

**Submission Id:** 2871

**Title**

*Risk of overdose and mental health crisis associated with dose disruption in patients on long-term lower dose opioid therapy*

**Priority 1 (Research Category)**

Observational study (cohort, case-control)

**Presenters**

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**Abstract**

Context: Studies have shown certain risks associated with dose tapering and discontinuation among patients prescribed long-term, higher-dose opioid therapy. It is unknown whether these risks of overdose and mental health crisis are also associated with dose disruption in patients prescribed lower doses of opioid therapy. Objective: To determine associations between opioid dose disruption or discontinuation and rates of overdose and mental health crisis among patients prescribed long-term, low- to moderate- opioid therapy. Study Design: Retrospective cohort study. Setting: Data from the OptumLabs® Data Warehouse, years 2008-2019, which contains de-identified, longitudinally linkable administrative data, including medical and pharmacy claims and eligibility information as well as electronic health data for commercial and Medicare Advantage enrollees. Patients represent a diverse mix of ages, ethnicities and United States geographical regions. Population: US adults prescribed stable opioid therapy with average doses of 10-49 morphine milligram equivalents/day during one or more 6-month baseline period, with <10% monthly dose fluctuation compared to baseline dose (to establish eligibility), with 2-12 months of follow-up for each baseline period. Exposure: 50-100% relative reduction of average daily opioid dose during any one of six overlapping 60-day windows within the first 7 months of follow-up. Outcome Measures: Emergency or hospital encounters for all-drug overdose or mental health crisis (depression, anxiety, or suicide attempt) during up to 12 months follow-up. Negative binomial regression estimated adjusted incidence rate ratios (aIRRs) of outcomes as a function of time-varying dose disruption or discontinuation. Results: Among 369,085 patients with 658,756 baseline periods of stable opioid dosing, 9.6% of patients had a ≥50% dose reduction; 5.6% of patients completely discontinued opioids. In adjusted models, a ≥50% dose reduction (compared to continuing at baseline dose) was associated with an aIRR of 1.28 (95% CI: 1.14-1.44) for overdose and 1.57 (95% CI: 1.36-1.82) for mental health crisis. Discontinuing opioids was associated with an aIRR of 1.25 (95%CI: 1.08-1.45) for overdose and aIRR of 1.79 (1.46-2.20) for mental health crisis. Conclusions: Among patients prescribed stable, long-term lower dose opioid therapy, large relative dose reductions (50+%) were significantly associated with increased risk of overdose and mental health crisis.