



**A Retrospective Cohort Study Comparing In-person and  
Telemedicine-Based Opioid Agonist Treatment in Ontario Canada  
Using Administrative Health Data**

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**ABSTRACT:**

**BACKGROUND:** This study evaluated how telemedicine as a modality for opioid agonist treatment compares to in person care.

**METHODS:** We conducted a retrospective cohort study of patients enrolled in opioid agonist treatment between January 1, 2011, and December 31, 2016 in the province of Ontario, Canada using administrative health data. We compared patients in three different groups: OAT patients predominantly in person, mixed, and predominantly by telemedicine. The study was performed using administrative health data using physician billing data from the Ontario Health Insurance Plan and prescription data from the Ontario Drug Benefit databases. We identified 55,924 individuals who had been enrolled in OAT at least one time between 2011 and 2016.

**RESULTS:** We observed that opioid agonist treatment delivered predominantly by telemedicine was correlated with a decreased likelihood of all-cause mortality (adjusted odds ratio (aOR) = 0.9, 95% confidence interval (95%CI) 0.7–0.9), with an increase in emergency department visits (OR = 1.8, 95% CI 1.7-1.9) and hospitalizations (OR = 1.2, 95% CI 1.1-1.4) when compared to opioid agonist treatment delivered predominantly in person. There were no differences observed in one-year treatment retention in opioid agonist treatment observed between groups (aOR = 1.1, 95%CI = 1.0-1.3).

**CONCLUSION:** Our findings support the previous literature which has shown the effectiveness of telemedicine as a treatment modality for patients with opioid dependence; and we recommend the expansion of telemedicine to enhance health resources for the treatment of opioid dependence in areas with limited resources.