June 21, 2021

COVID-19 Vaccine Bulletin #28

Vaccine Effectiveness & Novavax

Quick Updates

- Check out Wellington-Dufferin-Guelph's vaccination dashboard. The **total number of doses** administered in Wellington-Dufferin-Guelph (WDG) is **249,660.**
- **SECOND DOSES**:
    - People who have received a first dose of mRNA vaccine on or before **May 9, 2021** and have not been able to book a second a second dose appointment should call the Vaccine Registration and Booking Helpline: **1-844-780-0202 (Mon-Fri, 12-8 pm).**
    - **Starting June 23**, individuals who received their first dose of mRNA vaccine on or before **May 30, 2021** will be eligible to book/re-book their second dose appointment (at least 28 days from first dose). WDGPH will send email/text notifications with booking information to these individuals.
    - Individuals may receive the same mRNA vaccine product (Pfizer or Moderna) as they did for their first dose if it is **readily available**. However, with informed consent, they may choose a different mRNA vaccine product for their second dose.
    - Individuals who had a **first dose of AstraZeneca (AZ)** can choose between a second dose of mRNA **or** AstraZeneca vaccine at an **eight to 12-week interval.** Informed consent that includes the understanding that an mRNA vaccine as a second dose may provide greater protection than AZ-AZ and waiting a longer interval may also provide better protection.
    - Individuals who received a **first dose of AZ** and would like to book a **second dose of mRNA vaccine at a WDGPH clinic** can use the pre-registration system to book their second dose or access an mRNA vaccine through primary care or pharmacy
- There is a **Vaccine Registration and Booking Helpline: 1-844-780-0202 (Mon-Fri, 12-8 pm)** for anyone who has issues registering or booking online.
- Individuals who would like to be on a stand-by list for extra doses of Moderna can sign up at wdgpublichealth.ca/content/moderna-vaccine-standby-list.
- Delays in shipments of Pfizer to Ontario has impacted WDG clinics this week. Moderna will be offered for first and second doses until shipments of Pfizer vaccines resume. Remaining Pfizer supplies will be prioritized for youth aged 12 to 17 years old.
- Local **pharmacies** are also providing **first and second dose** mRNA and AstraZeneca vaccine. To find out which pharmacies are offering AstraZeneca, Pfizer or Moderna vaccine, visit covid-19.ontario.ca/vaccine-locations.
- A recording of the COVID-19 Vaccine Information Session for youth and parents by Dr. Matthew Tenenbaum is available here: https://www.youtube.com/watch?v=9ouiPBb64wU
- Review our new Myths and Facts about the COVID-19 Vaccines webpage.

Vaccine Status for Wellington-Dufferin-Guelph

74.8% of residents **12+** received one dose!	**19%** of residents **12+** received two doses
Maximum number of doses administered in one week = **30,127**	Total number of doses given in primary care office or pharmacy = **51,269**

Age Group	First Dose	Age Group	First Dose
65+	95%	35-39	71%
60-64	88%	30-34	67%
55-59	80%	25-29	62%
50-54	80%	20-24	59%
45-49	75%	15-19	59%
40-44	73%	12-14	51%

Mixed Vaccine Schedules (AZ & mRNA)

- Emerging evidence indicates a better immune response, including against variants of concern, when a first dose of the AstraZeneca (AZ) vaccine is followed by a second dose of the Pfizer vaccine, compared to two doses of the AZ vaccine.
- In response, the National Advisory Committee on Immunization updated its recommendations second doses of COVID-19 vaccines (June 17):
    - NACI recommends that an mRNA vaccine (Pfizer or Moderna) is now preferred as the second dose for individuals who received a first dose of the AZ vaccine.
    - Receiving an mRNA vaccine also mitigates the rare risk of VITT (1 per 600,000 people) that is associated with viral vector vaccines.
    - **Getting two doses of AZ vaccine still provides good protection against COVID-19**. Individuals who have had or choose to have 2 doses of AZ have good protection against COVID-19 including the Delta variant.

References

Barros-Martins, J. et al. (June 2021). *Humoral and cellular immune response against SARS-CoV-2 variants following heterologous and homologous ChAdOx1 nCoV-19/BNT162b2 vaccination*. Pre-print article (not yet peer reviewed) from medRxiv.

National Advisory Committee on Immunization (June 17, 2021). *Recommendations on the use of COVID-19 vaccines*.

Vaccine Effectiveness

- The Centre for Disease Control provides an overview of the data for the real-world effectiveness of Moderna and Pfizer vaccines for symptomatic and asymptomatic COVID-19 infection. Overall, vaccine effectiveness following 14 days after second dose of mRNA vaccine range from 85% to 99% for symptomatic infection.
- Updated data from Ontario (December 15 to May 29) continues to show low rates of breakthrough COVID-19 cases (symptom onset 7 or more days after second dose). The number of post-vaccination cases declines dramatically as time from vaccination increases – declines are seen starting about 10 days after dose 1 and a marked decrease about 28 days after dose 1.
- Data from two UK studies indicate that two doses of vaccine provide good protection against both symptomatic infection and hospitalization for both the Alpha and Delta variants. The following table summarizes the vaccine effectiveness (VE) data for Pfizer and AstraZeneca against both symptomatic COVID-19 infection and hospitalization for the Alpha and Delta variants.

	VE against Symptomatic Infection				VE against Hospitalization			
	Alpha Variant (B.1.1.7)		Delta Variant (B.1.617.2)		Alpha Variant (B.1.1.7)		Delta Variant (B.1.617.2)	
	Dose 1	Dose 2	Dose 1	Dose 2	Dose 1	Dose 2	Dose 1	Dose 2
Pfizer	49%	93%	33%	88%	83%	95%	94%	96%
AstraZeneca	51%	66%	33%	60%	76%	86%	71%	92%

References

Centre for Disease Control (Updated May 27, 2021). *Science Brief: COVID-19 Vaccines and vaccination*.

Public Health Ontario (June 2021). *Confirmed cases of COVID-19 following vaccination in Ontario: December 14, 2020 to May 29, 2021*.

Lopez Bernal, J. et al. (May 2021). *Effectiveness of COVID-19 vaccines against the B.1.617.2 variant*. Preprint article (not yet peer reviewed) from Public Health England.

Stowe, J. et al. (June 2021). *Effectiveness of COVID-19 vaccines against hospital admission with the Delta (B.1.617.2) variant*. Preprint article (not yet peer reviewed) from Public Health England.

Novavax Vaccine

- The Novavax COVID-19 vaccine was submitted to Health Canada for review on January 29, 2021.
- The Novavax vaccine is a protein subunit vaccine which uses nanoparticles of a lab-grown spike protein that mimics the COVID-19 spike protein. When the particles are injected into the body with an adjuvant (a compound that enhances immune response), it triggers an immune response in the body. It can be stored at refrigerator temperature for up to three months.
- In a press release on June 14, Novavax released findings from its Phase 3 clinical trial of 29,960 participants across the U.S. and Mexico which demonstrated:
    - 90% efficacy overall and 100% efficacy against moderate and severe disease
    - 93% efficacy against predominantly circulating Variants of Concern/Interest
    - 91% efficacy in high-risk populations (over age 65, under age 65 with certain comorbidities or having life circumstances with frequent COVID-19 exposure)
- Preliminary safety data showed the vaccine to be well-tolerated. Serious and severe adverse events were low in number and balanced between vaccine and placebo group. Reactogenicity (side effects) were generally mild to moderate in severity with the most common symptoms being injection site pain, fatigue, headache and muscle pain.

References

The New York Times (Updated May 7, 2021). *How the Novavax Vaccine works*.

Novovax (June 14, 2021). *Novavax COVID-19 Vaccine demonstrates 90% overall efficacy and 100% protection against moderate and severe disease in PREVENT-19 Phase 3 trial*. Press Release.

Updates to Administration of Moderna

Effective the week of June 14th, Canada will be receiving Moderna vaccine from the USA. Here are some of the changes:

- Each vial will contain 14 (max 15) doses (vs 10 doses)
- Each carton will contain 140 (max 150) doses (vs 100 doses)
- Each vial has a larger fill volume of 8mL (vs 6mL in EU vials)
- Dose volume of 0.5 mL remains the same
- Expiration date is not printed on the USA cartons or vials. This will be available on Moderna's Canadian Website (www.modernacovid19global.com/ca) and a Health Product Risk Communication.

- Canada will be receiving Moderna vaccine with 6 different lot numbers and December 2021 expiration dates.
- Health Canada has also approved a revision to the Product Monograph: after puncture of vial it can be stored at room temperature or refrigerated, but must be discarded after 24 hours (vs 6 hours previous)
- **The vials with increased volumes will not be distributed to primary care until the week of June 28th**

Myocarditis/Pericarditis

Public Health Ontario's At a Glance: Myocarditis and Pericarditis Following COVID-19 mRNA Vaccines

Sick Kids' Reports of Myocarditis/Pericarditis after COVID-19 Vaccination FAQ for Health Care Providers

Updated Ministry of Health Guidance

AstraZeneca/COVISHIELD COVID-19 Vaccine Second Dose Q&A for Health Care Providers (Updated June 14)

COVID-19 Vaccine Information for Individuals who Received a First Dose of AstraZeneca/ COVISHIELD COVID-19 Vaccine (Updated June 14)

COVID-19 Vaccine Series Second Dose Eligibility Quick Reference (Updated June 14)

Reliable Sources of Information on Vaccines

WDGPH Vaccine Administration Training

Public Health Agency of Canada

Government of Ontario

Ministry of Health

Public Health Ontario

Centre for Effective Practice (CEP)

World Health Organization

COVID-19 Studies from the World Health Organization Database

Centres for Disease Control and Prevention (CDC)