## How do perceptions of Covid-19 risk impact pregnancy-related health decisions? A convergent parallel mixed-methods study

**Introduction:** Pregnant people have a higher risk of severe COVID-19 disease. They have been disproportionately impacted by COVID-19 infection control policies, which exacerbated conditions resulting in intimate partner violence, healthcare access, and mental health distress. This project examines pregnant people's health decisions within workplace, home, and community environments, describing their accumulated impact on key pregnancy outcomes and care indicators related to three themes: 1) vaccination, 2) perinatal care, 3) social supports and mental health.

This research study has two objectives:

1. Evaluate potential associations between exposure(s) and outcome(s) for births occurring in 2019 (Jan 1 2019 – Mar 31 2019 births), 2021 (Jan 1 2021 – Mar 31 2021 births), and 2022 (Jan 1 2022- Mar 31 2022 births) birth groups in Ontario and BC related to vaccination, perinatal care, and mental health, overall, by race/ethnicity and by income. *(Quantitative strand)*
2. Understand how people who gave birth in Ontario or BC in 2020 or 2021 perceived COVID-19 risk and how pandemic circumstances influenced their decision-making about key elements of pregnancy, including vaccination, perinatal care, social support and mental health. *(Qualitative strand)*

Research questions and hypotheses have been operationalized according to our three themes.

**Methods and analysis:** This is a Canadian convergent parallel mixed-methods study. The quantitative strand uses a retrospective cohort design to assess birth group differences in rates of Tdap and COVID-19 vaccination, gestational diabetes screening, length of post-partum hospital stay, and onset of depression, anxiety, and adjustment disorder, using administrative data from ICES, formerly the Institute for Clinical Evaluative Sciences (Ontario) and PopulationData BC (PopData) (British Columbia). Differences by socioeconomic and ethnocultural status will also be examined using area-level data available through the Canadian Index of Multiple Deprivation. The qualitative strand employs qualitative description to interview people who gave birth between May 2020- December 2021 about their COVID-19 risk perception and health decision-making process relevant to perinatal care, social support, and mental health. Data integration will occur during design and interpretation.

**Summary of Progress:** This study was funded in late February 2022. The quantitative cohort creation plans and data access requests were finalized in late Fall 2022. Qualitative data collection was completed in Summer 2023.

**More information about this study is available in our published protocol:** Vanstone M, Correia RH, Howard M, Darling E, Bayrampour H, Carruthers A, Davis A, Hadid D, Hetherington E, Jones A, Kandasamy S. How do perceptions of Covid-19 risk impact pregnancy-related health decisions? A convergent parallel mixed-methods study protocol. Plos one. 2023 Aug 10;18(8):e0288952.