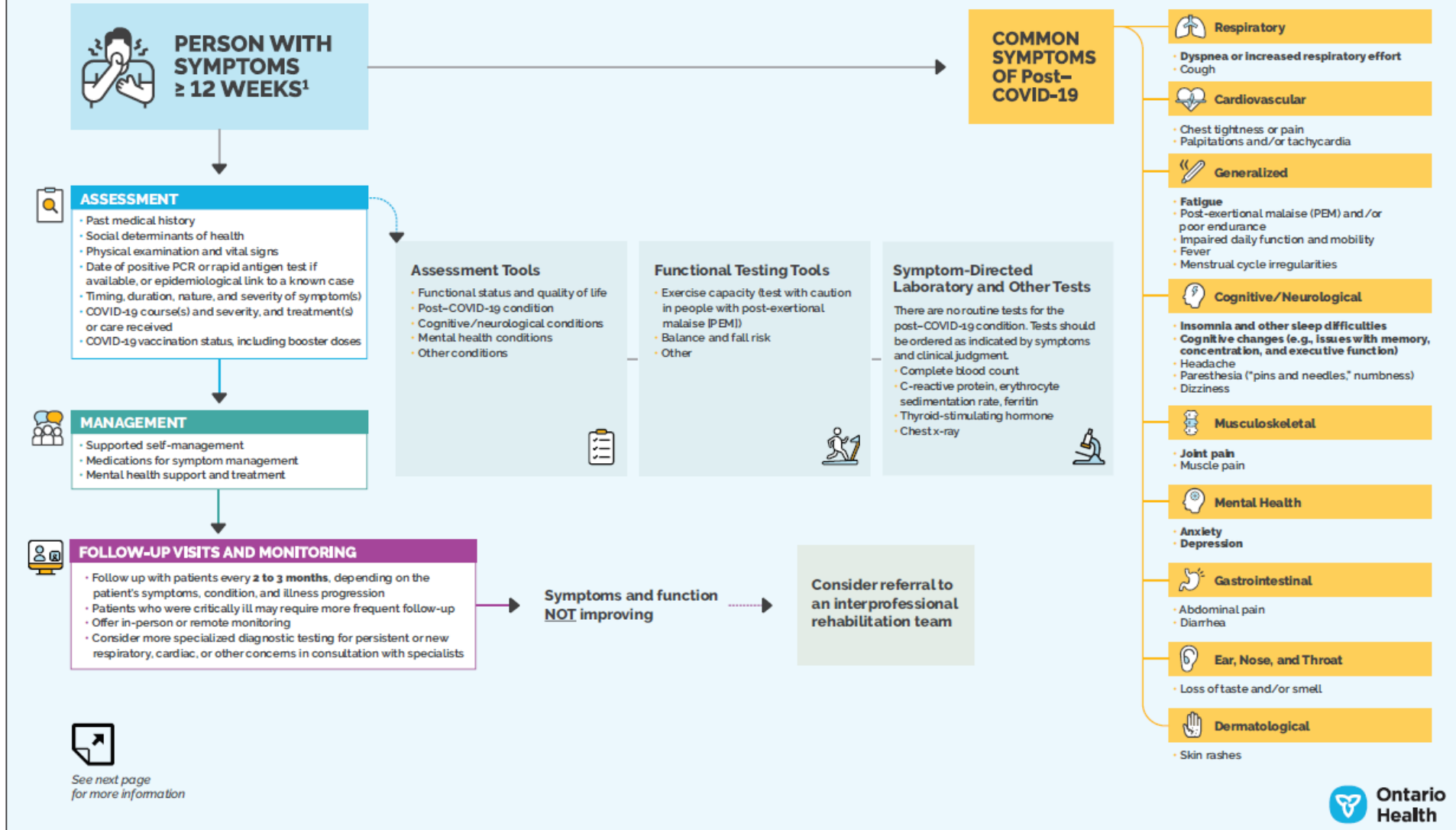
## Eligibility and Compensation

- 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)).

# Post-COVID-19 Condition: Guidance for Primary Care



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)



# FMS 2023

## FAMILY MEDICINE SUMMIT

Today, tomorrow and in the future

[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](mailto:ocfpcme@ocfp.on.ca)



# Questions?

Webinar recording and curated Q&A will be posted soon

<https://www.dfcu.utoronto.ca/covid-19-community-practice/past-sessions>

Our next Community of Practice: February 3, 2023

Contact us: [ocfpcme@ocfp.on.ca](mailto: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.**