

COVID-19 vaccine effectiveness against Delta variant in Ontario, Canada

Sharifa Nasreen PhD MPH MBBS

Postdoctoral Fellow

Dalla Lana School of Public Health,
University of Toronto

ICES, Toronto

sharifa.nasreen@utoronto.ca

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Methods

- Design: Test-negative design study
- Participants:
 - Community-dwelling adults aged ≥ 16 years
 - Had COVID-19 symptoms or severe outcomes (hospitalization or death)
 - Tested for SARS-CoV-2 (RT-PCR) between 11 April 2021 and 30 May 2021
- Intervention/COVID-19 vaccine:
 - BNT162b2 (Pfizer-BioNTech)
 - mRNA-1273 (Moderna)
 - ChAdOx1 (AstraZeneca)
- Outcome: Vaccine effectiveness against
 - Symptomatic SARS-CoV-2 infection
 - COVID-19 severe outcome

Vaccine effectiveness against Delta variant

	Vaccine effectiveness* (95% CI)	
	Symptomatic infection (N=1,030)	Hospitalization or death (N=181)
BNT162b2 (Pfizer-BioNTech)		
≥14 days after dose 1 only	55 (45, 63)	78 (66, 86)
≥21 days after dose 1 only	61 (50, 69)	77 (64, 86)
≥7 days after dose 2	87 (65, 95)	-†
≥14 days after dose 2	85 (61, 95)	-†
mRNA-1273 (Moderna)		
≥14 days after dose 1 only	72 (58, 82)	96 (74, 100)
≥21 days after dose 1 only	70 (52, 81)	96 (69, 99)
≥7 days after dose 2	-†	-†
≥14 days after dose 2	-†	-†
ChAdOx1 (AstraZeneca)		
≥14 days after dose 1 only	68 (47, 81)	89 (64, 97)
≥21 days after dose 1 only	71 (49, 84)	88 (61, 96)
≥7 days after dose 2	-†	-†
≥14 days after dose 2	-†	-†

*Adjusted for age, sex, public health unit region, weekly period of test, number of SARS-CoV-2 tests in the 3 months prior to 14 December 2020, presence of any comorbidity, receipt of 2019/2020 and/or 2020/2021 influenza vaccination, and Census dissemination area-level quintiles of household income, proportion of persons employed as non-health essential workers, persons per dwelling, and proportion of self-identified visible minorities

† VE estimated as 100% based on zero vaccinated test-positive cases

Test-negative controls: N=111,932 for symptomatic infection, N=111,711 for hospitalization or death

CIRN PCN Ontario study team

Jeffrey C. Kwong
Sarah A. Buchan
Sarah E. Wilson
Deshayne B. Fell
Kumanan Wilson
Mina Tadrous
Peter C. Austin
Kevin A. Brown

Jonathan B. Gubbay
Kevin L. Schwartz
Hannah Chung
Siyi He
Sharifa Nasreen
Andrew Calzavara
Maria E. Sundaram
Branson Chen

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