

COVID-19  
Community of  
Practice for Ontario  
Family Physicians

**June 18, 2021**

**Dr. Nisha Thampi  
Dr. Jeff Kwong  
Dr. Liz Muggah**



## ***Changing the Way We Work***

**Getting to herd immunity: addressing children,  
confidence, and complacency**



Family & Community Medicine  
UNIVERSITY OF TORONTO

Ontario College of  
Family Physicians



# Getting to herd immunity: addressing children, confidence, and complacency

Moderator: Dr. Tara Kiran

Fidani Chair, Improvement and Innovation

Department of Family and Community Medicine, University of Toronto

Panelists:

- Dr. Nisha Thampi, Ottawa, ON
- Dr. Jeff Kwong, Toronto, ON
- Dr. Liz Muggah, Ottawa, ON

This one-credit-per-hour Group Learning program has been certified by the College of Family Physicians of Canada and the Ontario Chapter for up to 1 Mainpro+ credits.

The COVID-19 Community of Practice for Ontario Family Physician includes a series of planned webinars. Each session is worth 1 Mainpro+ credits, for up to a total of 26 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 recognize 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 respect 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.



ISSUE 11 - SUMMER 2021

## Emerging from the Long Shadow of Canada's Indian Hospitals

<https://thelocal.to/emerging-from-the-long-shadow-of-canadas-indian-hospitals/>

# 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, Patricia O'Brien (DCFM), Leanne Clarke (OCFP), Susan Taylor (OCFP) and Mina Viscardi-Johnson (OCFP), Liz Muggah (OCFP)

### **Previous webinars & related resources:**

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



## **Dr. Nisha Thampi– Panelist**

**Twitter: @NishaOttawa**

Pediatric Infectious Disease Physician, IPAC Medical Director, Children’s Hospital of Eastern Ontario (CHEO)



## **Dr. Jeff Kwong– Panelist**

**Twitter: @DrJeffKwong**

Epidemiologist, Family Physician, Toronto Western Family Health Team,



## **Dr. Liz Muggah – Co-Host**

**Twitter: @OCFP\_President**

OCFP President, Family Physician, Bruyère Family Health Team

# Speaker Disclosure

- Faculty Name: **Dr. Nisha Thampi**
- Relationships with financial sponsors: N/A
  - Grants/Research Support: N/A
  - Speakers Bureau/Honoraria: N/A
  - Others: N/A
  
- Faculty Name: **Dr. Jeff Kwong**
- Relationships with financial sponsors: ICES; Public Health Ontario; DFCM, University of Toronto;
  - Grants/Research Support: CIHR; Health Canada; US Centres for Disease Control and Prevention
  - Speakers Bureau/Honoraria: Ontario College of Family Physicians
  - Others: N/A

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- Relationships with financial sponsors:
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  - Others: N/A
  
- Faculty Name: **Dr. Tara Kiran**
- Relationships with financial sponsors:
  - Grants/Research Support: St. Michael's Hospital, University of Toronto, Health Quality Ontario, Canadian Institute for Health Research, Toronto Central LHIN, Toronto Central Regional Cancer Program, Gilead Sciences Inc.
  - Speakers Bureau/Honoraria: N/A
  - Others: N/A

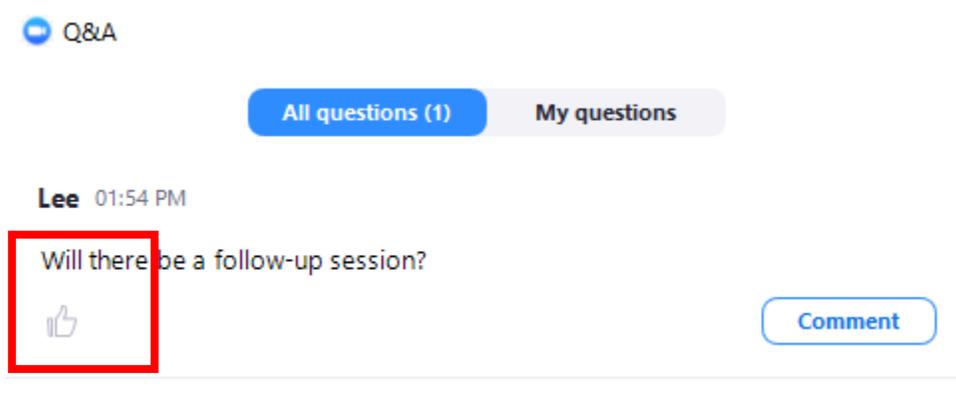


# How to Participate

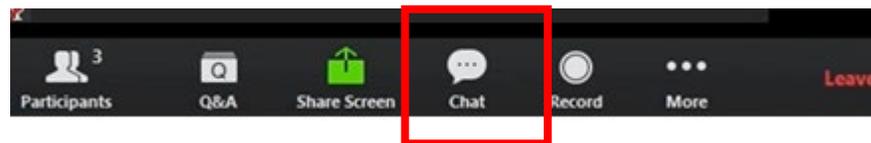
- All questions should be asked using the Q&A function at the bottom of your screen.



- 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.



# AstraZeneca 2<sup>nd</sup> Dose Decision-Aid

1. Latest info on mixing and matching
2. Vaccine considerations in youth including risk of myocarditis and when we can expect information on vaccinating children
3. The latest on the delta variant
4. Approach to office-based care
5. Guidance for the fully vaccinated

- **For second doses, NACI recommends that:**

- Individuals who received a first dose of an mRNA vaccine (Pfizer-BioNTech, Moderna) should be offered the same mRNA product for their second dose. If the same product is not readily available, or the product used for the first dose is unknown, another mRNA vaccine is considered interchangeable and should be used to complete the series.
- An mRNA vaccine **is now preferred** as the second dose for individuals who received a first dose of the AstraZeneca/COVISHIELD vaccine, based on emerging evidence of a potentially better immune response from this mixed vaccine schedule and to mitigate the potential risk of VITT associated with viral vector vaccines.
- People who received two doses of AstraZeneca/COVISHIELD vaccine can rest assured that the vaccine provides good protection against infection and very good protection against severe disease and hospitalization.

Receiving a second vaccine dose for a two-dose schedule is essential to provide better and longer-term protection against COVID-19 for individuals and for the entire community.

- In making its recommendations, NACI considered:

- The increasing availability of mRNA vaccines (Pfizer-BioNTech, Moderna) in Canada;
- Emerging evidence suggesting better immune responses when a first dose of the AstraZeneca vaccine is followed by a second dose of the Pfizer-BioNTech mRNA vaccine;
- The risk of Vaccine-Induced Immune Thrombotic Thrombocytopenia (VITT) associated with viral vector vaccines (AstraZeneca, Janssen) but not associated with mRNA vaccines (Pfizer-BioNTech, Moderna); and
- Principles of ethics, equity, feasibility, and acceptability.

Study details	Design	Sample size	Interval	Results
Barros-Martins, Germany	1 <sup>st</sup> dose: AZ 2 <sup>nd</sup> dose: AZ or Pfizer Comparison: Pfizer + Pfizer	n=32 AZ+AZ n=55 AZ+Pfizer	74 days	- AZ+Pfizer significantly higher T cells and neutralizing Abs against Alpha, Beta, Gamma variants - AZ+Pfizer similar degree of neutralizing Abs to Pfizer+Pfizer
CombivacS, Spain	1 <sup>st</sup> dose: AZ 2 <sup>nd</sup> dose: Pfizer (for two-thirds, the remainder 1/3 received no second dose)	N=673 n=441 AZ+Pfizer n= 232 AZ (single dose)	Minimum 8 weeks	- Increase in neutralizing Abs - Increase appears higher than with other homologous regimens (but no two-dose comparator arm in this study)
Grob et al, Germany	1 <sup>st</sup> dose: AZ 2 <sup>nd</sup> dose: Pfizer	N=26	56 days	- Potent Abs response and T cell reactivity
Hillus et al, Germany	1 <sup>st</sup> dose: Pfizer or AZ 2 <sup>nd</sup> dose: Pfizer	n= 159 Pfizer+Pfizer n= 99 AZ+Pfizer	Pfizer+Pfizer: 3 weeks Pfizer+AZ: 10-12 weeks	- Comparable Abs responses and T-cell reactivity

Note: these are all immunogenicity studies, not efficacy/effectiveness trials

Created by: Sabina Vohra-Miller, Unambiguous Science

Current immunogenicity data on the heterologous prime-boost regimens summarized.

# AstraZeneca 2<sup>nd</sup> Dose Decision-Aid

UNIVERSITY OF WATERLOO SCHOOL OF PHARMACY 1-PAGER 5in5 ©2021 Pharmacy5in5.com

**“I got AstraZeneca for my first dose. Which vaccine should I get for my second?”**

- 1 Getting AstraZeneca for your first dose was the **right** decision. It’s protecting you and others from severe Covid-19.
- 2 Now, it’s most important to **get a second dose of any vaccine**. Any second dose helps you be fully immunized and protects you better against the variants.
- 3 Deciding on either **AstraZeneca** or **Moderna** or **Pfizer\*** for your second dose:  
\*Moderna and Pfizer have similar benefits and side effects. It doesn’t matter which one you get.

AstraZeneca	Moderna or Pfizer
<input type="radio"/> A second dose of AstraZeneca may offer less protection against the variants than Moderna or Pfizer.	<input type="radio"/> A second dose of Moderna or Pfizer may offer more protection against the variants than AstraZeneca.
<input type="radio"/> It might be best to get AstraZeneca now if you have to wait several weeks for Moderna or Pfizer.	<input type="radio"/> Canada has a large supply of Moderna and Pfizer. They may be easier to find than AstraZeneca.
<input type="radio"/> The risk of a severe blood clotting disorder from the second dose of AstraZeneca is estimated to be 1 in 600,000.* *This number may change as we learn more.	<input type="radio"/> There is no known risk of blood clots with Moderna or Pfizer.
<input type="radio"/> With any vaccine you get for your second dose (AstraZeneca, Moderna, or Pfizer), you may feel more, the same, or fewer side effects than your first dose. Side effects can include a sore arm, fatigue, headache, body aches, and chills for 1-3 days.	

Rest, fluids, and acetaminophen can help with common side effects from all vaccines. Some people may need to take 1-2 days off from usual activities.

**This can be a tough choice. If you have questions about getting your second dose, ask your healthcare provider.**

→ Want more detail? Check out our [6-page summary](https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/i_get_astrazeneca_for_my_first_dose_what_should_i_do_for_my_second_-_long_version.pdf).

https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/i\_get\_astrazeneca\_for\_my\_first\_dose\_what\_should\_i\_do\_for\_my\_second\_-\_long\_version.pdf

https://www.canada.ca/content/dam/phac-aspc/documents/services/immunization/national-advisory-committee-on-immunization-naci/summary-interchangeability-authorized-covid-19-vaccines-en.pdf  
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Pitman et al. bioRxiv <https://doi.org/10.1101/2021.05.25.448538>  
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**19TOZERO**  
Family & Community Medicine  
UNIVERSITY OF TORONTO

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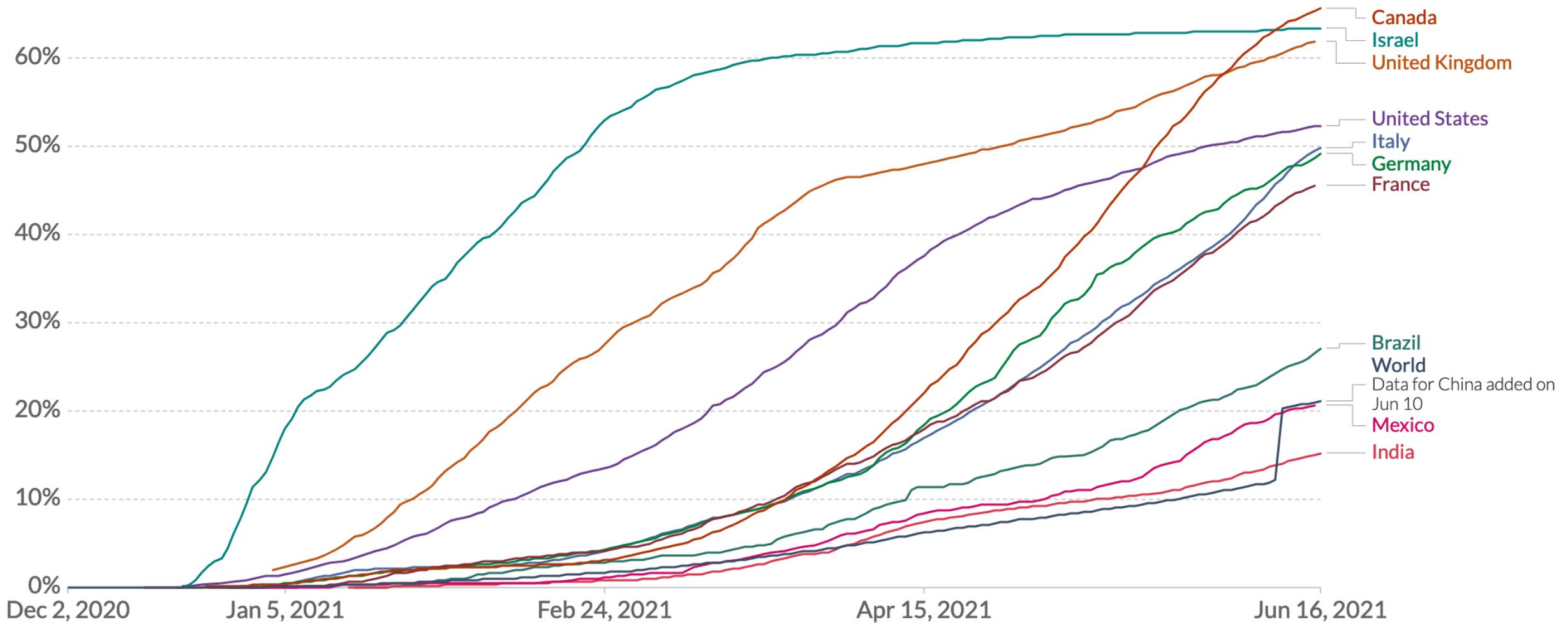
[https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/i\\_get\\_astrazeneca\\_for\\_my\\_first\\_dose\\_which\\_vaccine\\_is\\_best\\_for\\_my\\_second\\_1\\_pager.pdf](https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/i_get_astrazeneca_for_my_first_dose_which_vaccine_is_best_for_my_second_1_pager.pdf)

[https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/i\\_get\\_astrazeneca\\_for\\_my\\_first\\_dose\\_which\\_vaccine\\_should\\_i\\_get\\_for\\_my\\_second\\_6\\_pager.pdf](https://uwaterloo.ca/pharmacy/sites/ca.pharmacy/files/uploads/files/i_get_astrazeneca_for_my_first_dose_which_vaccine_should_i_get_for_my_second_6_pager.pdf)

# Share of people who received at least one dose of COVID-19 vaccine

Share of the total population that received at least one vaccine dose. This may not equal the share that are fully vaccinated if the vaccine requires two doses.

**LINEAR** LOG



Source: Official data collated by Our World in Data

CC BY

▶ Dec 2, 2020



Jun 16, 2021



## **Dr. Nisha Thampi– Panelist**

**Twitter: @NishaOttawa**

Pediatric Infectious Disease Physician, IPAC Medical Director, Children's Hospital of Eastern Ontario (CHEO)



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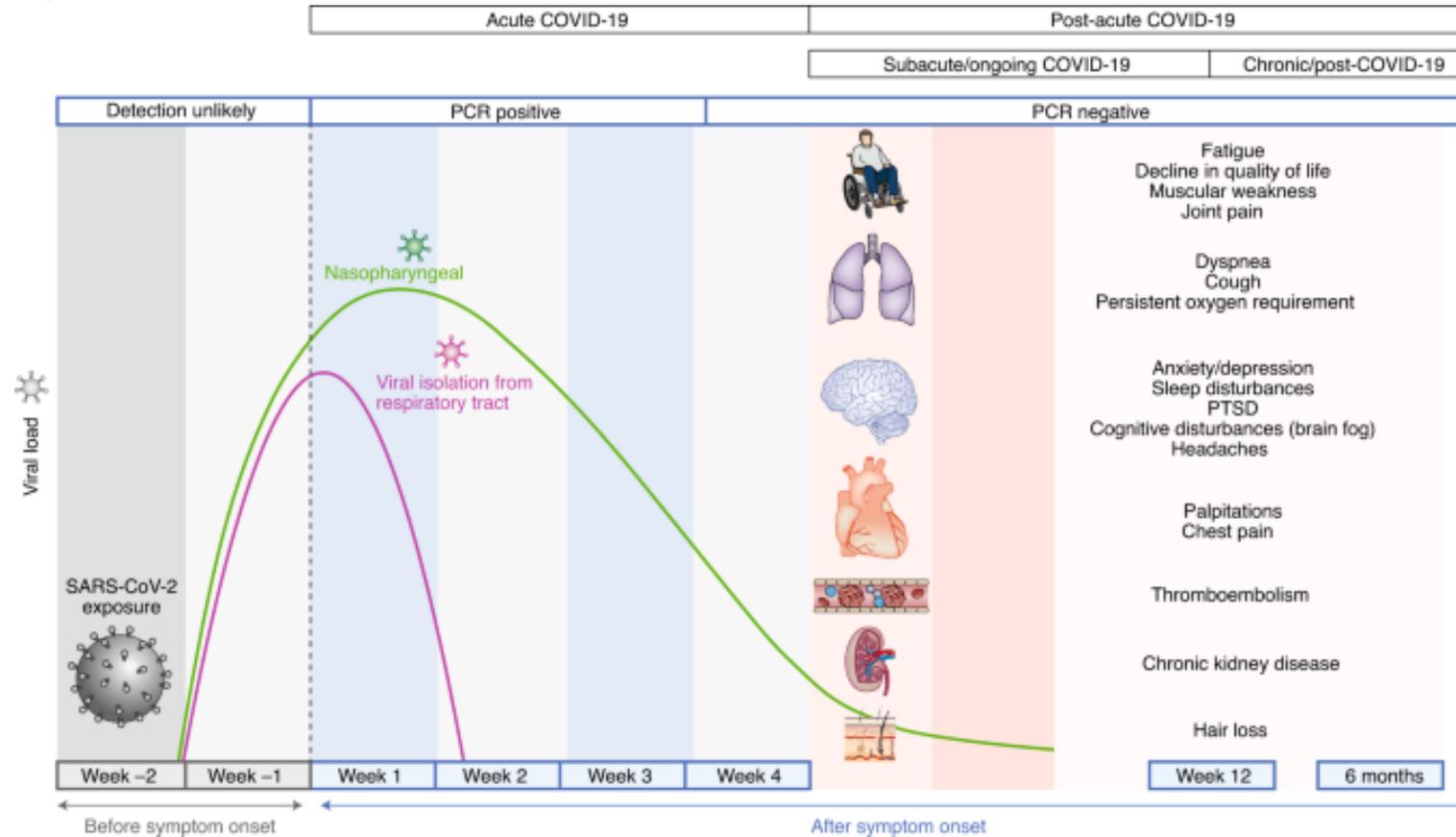
OCFP President, Family Physician, Bruyère Family Health Team

# Pediatric SARS-CoV-2 infection in Ontario

- At least 1/3 of children have asymptomatic infection, nearly 50% will have only 1 symptom reported
- Much lower proportions of severe outcomes

	< 18 yo	>= 18 yo
Hospitalizations	0.5%	5.6%
ICU admissions	0.1%	1.0%
Deaths	1	7,249

# Post-acute COVID-19 in children and youth



Nalbandian Nat Med 2021. Post-acute COVID-19 syndrome

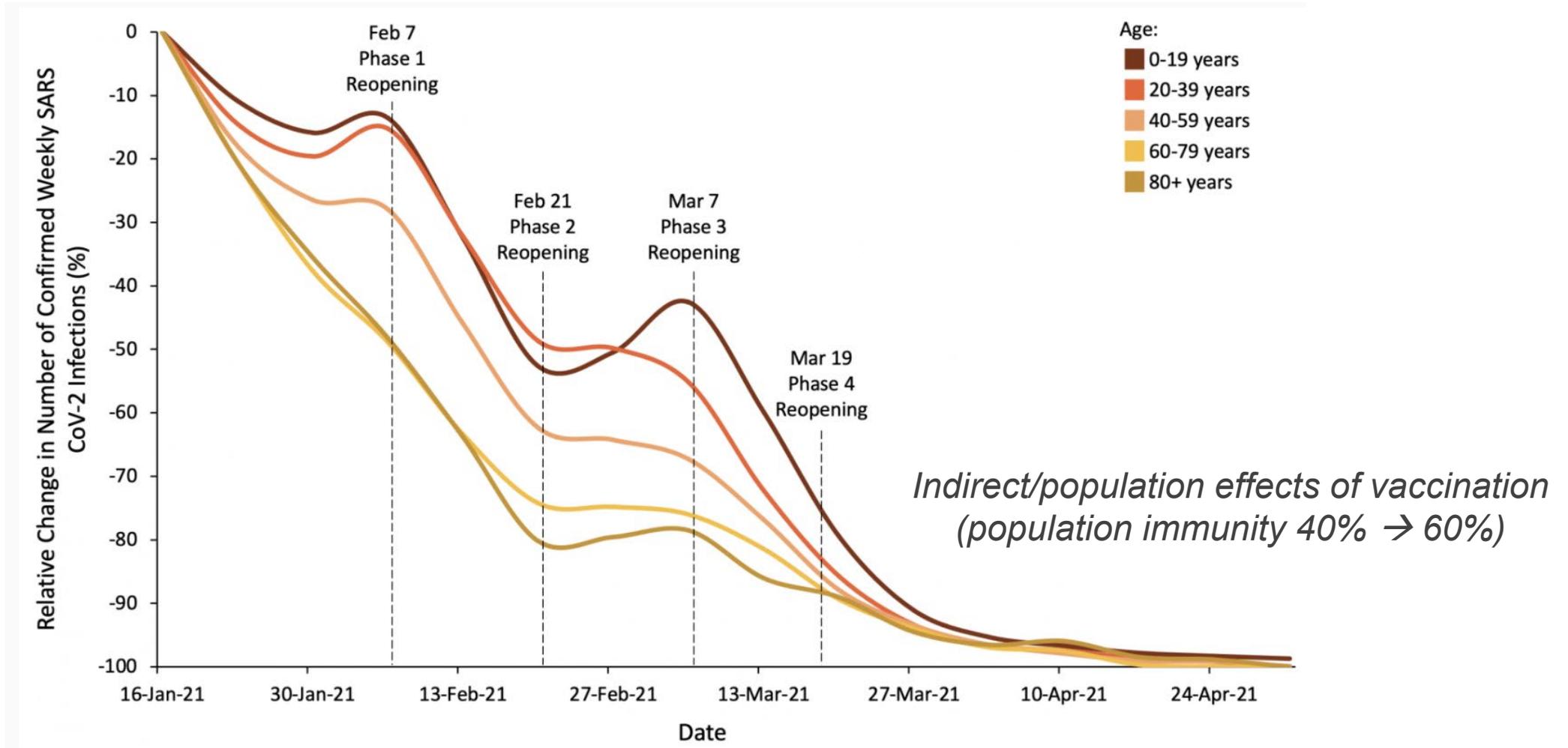
CDC. [Key Points | Evaluating and Caring for Patients with Post-COVID Conditions | CDC](#)

PHO. Pediatric Post-acute COVID-19 and Multisystem Inflammatory Syndrome in Children (MIS-C) – What We

# Multisystem Inflammatory Syndrome in Children (MIS-C)

- Post-viral hyperinflammatory condition affecting multiple organ systems
- Incidence ~ 2:100,000 cases
- Most common symptoms:
  - persistent fever
  - Acute GI symptoms
  - Cardiovascular symptoms
  - Conjunctivitis, rash, oral cavity changes and swelling in arms and legs ~ KD
- ICU admission in 80% of cases
- Higher risk groups:
  - Black children
  - Aged 6-12 years
  - Low SES

# Adult immunization protects children



Milman Nat Med 2021. Community-level evidence for SARS-CoV-2 vaccine protection of unvaccinated individuals

<https://covid19-sciencetable.ca/sciencebrief/lessons-learned-from-israels-reopening-during-a-nationwide-covid-19-vaccination-campaign/>

# Vaccines in children and youth

- Goals: Control spread + prevent illness and severe complications
- Vaccines for < 18yo:
  - Pfizer-BioNTech: 30-microgram dose, 21-day interval in 12+
  - Moderna: Approval pending for 12+
- Trial: Europe and US
  - 5-11 yo: 10-microgram dose (1/3 youth dose)
  - 6 months-5 years: 3-microgram dose

Fall report on safety and immune response?

# Myocarditis after mRNA vaccine

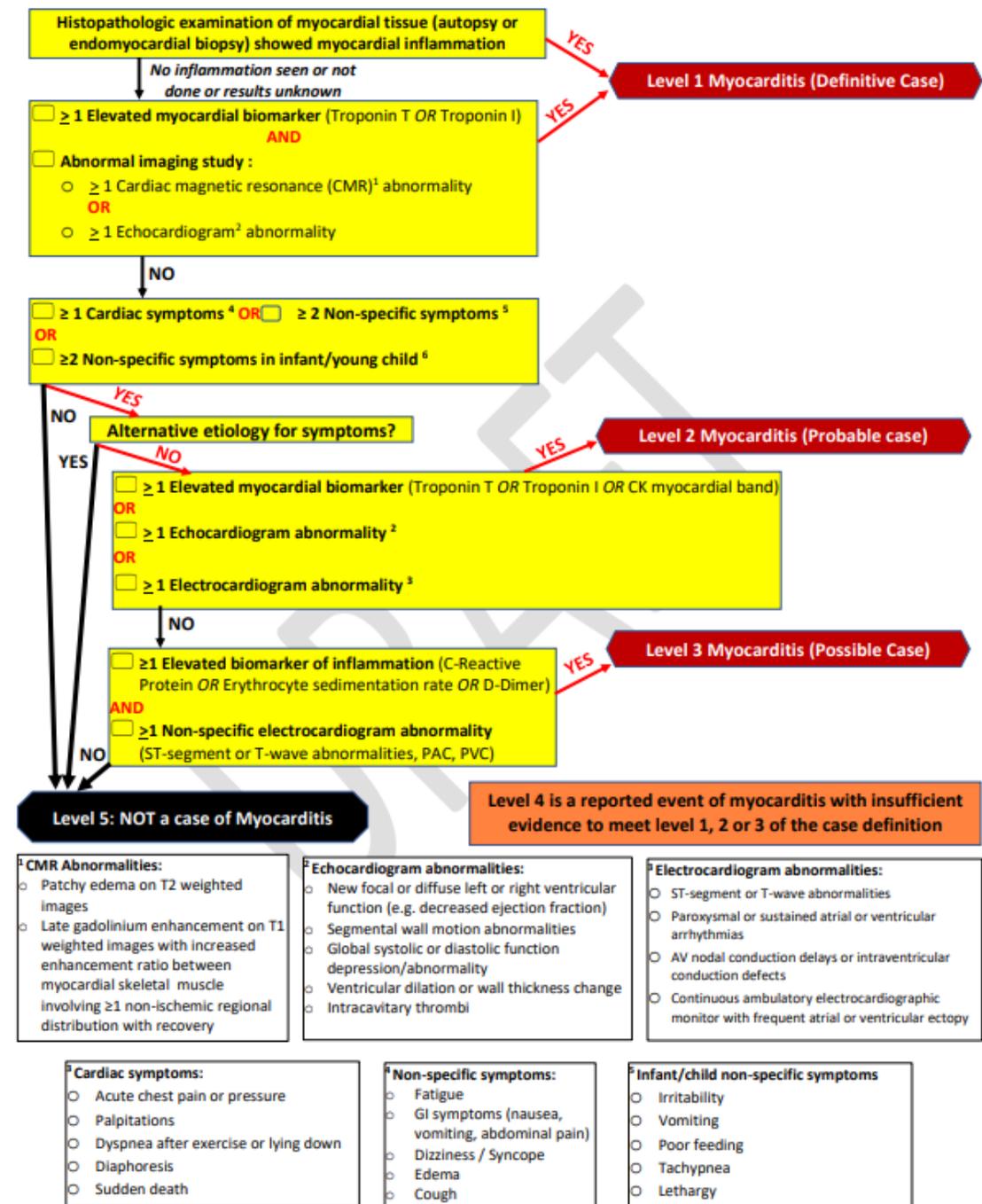
- Adverse event of special interest following mRNA vaccine
- Initially reported in Israel, United States
  - Adolescents/young adults > older adults
  - M > F
  - After 2<sup>nd</sup> dose of an mRNA vaccine
  - Within 4 days post-immunization
- Canada: 35 reports (June 4)
- Ontario: 19 reports in 15-78 yo (median 32 years)
  - 4 in <18 yo, none hospitalized

# Myocarditis/pericarditis: what to look for

- shortness of breath
- chest pain
- palpitations

## Brighton Collaboration

- ECG
- Troponins
- Echocardiogram



# Follow-up

- Generally self-resolving; symptomatic relief with NSAIDS
- No known cases associated with MIS-C following vaccination
- **Anticipate further guidance** about 2<sup>nd</sup> dose and interval
  - Consider referral to Special Immunization Clinics if adverse event following 1<sup>st</sup> dose to assist families with decisions about 2<sup>nd</sup> dose
  - ACIP and NACI meetings next week



# COVID-19 Vaccines for Ontario Youth

Let's get kids back to being kids

Sele

# CPS COVID-19 Vaccination in Children

The screenshot displays the Canadian Paediatric Society (CPS) website. At the top left is the CPS logo, a stylized figure with arms raised, and the text "Canadian Paediatric Society". To the right of the logo is the tagline "A home for paediatricians. A voice for children and youth." and a search bar with a "SEARCH" button. Below the tagline is a navigation menu with tabs for "Policy & Advocacy", "Clinical Practice", "Professional Education", "News & Publications", "Programs", "Membership", and "About the CPS".

The main content area shows a breadcrumb trail: "HOME / CLINICAL PRACTICE / POSITION STATEMENTS AND... / COVID-19 VACCINE FOR...". Below this is the title "POSITION STATEMENT" and "COVID-19 vaccine for children". To the right of the title is a share count of "1429 shares" and social media icons for Twitter, Facebook, LinkedIn, Email, and Print. The post is dated "Posted: May 21, 2021".

The text of the position statement begins with: "The Canadian Paediatric Society gives permission to print single copies of this document from our website. For permission to reprint or reproduce multiple copies, please see our copyright policy." Below this is a box for the "Principal author(s)" which lists "Dorothy L. Moore; Canadian Paediatric Society, Infectious Diseases and Immunization Committee".

The main body of text states: "The most substantial effects of the coronavirus disease 2019 (COVID-19) pandemic on children have related more to disruptions in educational, physical, and social activities than direct viral effects. Nonetheless, there have been small numbers of cases of severe COVID-19 and COVID-19-associated multisystem inflammatory syndrome that have caused significant direct morbidity. Vaccination against COVID-19 is now available in Canada for children and adolescents aged 12 years and over. The Canadian Paediatric Society advocates for the vaccination of all children and adolescents aged 12 years and over to begin as soon vaccine supplies permit."

Information on COVID-19 vaccines for children and adolescents will be updated in this document as data become available.

At the bottom of the article is the heading "COVID-19 and children".

On the right side of the page, there are two sections: "In this section" and "Related information". The "In this section" section includes links for "Position Statements and Practice Points", "Most current statements and practice points", "Search by topic", and "About CPS position statements". The "Related information" section includes a link for "Infectious Diseases and Immunization Committee". Below these sections are two green buttons: "STATEMENTS AND PRACTICE POINTS" and "PAEDIATRICS & CHILD HEALTH".

<https://www.cps.ca/en/documents/position/covid-19-vaccine-for-children>

# Healthy Debate: When will your children be vaccinated?

healthydebate

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Article

Jun 17, 2021 by Miranda Caley

## When will your children be vaccinated? An update on COVID-19 vaccines for kids

AUTHOR

1 Comment

Share on:



**Miranda Caley**  
Editorial Intern

<https://healthydebate.ca/2021/06/topic/covid-19-vaccines-for-kids/>

# CEP Youth Mental Health Tool

Providers

## Management of Youth and Young Adult Mood Disorders (Anxiety and Depression) During COVID-19

Youth's self-rating of mental health has dropped by approximately 20% during the COVID-19 pandemic.<sup>1</sup> This resource will guide primary care providers on how to adapt usual practices for managing youth and young adults with anxiety and depression during the pandemic. Since the care of these patients has not changed significantly, this tool is intended to supplement the [CEP's Youth Mental Health Tool \(2017\)](#).<sup>2</sup>

**In case of an emergency**

- Ensure that you know the patient's location in case you need to call your local emergency number.
- Encourage your patients to contact their [local crisis line](#) for emotional support, crisis intervention, and suicide prevention.<sup>3</sup>
- To complete Form 1 via telephone or video, consult [COVID-19 and the Mental Health Act](#).<sup>4</sup>

**How to conduct virtual visits and when to see patients in-person**

<b>Patient preferences and privacy</b>	<ul style="list-style-type: none"> <li>Ask your patient which virtual modalities they prefer using. See the CEP's resource: <a href="#">Enhancing Management of Chronic Conditions Using Virtual Care During COVID-19</a>.<sup>5,6</sup></li> <li>Confirm access to private space and ensure that the only people present are those that your patient wishes to be.<sup>5,7</sup></li> <li>Inquire if your patient would prefer having a family member or trusted individual present</li> <li>Determining if a <a href="#">youth is a mature minor</a> can be done virtually using routine practices.<sup>2</sup></li> </ul>
<b>Strengthen the patient-provider relationship</b>	<ul style="list-style-type: none"> <li>Acknowledge that meeting over video/phone can feel awkward/uncomfortable.<sup>6</sup></li> <li>Leave a pause after your patient answers questions, so you do not disrupt their thinking.<sup>6</sup></li> <li>See additional <a href="#">Tips for practicing patient-centred virtual care</a>.<sup>5</sup></li> </ul>
<b>Patients to see in-person</b>	<ul style="list-style-type: none"> <li>New patients or patients who you have not seen in person for an extended time.</li> <li>Patients who have privacy and confidentiality concerns at home.</li> <li>Patients who present with concerning sudden weight loss, psychosis, or other medical conditions.</li> <li>Patients who are more complex.</li> </ul>

**Tips for Providing Care During COVID-19**

Screening, diagnosis and prescribing therapy	Provider Information and resources	Patient resources
<ul style="list-style-type: none"> <li>Continue screening, diagnosing, and prescribing therapy as per usual practice (see CEP's resource: <a href="#">Youth Mental Health</a>).<sup>2</sup></li> <li>Consider sending screeners (e.g., PHQ-9, AUDIT-10, GAD7) in advance when possible. See the <a href="#">Virtual care during COVID-19 resource</a>.<sup>3</sup></li> <li>Consider directing patients to online counseling services (e.g., CBT) or referring to <a href="#">Bounceback</a>.<sup>8</sup></li> <li>Timing of follow-ups should follow usual practice and can be conducted virtually.</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">MindReacon</a><sup>9</sup> (online CBT)</li> <li><a href="#">AbilitiCBT</a><sup>10</sup> (online CBT age 16+)</li> <li><a href="#">E-Couch</a><sup>11</sup> (online CBT)</li> <li><a href="#">Medication and YOUth</a><sup>12</sup> (SSRI info for youth)</li> </ul>	
<ul style="list-style-type: none"> <li>Empathize about deviating from routine during the pandemic, and remind patients that getting back to basics is important for mental health:                             <ul style="list-style-type: none"> <li>Proper sleep is 8-10 hrs for &lt;18 or 7+ hrs for ≥ 18</li> <li>Patients can learn to cook healthy meals as a fun activity</li> <li>Exercise can be indoors, or outdoors if following public health guidance<sup>13</sup></li> <li>Socializing can occur via video chatting, online games, phone, or text<sup>14</sup></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Coping with stress and anxiety</a><sup>15</sup></li> <li><a href="#">ParticipACTION workouts</a><sup>16</sup></li> <li><a href="#">HeadSpace</a><sup>17</sup> (Meditation app - fees may be charged to unlock all features)</li> <li><a href="#">Calm</a><sup>18</sup> (Meditation app - fees may be charged to unlock all features)</li> </ul>	
<ul style="list-style-type: none"> <li>Socializing virtually is possible for many, and the safest approach. If patients feel the need to socialize in person, encourage them to follow public health guidance.</li> <li>Consider providing tips for harm reduction.<sup>19</sup></li> </ul>	<ul style="list-style-type: none"> <li><a href="#">COVID-19 Harm Reduction Tips</a><sup>19</sup></li> </ul>	
<ul style="list-style-type: none"> <li>Continue to provide trauma-informed care, as the pandemic may be associated with new or exacerbated grief, loss, and trauma.<sup>20</sup></li> <li>See <a href="#">Trauma-informed Practices for Children and Families during the COVID-19 Pandemic</a>.<sup>20</sup> Refer to <a href="#">p.12 for a list of common responses to trauma</a>.<sup>20</sup></li> </ul>	<ul style="list-style-type: none"> <li><a href="#">List of trauma programs</a><sup>21</sup></li> <li><a href="#">Psychology Today: locate trauma and PTSD therapists in Ontario</a><sup>22</sup></li> </ul>	

June 2021
[cep.health](#)
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<https://tools.cep.health/tool/management-of-youth-and-young-adult-mood-disorders-anxiety-and-depression-during-covid-19/>

# SARS-CoV-2 variants of concern and variants under investigation in England

## Technical briefing 15

11 June 2021

This briefing provides an update on previous **briefings** up to 3 June 2021

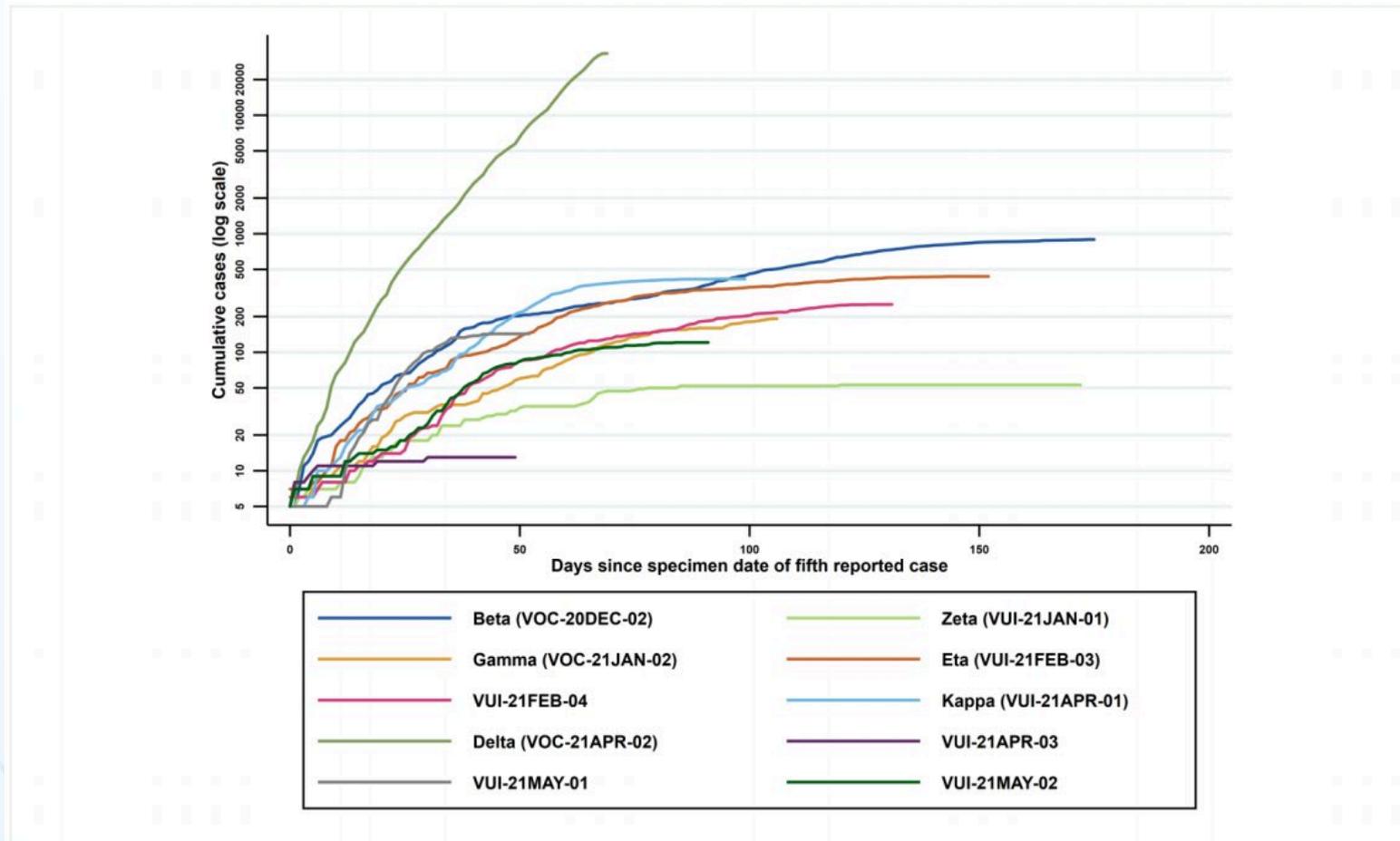


[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/993198/Variants\\_of\\_Concern\\_VOC\\_Technical\\_Briefing.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/993198/Variants_of_Concern_VOC_Technical_Briefing.pdf)

# Growth of Delta in UK

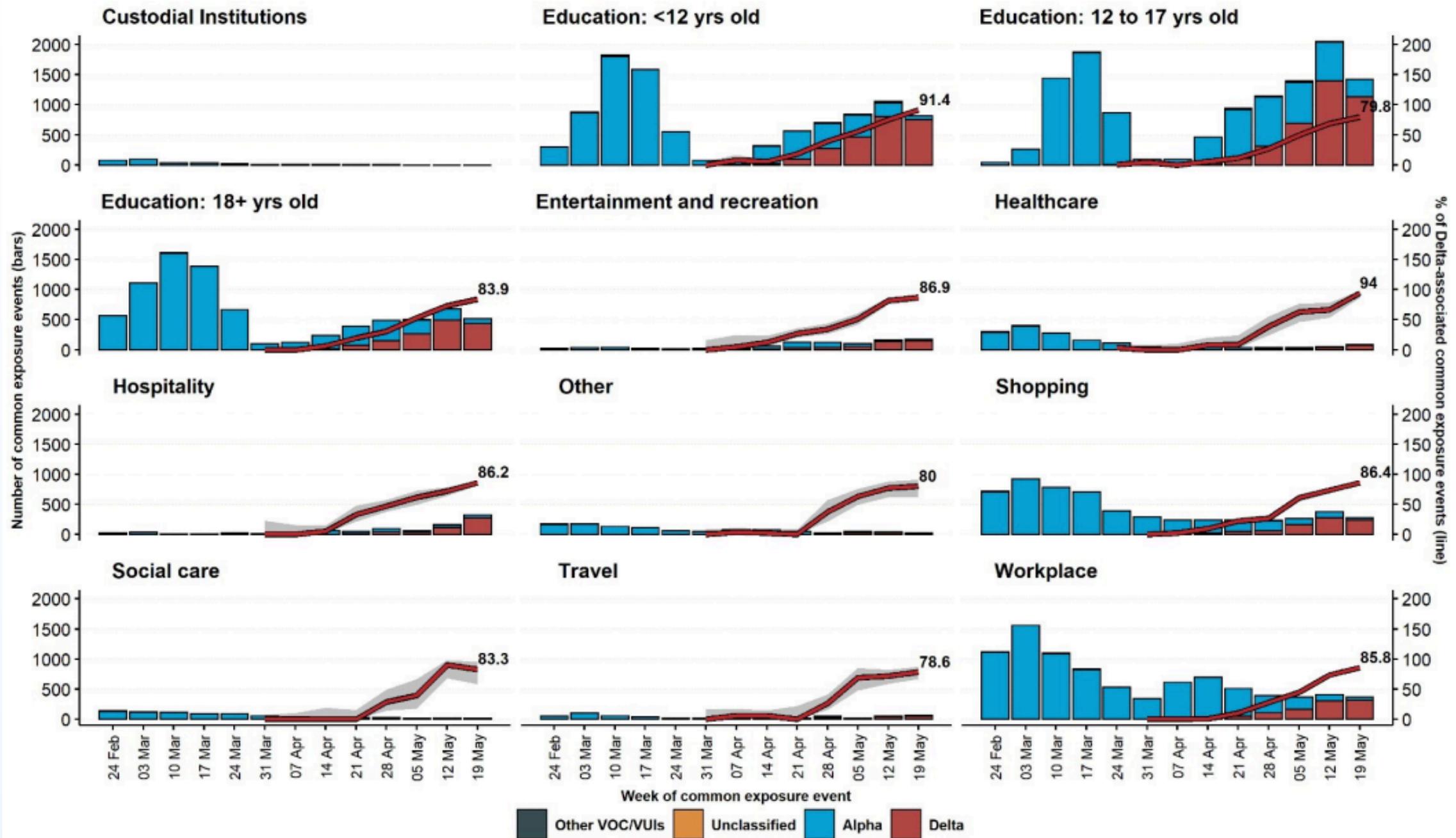
**Figure 2. Cumulative cases in England of variants indexed by days since the fifth reported, data as of 7 June 2021**  
(Find accessible data used in this graph in [underlying data](#)).

Figure 2 demonstrates the rapid identification of Delta cases over a short period of time.



# Delta more transmissible, causes more severe infection than Alpha

- Transmissibility
  - England: OR=1.64 (95%CI, 1.26-2.13)
- Severity (hospitalization):
  - England: HR=2.26 (95%CI, 1.32-3.89)
  - Scotland: HR=1.85 (95%CI, 1.39-2.47)



# Vaccine effectiveness against Delta

	Symptomatic infection		Hospitalization	
	Alpha	Delta	Alpha	Delta
<b>Pfizer</b>				
Dose 1	49 (42-55)	33 (8-51)	83 (62-93)	94 (46-99)
Dose 2	93 (90-96)	88 (78-93)	95 (78-99)	96 (86-99)
<b>AstraZeneca</b>				
Dose 1	51 (47-55)	33 (19-44)	76 (61-85)	71 (51-83)
Dose 2	66 (54-75)	60 (29-77)	86 (53-96)	92 (75-97)



# VE of mRNA vaccines in Ontario

<https://www.medrxiv.org/content/10.1101/2021.05.24.21257744v1>

**medRxiv**

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## Effectiveness of BNT162b2 and mRNA-1273 COVID-19 vaccines against symptomatic SARS-CoV-2 infection and severe COVID-19 outcomes in Ontario, Canada

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Posted May 28, 2021.

Hannah Chung, Siyi He, Sharifa Nasreen, Maria E. Sundaram, Sarah A. Buchan, Sarah E. Wilson, Branson Chen, Andrew Calzavara, Deshayne B. Fell, Peter C. Austin, Kumanan Wilson, Kevin L. Schwartz, Kevin A. Brown, Jonathan B. Gubbay, Nicole E. Basta, Salaheddin M. Mahmud, Christiaan H. Righolt, Lawrence W. Svenson, Shannon E. MacDonald, Naveed Z. Janjua, Mina Tadrous, Jeffrey C. Kwong

doi: <https://doi.org/10.1101/2021.05.24.21257744>

**This article is a preprint and has not been certified by peer review [what does this mean?]. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.**

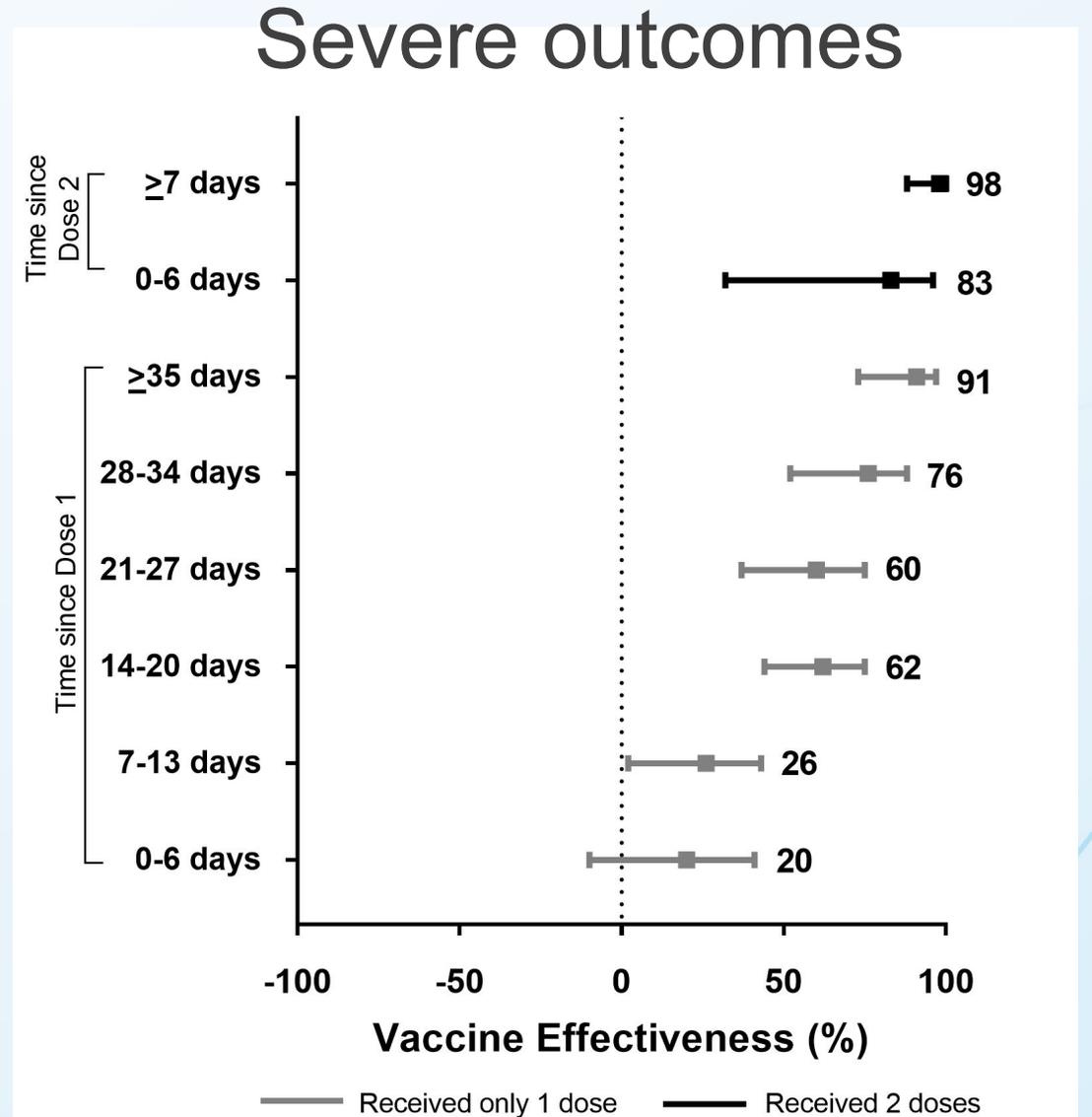
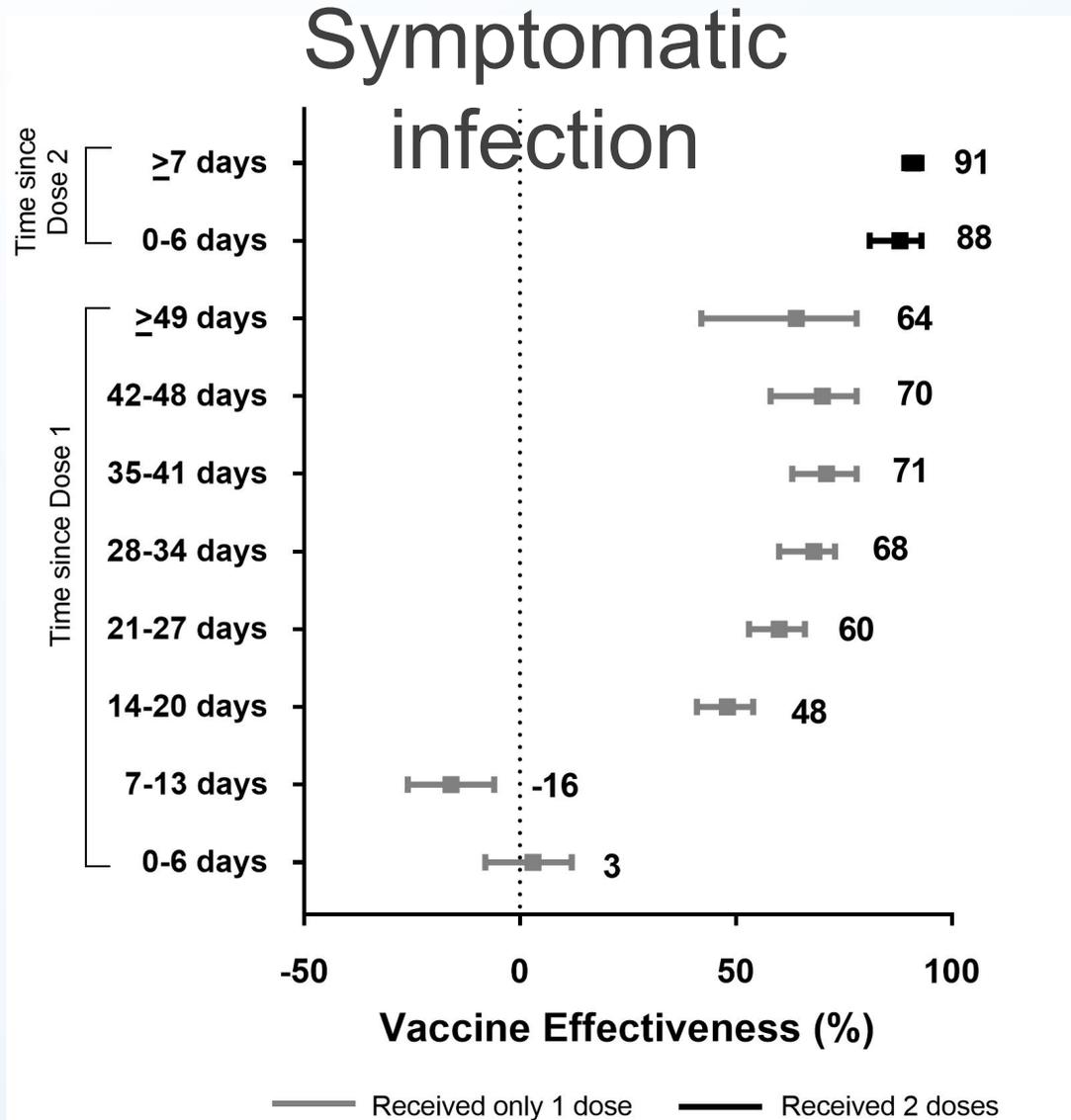
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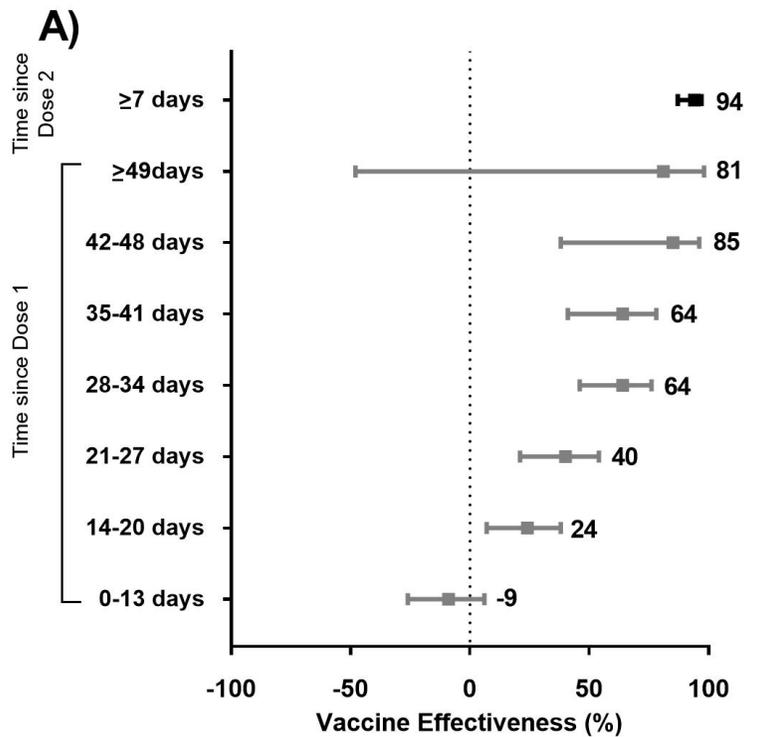
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# VE by dose and time

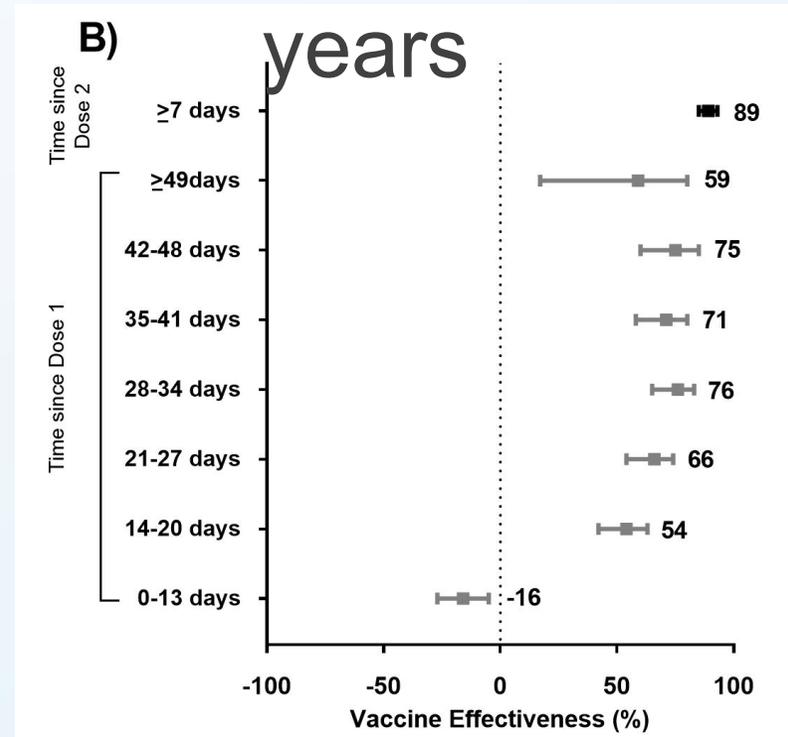


# VE against symptomatic infection, stratified by age group

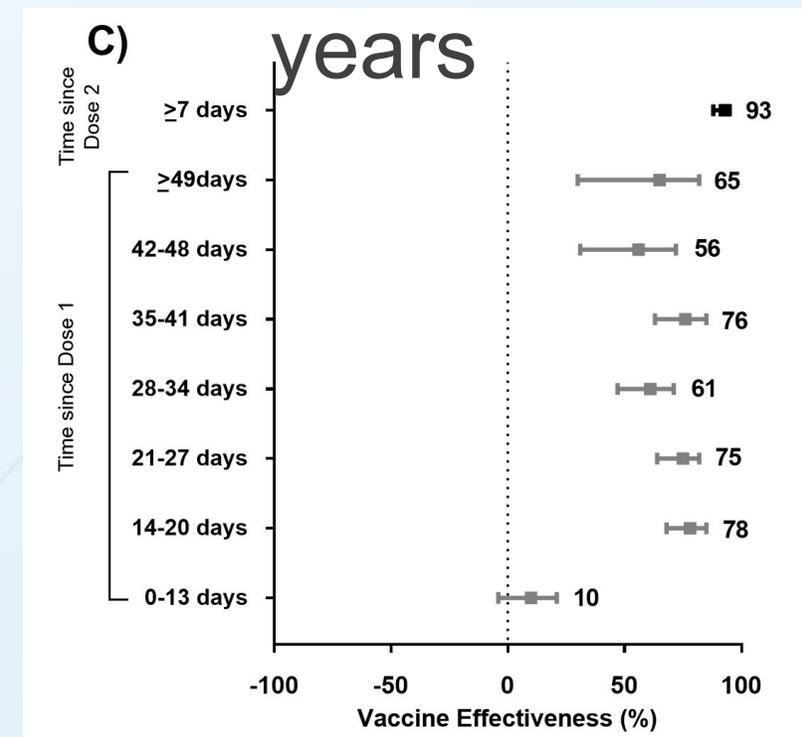
≥70 years



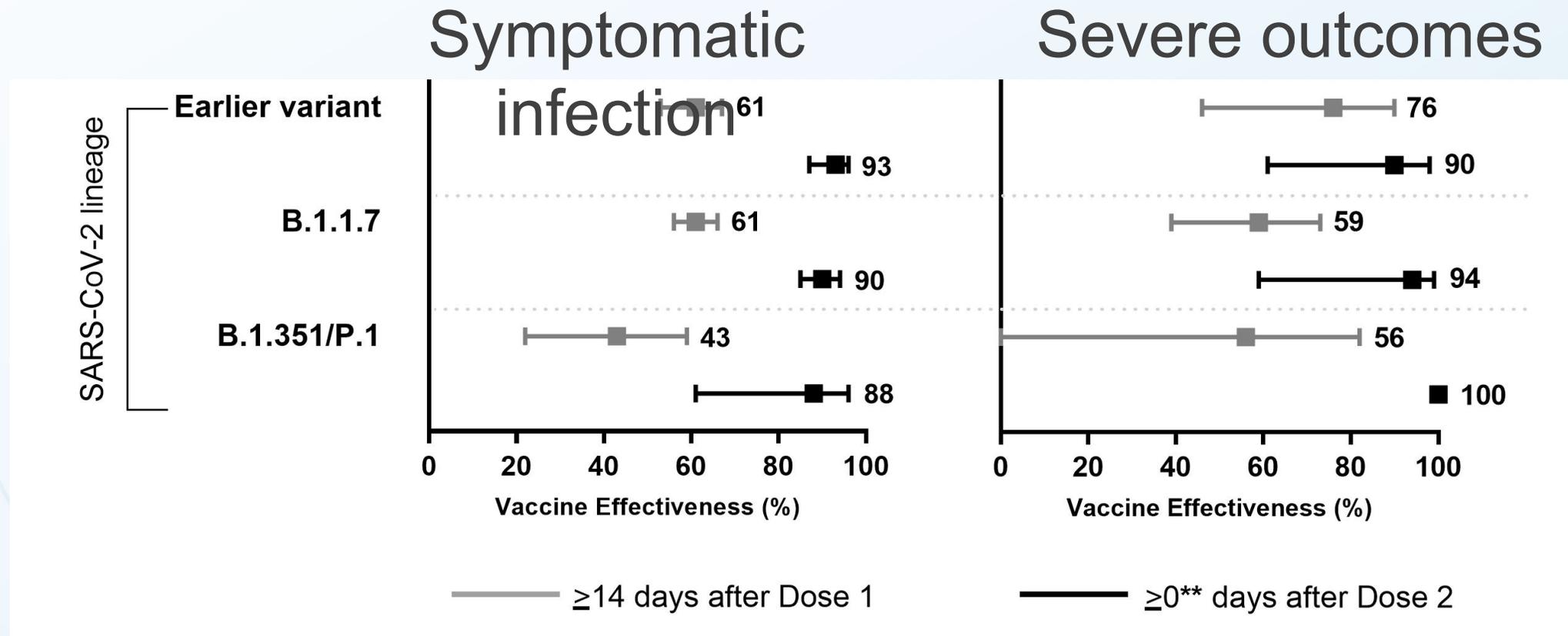
40-69 years



16-39 years



# VE against variants of concern

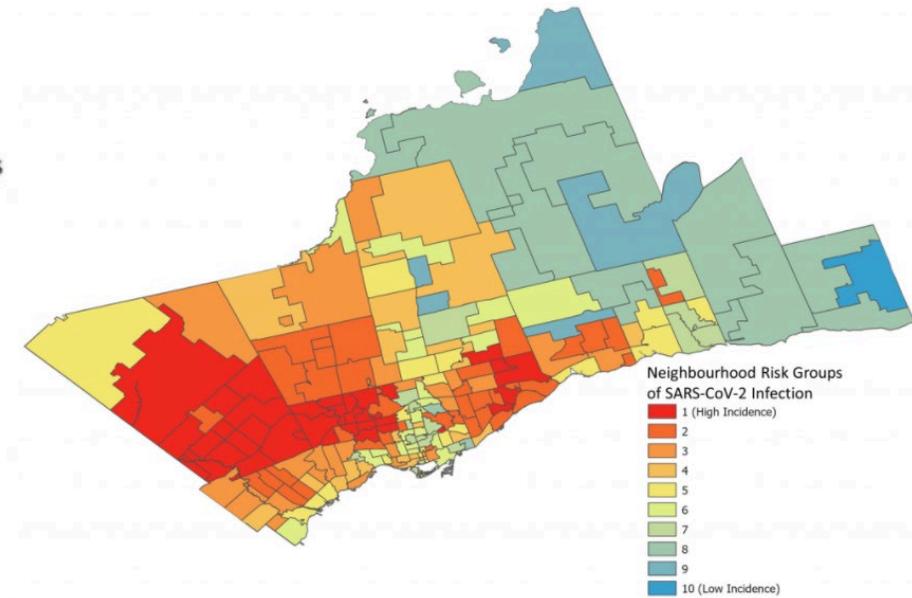
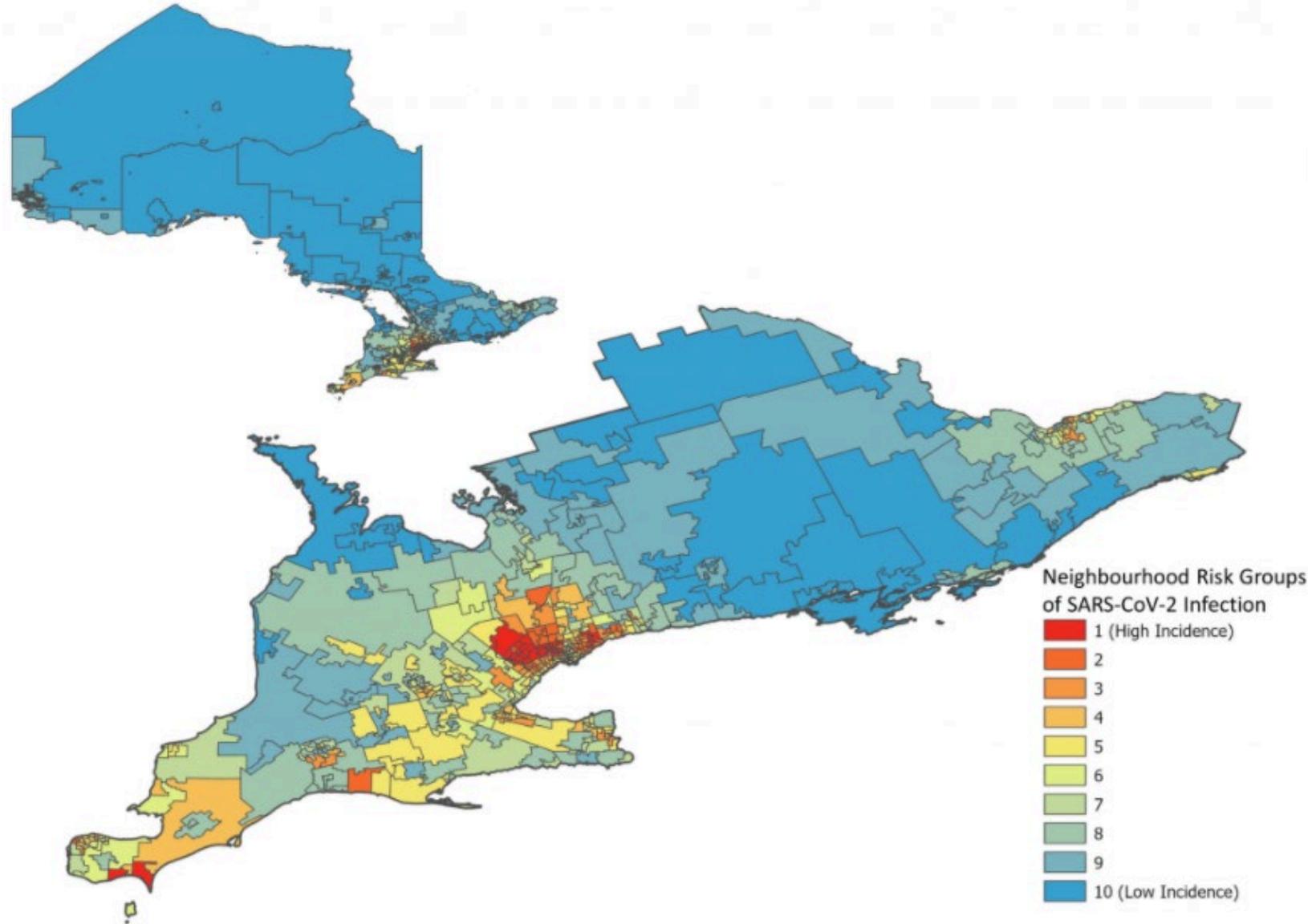


Category: [Health Equity & Social Determinants of Health](#)

## A Strategy for the Mass Distribution of COVID-19 Vaccines in Ontario Based on Age and Neighbourhood

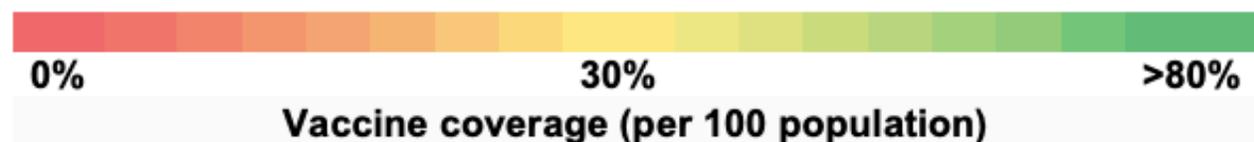
Kevin A. Brown, Nathan M. Stall, Eugene Joh, Upton Allen, Isaac I. Bogoch, Sarah A. Buchan, Nick Daneman, Gerald A. Evans, David N. Fisman, Jennifer L. Gibson, Jessica Hopkins, Trevor Van Ingen, Antonina Maltsev, Allison McGeer, Sharmistha Mishra, Fahad Razak, Beate Sander, Brian Schwartz, Kevin Schwartz, Arjumand Siddiqi, Janet Smylie, Peter Juni on behalf of the Ontario COVID-19 Science Advisory Table

Version 1.1 | <https://doi.org/10.47326/ocsat.2021.02.10.1.0>



Percentage of Ontarians who have received at least 1 dose of a COVID-19 vaccine (vaccine coverage) as of June 13, 2021\* by age group and neighbourhood COVID-19 infection risk

Age group	Neighbourhood Risk <sup>‡</sup>										Overall
	1 = high incidence of COVID-19 infections					10 = low incidence of COVID-19 infections					
	1	2	3	4	5	6	7	8	9	10	
80+	77%	79%	81%	83%	84%	85%	86%	87%	89%	89%	84%
75-79	79%	82%	83%	85%	86%	87%	87%	88%	89%	89%	86%
70-74	79%	82%	82%	84%	85%	86%	86%	87%	88%	87%	85%
65-69	80%	81%	81%	82%	83%	84%	84%	85%	86%	84%	83%
60-64	81%	82%	81%	80%	82%	82%	83%	83%	83%	82%	82%
55-59	79%	80%	78%	77%	79%	79%	79%	80%	79%	76%	78%
50-54	77%	78%	75%	73%	76%	76%	76%	77%	74%	71%	75%
45-49	75%	75%	73%	71%	73%	73%	74%	74%	71%	66%	72%
40-44	71%	71%	69%	67%	70%	70%	71%	70%	67%	62%	69%
16-39	69%	69%	67%	62%	64%	63%	64%	61%	55%	53%	63%
12-15	46%	50%	48%	45%	49%	49%	48%	43%	34%	38%	45%
<b>Overall (12+)</b>	<b>72%</b>	<b>74%</b>	<b>72%</b>	<b>70%</b>	<b>72%</b>	<b>72%</b>	<b>73%</b>	<b>72%</b>	<b>70%</b>	<b>69%</b>	<b>71%</b>



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Change in COVID-19 vaccine coverage (at least 1 dose) by age group and neighbourhood COVID-19 infection risk from June 7, 2021 to June 13, 2021\*

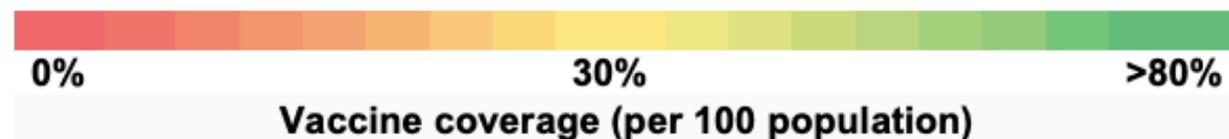
Age group	Neighbourhood Risk <sup>‡</sup>										Overall
	1 = high incidence of COVID-19 infections					10 = low incidence of COVID-19 infections					
	1	2	3	4	5	6	7	8	9	10	
80+	1%	1%	1%	1%	1%	1%	1%	1%	0%	0%	1%
75-79	1%	1%	1%	1%	1%	1%	1%	1%	0%	1%	1%
70-74	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
65-69	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
60-64	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%
55-59	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%
50-54	2%	3%	3%	3%	3%	3%	3%	2%	3%	3%	3%
45-49	2%	3%	3%	3%	3%	3%	4%	4%	5%	5%	4%
40-44	2%	2%	3%	3%	3%	3%	4%	5%	5%	5%	3%
16-39	3%	3%	4%	5%	5%	5%	5%	6%	7%	7%	5%
12-15	6%	5%	9%	11%	12%	13%	16%	16%	15%	14%	11%
<b>Overall (12+)</b>	<b>3%</b>	<b>2%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>3%</b>



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Percentage of Ontarians who are fully vaccinated as of June 13, 2021<sup>‡</sup> by age group and neighbourhood COVID-19 infection risk

Age group	Neighbourhood Risk <sup>‡</sup>										Overall
	1 = high incidence of COVID-19 infections					10 = low incidence of COVID-19 infections					
	1	2	3	4	5	6	7	8	9	10	
80+	50%	51%	53%	48%	48%	49%	46%	42%	34%	35%	45%
75-79	32%	37%	38%	32%	34%	31%	28%	27%	22%	20%	29%
70-74	30%	37%	34%	29%	32%	28%	26%	26%	21%	17%	27%
65-69	21%	26%	22%	19%	21%	19%	18%	17%	14%	12%	18%
60-64	24%	29%	26%	22%	23%	21%	21%	19%	15%	18%	22%
55-59	15%	19%	15%	13%	13%	12%	12%	11%	11%	11%	13%
50-54	15%	19%	14%	12%	12%	11%	11%	10%	11%	11%	13%
45-49	11%	15%	10%	10%	11%	10%	10%	10%	10%	11%	11%
40-44	10%	11%	9%	9%	10%	9%	9%	9%	10%	10%	10%
16-39	8%	8%	7%	7%	8%	7%	7%	7%	8%	8%	7%
12-15	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Overall (12+)</b>	<b>14%</b>	<b>17%</b>	<b>15%</b>	<b>14%</b>	<b>14%</b>	<b>14%</b>	<b>14%</b>	<b>13%</b>	<b>12%</b>	<b>13%</b>	<b>14%</b>



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Change in COVID-19 vaccine coverage (fully vaccinated) by age group and neighbourhood COVID-19 infection risk from June 7, 2021 to June 13, 2021\*

Age group	Neighbourhood Risk <sup>‡</sup>										Overall
	1 = high incidence of COVID-19 infections					10 = low incidence of COVID-19 infections					
	1	2	3	4	5	6	7	8	9	10	
80+	15%	14%	16%	16%	16%	16%	18%	15%	14%	16%	16%
75-79	22%	24%	25%	22%	21%	18%	18%	18%	14%	12%	19%
70-74	21%	24%	23%	20%	21%	18%	17%	17%	14%	11%	18%
65-69	14%	17%	14%	12%	13%	12%	11%	10%	7%	6%	11%
60-64	13%	14%	13%	11%	11%	9%	9%	8%	6%	6%	10%
55-59	8%	10%	7%	6%	5%	4%	4%	4%	3%	3%	5%
50-54	8%	10%	7%	5%	4%	4%	4%	3%	3%	3%	5%
45-49	5%	7%	4%	3%	3%	3%	3%	3%	3%	3%	4%
40-44	4%	4%	3%	3%	3%	3%	3%	3%	2%	3%	3%
16-39	4%	3%	2%	2%	2%	2%	2%	2%	2%	2%	3%
12-15	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Overall (12+)</b>	<b>7%</b>	<b>8%</b>	<b>7%</b>	<b>6%</b>	<b>6%</b>	<b>6%</b>	<b>6%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>6%</b>



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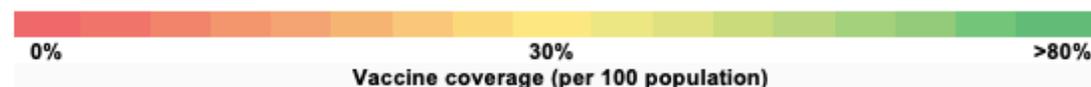
Percentage of Ontarians by immigrant status<sup>5</sup>, who have received at least 1 dose of a COVID-19 vaccine as of June 13, 2021<sup>1</sup> (vaccine coverage) by age group and neighbourhood COVID-19 infection risk<sup>‡</sup>

	Refugees										Overall
	Neighbourhood Risk										
	1 (high)	2	3	4	5	6	7	8	9	10 (low)	
80+	58%	68%	63%	58%	58%	61%	61%	60%	59%	56%	61%
75-79	70%	71%	71%	67%	65%	62%	73%	70%	66%	61%	69%
70-74	73%	76%	68%	63%	65%	64%	66%	66%	67%	51%	69%
65-69	75%	75%	67%	64%	69%	64%	65%	67%	64%	58%	69%
60-64	75%	76%	68%	64%	67%	66%	65%	65%	60%	60%	69%
55-59	74%	76%	67%	65%	67%	65%	65%	65%	61%	66%	69%
50-54	70%	74%	66%	61%	67%	63%	62%	65%	63%	59%	67%
45-49	66%	71%	63%	59%	64%	61%	59%	60%	58%	61%	64%
40-44	60%	66%	59%	54%	60%	56%	58%	55%	54%	55%	59%
16-39	48%	58%	50%	44%	49%	46%	47%	46%	41%	47%	49%
12-15	33%	37%	26%	24%	26%	23%	28%	21%	14%	30%	28%
<b>Overall (12+)</b>	<b>62%</b>	<b>67%</b>	<b>59%</b>	<b>54%</b>	<b>58%</b>	<b>55%</b>	<b>56%</b>	<b>56%</b>	<b>52%</b>	<b>54%</b>	<b>59%</b>

	Other immigrant groups										Overall
	Neighbourhood Risk										
	1 (high)	2	3	4	5	6	7	8	9	10 (low)	
80+	63%	62%	61%	57%	59%	58%	58%	56%	61%	56%	60%
75-79	71%	70%	66%	65%	67%	66%	64%	63%	68%	62%	67%
70-74	73%	73%	71%	68%	71%	69%	67%	68%	65%	68%	71%
65-69	76%	76%	72%	71%	73%	71%	69%	71%	69%	70%	73%
60-64	78%	78%	74%	74%	75%	73%	73%	74%	72%	73%	75%
55-59	77%	78%	74%	73%	75%	72%	71%	74%	72%	71%	75%
50-54	78%	77%	73%	73%	73%	72%	70%	73%	68%	71%	74%
45-49	76%	75%	71%	70%	72%	70%	69%	71%	65%	68%	72%
40-44	73%	71%	67%	66%	68%	67%	66%	67%	62%	66%	69%
16-39	65%	66%	64%	61%	62%	59%	59%	58%	53%	56%	63%
12-15	54%	54%	49%	48%	49%	47%	45%	41%	33%	40%	49%
<b>Overall (12+)</b>	<b>72%</b>	<b>72%</b>	<b>68%</b>	<b>66%</b>	<b>68%</b>	<b>66%</b>	<b>65%</b>	<b>66%</b>	<b>62%</b>	<b>65%</b>	<b>69%</b>

	Recent OHIP registrants										Overall
	Neighbourhood Risk										
	1 (high)	2	3	4	5	6	7	8	9	10 (low)	
80+	62%	60%	62%	62%	67%	65%	70%	67%	83%	79%	66%
75-79	56%	57%	59%	58%	60%	59%	64%	61%	64%	75%	60%
70-74	59%	60%	62%	62%	61%	63%	62%	61%	69%	74%	62%
65-69	63%	62%	62%	62%	61%	65%	63%	65%	70%	73%	64%
60-64	66%	67%	65%	65%	63%	64%	65%	66%	69%	72%	66%
55-59	70%	69%	66%	64%	64%	62%	63%	65%	67%	70%	66%
50-54	70%	68%	67%	64%	63%	64%	64%	64%	65%	59%	65%
45-49	69%	71%	69%	65%	66%	64%	67%	65%	62%	61%	67%
40-44	69%	72%	69%	67%	66%	67%	70%	66%	62%	63%	68%
16-39	67%	68%	67%	63%	64%	61%	65%	60%	57%	58%	64%
12-15	41%	43%	40%	37%	38%	39%	42%	37%	24%	34%	39%
<b>Overall (12+)</b>	<b>66%</b>	<b>67%</b>	<b>66%</b>	<b>62%</b>	<b>63%</b>	<b>61%</b>	<b>64%</b>	<b>60%</b>	<b>58%</b>	<b>60%</b>	<b>64%</b>

	Long-term residents/Canadian-born										Overall
	Neighbourhood Risk										
	1 (high)	2	3	4	5	6	7	8	9	10 (low)	
80+	83%	85%	86%	87%	87%	88%	89%	90%	89%	89%	88%
75-79	84%	86%	87%	88%	89%	89%	90%	90%	90%	89%	89%
70-74	84%	86%	86%	87%	88%	88%	89%	89%	89%	87%	88%
65-69	84%	85%	85%	85%	86%	86%	87%	87%	86%	85%	86%
60-64	84%	85%	85%	83%	84%	84%	85%	85%	84%	82%	84%
55-59	81%	82%	81%	79%	81%	80%	81%	82%	80%	76%	80%
50-54	78%	79%	78%	75%	77%	77%	79%	79%	75%	71%	77%
45-49	75%	76%	75%	72%	74%	74%	76%	75%	71%	66%	73%
40-44	70%	72%	72%	68%	71%	71%	73%	72%	67%	62%	70%
16-39	73%	71%	68%	63%	64%	64%	65%	62%	55%	52%	63%
12-15	46%	51%	49%	46%	50%	50%	49%	44%	34%	38%	45%
<b>Overall (12+)</b>	<b>74%</b>	<b>76%</b>	<b>74%</b>	<b>72%</b>	<b>73%</b>	<b>74%</b>	<b>75%</b>	<b>73%</b>	<b>70%</b>	<b>69%</b>	<b>73%</b>



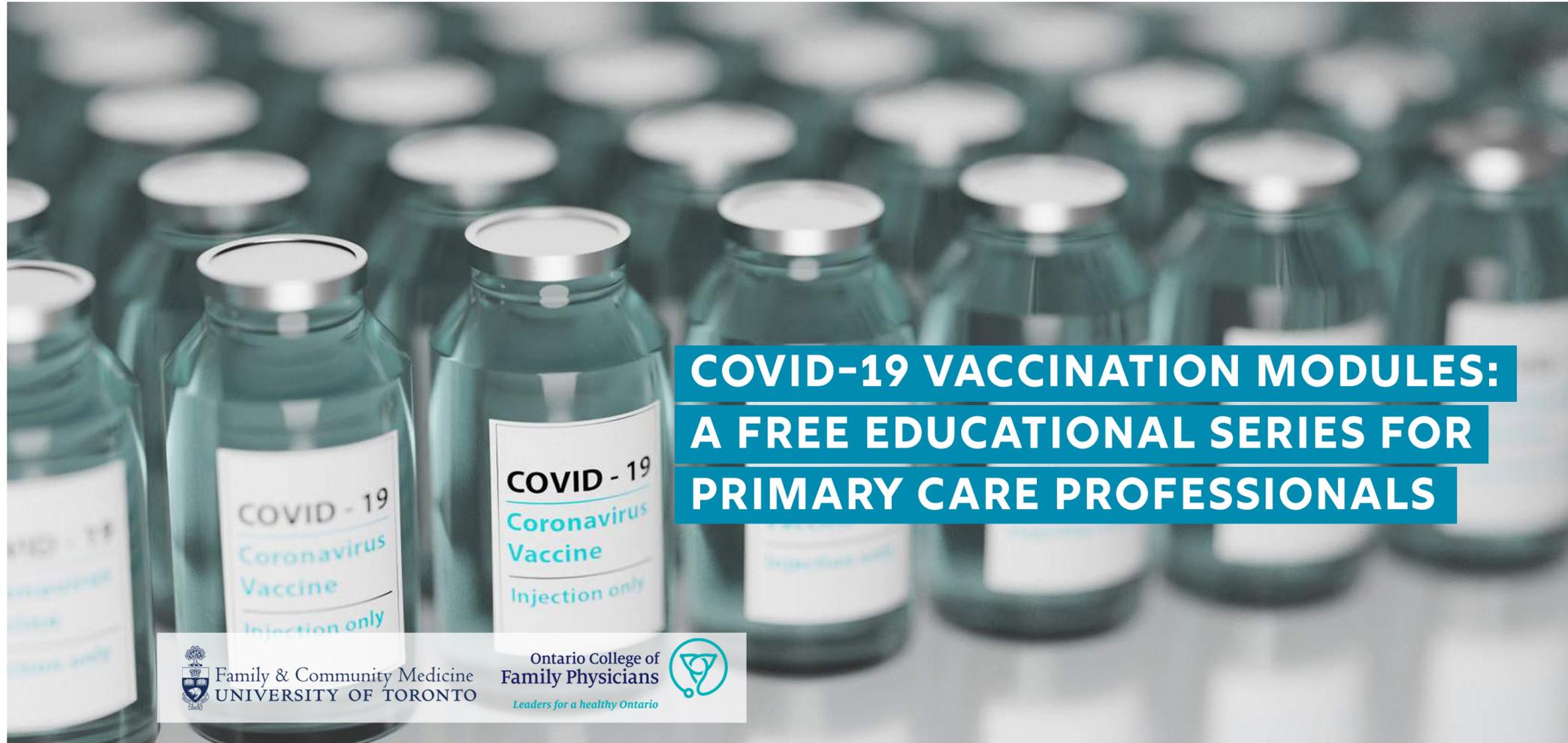
# Vaccination varies by FSA

PHU	FSA	Neighbourhood	Cases/100	Decile	1+ dose	2 doses
Toronto	M3N	Jane & Finch	10.0	1	54%	12%
Toronto	M1V	Agincourt North	3.89	2	74%	14%
Windsor-Essex	N9A	Windsor Centre	3.76	2	50%	12%
Southwestern	N5H	Aylmer	2.84	3	42%	4%
Hamilton	L8L	Landsdale	3.53	4	50%	7%
Toronto	M5B	Ryerson	2.95	4	74%	16%
Eastern Ontario	K6H	Cornwall	2.49	5	48%	7%
Toronto	M8X	The Kingsway	2.18	6	74%	26%
Toronto	M4G	Leaside	1.92	8	73%	23%

# Vaccination varies by FSA

PHU	FSA	Neighbourhood	Cases/100	Decile	1+ dose	2 doses
Toronto	M1V	Agincourt North	3.89	2	74%	14%
Toronto	M8X	The Kingsway	2.18	6	74%	26%
Toronto	M5B	Ryerson	2.95	4	74%	16%
Toronto	M4G	Leaside	1.92	8	73%	23%
Toronto	M3N	Jane & Finch	10.0	1	54%	12%
Windsor-Essex	N9A	Windsor Centre	3.76	2	50%	12%
Hamilton	L8L	Landsdale	3.53	4	50%	7%
Eastern Ontario	K6H	Cornwall	2.49	5	48%	7%
Southwestern	N5H	Aylmer	2.84	3	42%	4%

# COVID-19 Vaccination in Canada: an educational series for primary care professionals



<https://www.dfcu.utoronto.ca/covid19-vaccination-modules>

\* Updated May 17, 2021

# 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: **July 9, 2021 0800**

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

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

This one-credit-per-hour Group Learning program has been certified by the College of Family Physicians of Canada and the Ontario Chapter for up to 1 Mainpro+® credits.

The COVID-19 Community of Practice for Ontario Family Physician includes a series of planned webinars. Each session is worth 1 Mainpro+® credits, for up to a total of 26 credits.

**Post session survey will be emailed to you. Certificates will be emailed in approximately 1 week.**