

# **Title: An examination on the number of prevented drug poisoning events, predictive risk factors for adverse events, cost effectiveness, and utilization of virtual overdose monitoring services.**

Category: Oral Presentation

## Abstract Body

**Background:** Several novel virtual overdose monitoring services have emerged as an adjunct measure to reduce the harms associated with the drug poisoning epidemic. This retrospective observational study aims to identify the characteristics and outcomes of individuals utilizing one such service, the National Overdose Response Service (NORS).

**Methods:** Data from the NORS call log which was collected with the primary purpose of informing funders and stakeholders from December 2020 to April 2023. Odds ratios were calculated to test the association between key indicators and drug poisonings. Additional cost effectiveness evaluation was conducted examining rates of drug poisoning deaths from an unwitnessed event and number of individuals who had a drug poisoning episode.

**Results:** Of the 6528 completed calls on the line, 3362 (60.2%) were for supervised drug consumption, 1463 (26.2%) were for mental health support and included 133 adverse events (2%). Of those that self-reported gender, 2350 (58.1%) of callers identified as female, and 912 (22.6%) identified as gender diverse. Calls mostly originated from urban locations (n=4998, 89.6%) and the province of Ontario (n=3694, 66.2%). Odds ratios indicate that self-reporting as gender diverse (OR 8.08, CI 95% 3.78-18.79), using methamphetamine (OR 2.24, CI 95% 1.06-4.28), calls occurring overnight (OR 2.09, CI 95% 1.24-3.43) and in British Columbia (OR 3.86, CI 95% 1.57-8.08) had a significantly higher likelihood of a drug poisoning. Over the total funded lifespan of the program, the benefit-to-cost ratio of the NORS program ranged from \$1.99-19.88 per dollar spent, depending on estimated mortality rates following unwitnessed overdose, as well as program operation costs.

**Conclusion:** NORS presents a complimentary opportunity to access harm reduction services for individuals prefer to use alone or face barriers to accessing in-person supervised consumption services especially gender minorities with high-risk use patterns. No drug poisonings resulted in fatalities and NORS had a drug poisoning

event incidence of 2%. We found the NORS program to have a positive benefit-to-cost ratio when the probability of death following an unwitnessed overdose was greater than 5%.

### Key Words

- Digital Therapeutics
- Equity, Diversity, Inclusion issues
- Rural
- Technology
- Virtual Care

### Learning Objective # 1

An understanding of the varying demographics and utilization of virtual overdose response services.

### Learning Objective # 2

Understand the efficacy, limitations, and safety of these services.

### Reference # 1

Matskiv G, Marshall T, Krieg O, Viste D, Ghosh SM. Virtual overdose monitoring services: a novel adjunctive harm reduction approach for addressing the overdose crisis. *CMAJ*. 2022 Nov 28;194(46):E1568-E1572. doi: 10.1503/cmaj.220579. PMID: 36442886; PMCID: PMC9828965.

### Reference # 2

P J, Morris-Miller R, Myette B, Ghosh SM. Receiving and providing virtual harm reduction and peer-based support. *CMAJ*. 2023 Apr 17;195(15):E548-E550. doi: 10.1503/cmaj.221188. PMID: 37068801; PMCID: PMC10110334.

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