

COVID-19 vaccine safety among older adults aged 65 and above: A Canadian Immunization Research Network (CIRN) study

Phymar Soe¹, Hubert Wong², Matthew P. Muller³, Otto G. Vanderkooi⁴, James D. Kellner⁴, Karina A. Top⁵, Manish Sadarangani¹, Jennifer E. Isenor⁵, Allison McGeer⁶, Gaston De Serres⁷, Louis Valiquette⁸, Monika Naus⁹, Kimberly Marty¹, and Julie A. Bettinger¹

¹Vaccine Evaluation Center, BC Children's Hospital Research Institute, Vancouver, Canada. ²School of Population and Public Health, University of British Columbia, Vancouver, Canada. ³Department of Medicine, Unity Health Toronto, Toronto, Canada. ⁴Department of Pediatrics and Alberta Children's Hospital Research Institute, University of Calgary, Calgary, Canada. ⁵Canadian Center for Vaccinology, IWK Health and College of Pharmacy, Dalhousie University, Halifax, Canada. ⁶Sinai Health System and University of Toronto, Toronto, Canada. ⁷CHU de Québec-Université Laval, Québec City, Canada. ⁸Department of Microbiology and Infectious Diseases, Université de Sherbrooke, Sherbrooke, Canada. ⁹BC Centre for Disease Control, Vancouver, British Columbia

Background

- Senior Canadians are particularly vulnerable to COVID-19 disease related complications, and even death.
- Over 7 million Canadians are ≥ 65 years of age, and are prioritized for COVID-19 vaccination.
- The Canadian National Vaccine Safety Network (CANVAS) has implemented active safety surveillance in older adults for COVID-19 vaccines from December 2020-August 4, 2022.
- CANVAS can detect events occurring in older adults at a rate $\geq 1/10,000$

Aim

This study aimed to determine whether the first or second dose of COVID-19 vaccine was associated with serious health events (emergency department visit and/or hospitalization) among older adults.

Methods

- Both vaccinated and unvaccinated participants ≥ 65 years of age were recruited from Alberta, British Columbia, Nova Scotia, Ontario, Quebec, Yukon and Prince Edward Island and followed up for the occurrence of health events seven days after dose 1 and dose 2 or a seven-day period for unvaccinated participants.
- Multivariable Poisson regression estimated serious health events associated with COVID-19 vaccines, adjusting for age, sex, health status, province, previous COVID-19 infection and health event after dose 1 (dose 2 analysis only)
- Same control group was used to compared with vaccinees for dose 1 and 2

Results

- 182,367 older adults completed the dose 1 survey
- 110,615 older adults completed the dose 2 survey
- 2,932 older adults completed the control survey
- COVID-19 vaccination (any type) was not associated with an increased risk of serious health event in the week following vaccination, compared to unvaccinated older adults

Rates of serious health event by vaccine type

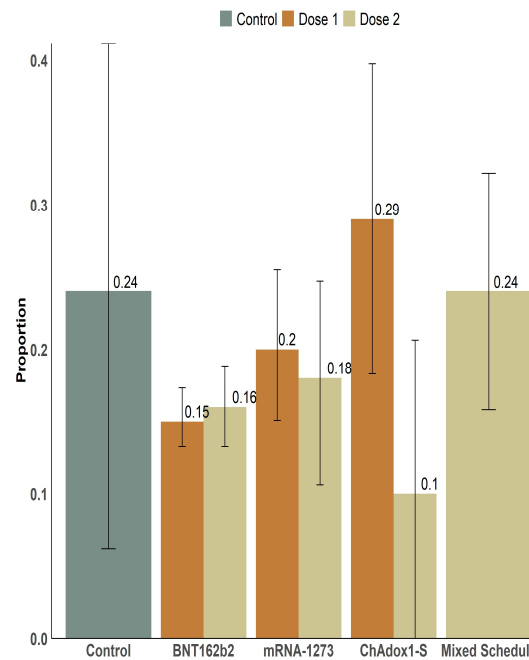


Figure 1: Rates of serious health event (Any health event resulting in emergency department visit and/or hospitalization) following each dose of COVID-19 vaccine or in the prior seven days for unvaccinated participants. Mixed schedule: different vaccine products for first and second doses

Risk of serious health event by vaccine type

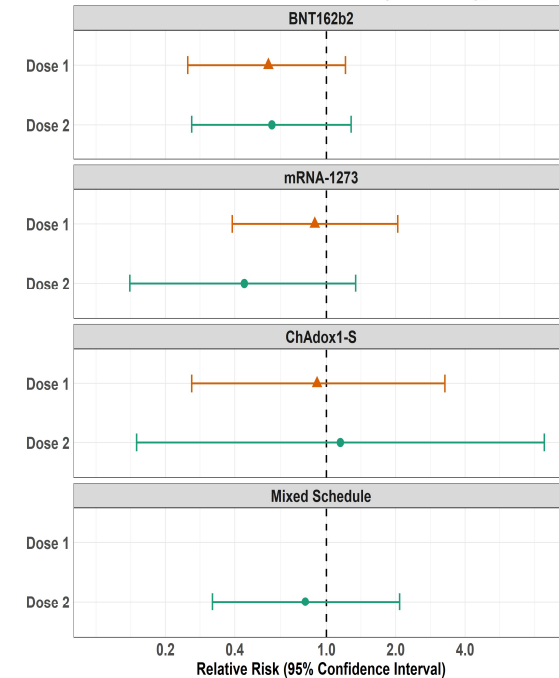


Figure 2: Multivariable Poisson regression for the association between specific vaccine type and serious health event within 7 days after dose 1 and dose 2. The reference group is unvaccinated older adults.

Conclusions

Among older adults, the rates of serious health events following COVID-19 vaccination were very low and not associated with emergency department visit or hospitalization.

Acknowledgement

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