REPORT #4
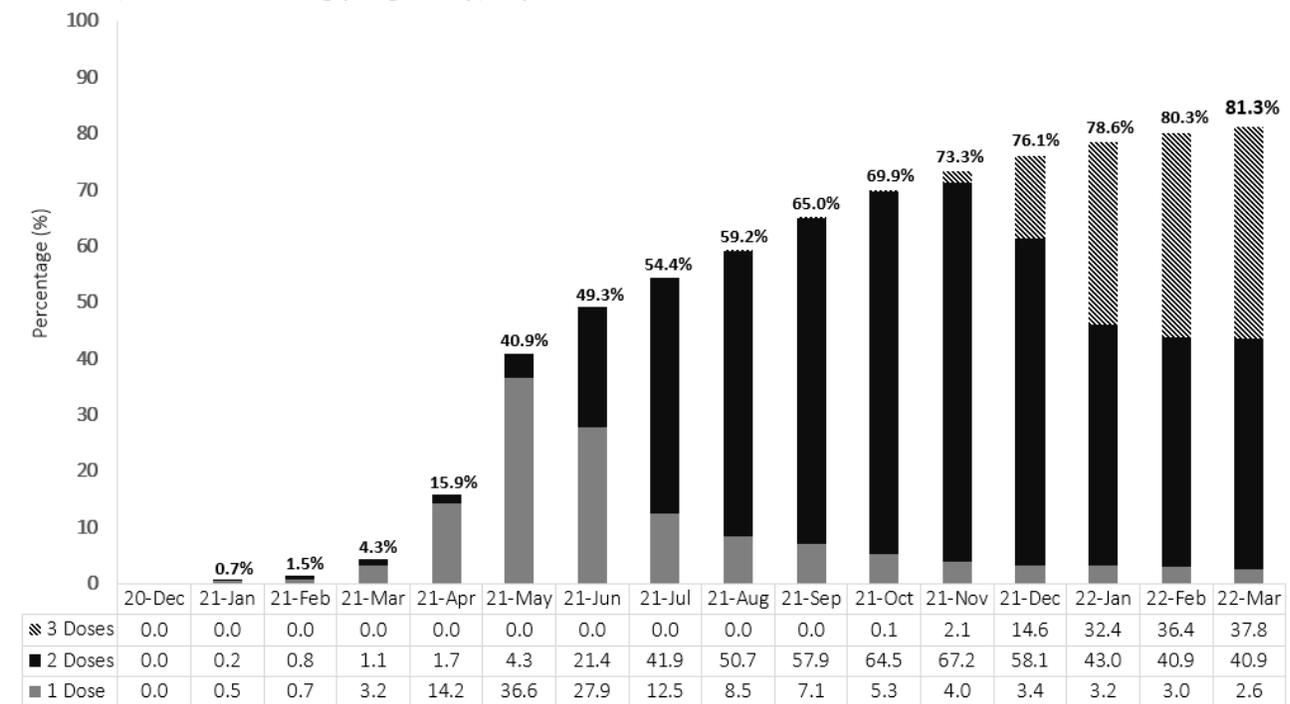# COVID-19 VACCINATION DURING PREGNANCY IN ONTARIO
December 14, 2020 to March 31, 2022

BACKGROUND:

Pregnant individuals are considered a high-risk population for COVID-19 complications, based on higher rates of COVID-19 hospitalization, intensive care unit (ICU) admission, and death compared with non-pregnant individuals. Since late April 2021, pregnant people in Ontario have been prioritized for COVID-19 vaccination as part of Phase 2 of the COVID-19 vaccine program implementation. To-date, vaccine coverage in pregnant individuals has remained lower than in the general population[a]. The Better Outcomes Registry & Network (BORN) Ontario (www.bornontario.ca) is evaluating COVID-19 vaccination in pregnant individuals in Ontario. **This report shows data on vaccine coverage among individuals who were pregnant at any point between December 14, 2020 and March 31, 2022.**
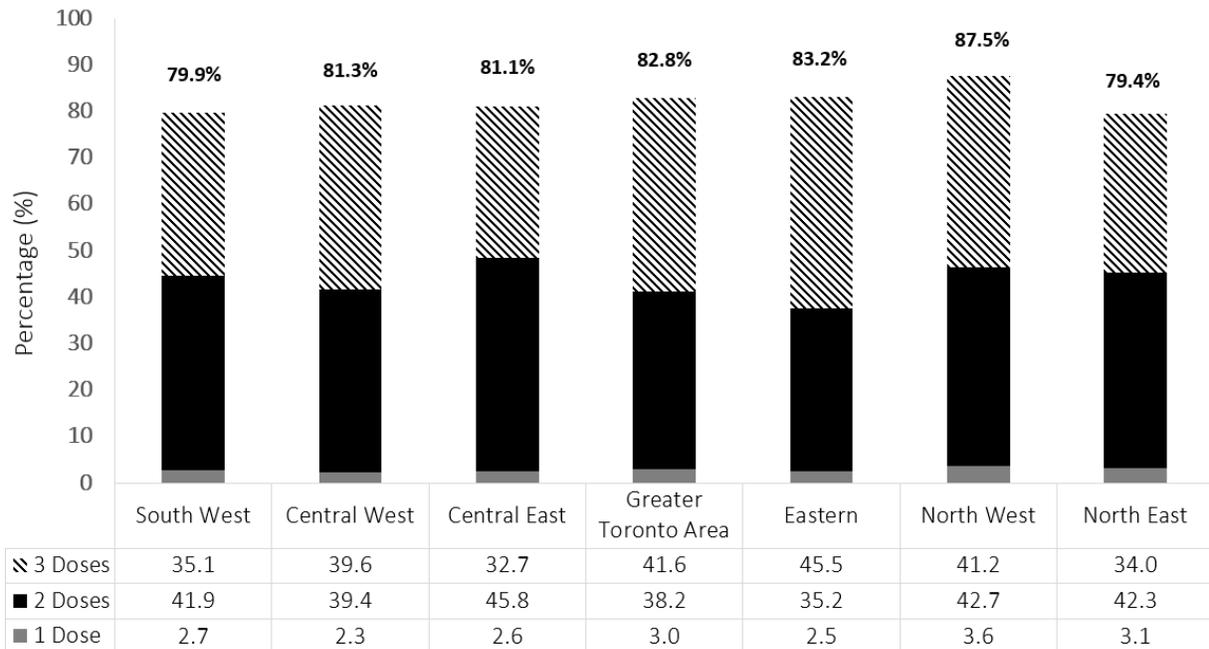
RESULTS:

FIGURE 1. Estimated percentage of pregnant people who had received at least one COVID-19 vaccine (before or during pregnancy), by calendar month

	20-Dec	21-Jan	21-Feb	21-Mar	21-Apr	21-May	21-Jun	21-Jul	21-Aug	21-Sep	21-Oct	21-Nov	21-Dec	22-Jan	22-Feb	22-Mar
⧫ 3 Doses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.1	14.6	32.4	36.4	37.8
■ 2 Doses	0.0	0.2	0.8	1.1	1.7	4.3	21.4	41.9	50.7	57.9	64.5	67.2	58.1	43.0	40.9	40.9
▪ 1 Dose	0.0	0.5	0.7	3.2	14.2	36.6	27.9	12.5	8.5	7.1	5.3	4.0	3.4	3.2	3.0	2.6

FIGURE 1 shows that among people who were pregnant in March 2022:

- **2.6%** had received at least one dose of COVID-19 vaccine before or during pregnancy.

- **40.9%** had received two doses of COVID-19 vaccine before or during pregnancy.

- **37.8%** had received three doses of COVID-19 vaccine before or during pregnancy.

- **18.7%** still had not received any doses of COVID-19 vaccine.

FIGURE 2. COVID-19 vaccine coverage (≥1 dose before or during pregnancy) in the pregnant population by Public Health Region in March 2022

	South West	Central West	Central East	Greater Toronto Area	Eastern	North West	North East
⧄ 3 Doses	35.1	39.6	32.7	41.6	45.5	41.2	34.0
■ 2 Doses	41.9	39.4	45.8	38.2	35.2	42.7	42.3
▨ 1 Dose	2.7	2.3	2.6	3.0	2.5	3.6	3.1

(Bar totals: 79.9%, 81.3%, 81.1%, 82.8%, 83.2%, 87.5%, 79.4%)

FIGURE 2 shows that among people who were pregnant in March 2022

- COVID-19 vaccine coverage across Public Health Regions ranged from **79.4%** to **87.5%.**

Timing of dose 3 of COVID-19 vaccine in the pregnant population:

- In the study period, 86,274 individuals received dose 3. Of those, 1,533 (1.8%) received dose 3 before pregnancy, 29,151 (33.8%) received dose 3 during pregnancy, and 55,590 (64.4%) received dose 3 after pregnancy.

- Of the 29,151 people who received dose 3 during pregnancy, 2,587 (8.9) received all three doses in pregnancy, 5,422 (18.6%) received dose 2 and 3 in pregnancy, and 21,142 (72.5%) received dose 3 as their first dose in pregnancy.

TABLE 1. Trimester of dose 3 as the first COVID-19 vaccination during pregnancy

Trimester of dose 3 as first dose in pregnancy	Frequency (Percentage)
1st trimester (less than 14 weeks)	7,316 (34.6)
2nd trimester (14-27 weeks)	11,520 (54.5)
3rd trimester (28 or more weeks)	2,306 (10.9)
Total	21,142

BIRTH OUTCOMES:

A recent study published in the Journal of the American Medical Association[b] using BORN Information System data explored outcomes for over 95,500 pregnant individuals and newborns following **COVID-19 vaccination during pregnancy**. Vaccinated individuals had **no increased risk** of postpartum hemorrhage, chorioamnionitis, cesarean delivery, and their babies **did not have** higher rates of admission to neonatal intensive care unit and low newborn 5-minute Apgar score compared with those who were not vaccinated during pregnancy. See infographic at this link. Studies looking at other birth outcomes (e.g., preterm birth) are ongoing.

This work is supported by the Public Health Agency of Canada, through the Vaccine Surveillance Reference Group and the COVID-19 Immunity Task Force.

The report is based on data extracted from the Ontario Ministry of Health's COVaxON and from the BORN Information System (BIS).

Disclaimer: the results of this report may differ from other reported estimates due to differences in data sources and data processing lag times.

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References:

a) Public Health Ontario: COVID-19 vaccine uptake in Ontario: December 14, 2020 to October 17, 2021. Toronto, ON;

b) Fell et al. JAMA. 2022;327(15):1478-1487. doi:10.1001/jama.2022.4255