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Has SafeScript NSW reduced Benzodiazepine and Opioid Poisoning?

An Interrupted Time Series Analysis

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Abstract

Background and Aim: Individuals who are dispensed an opioid or benzodiazepine are highly likely to be dispensed the other medicine long-term. Additionally, polydrug use (especially benzodiazepine co-use with opioids) is common amongst drug overdose deaths. SafeScript NSW, a real-time prescription monitoring system, provides prescribers and pharmacists with a patients' medicine prescribing and dispensing history. It provides alerts when a patient is dispensed high-risk medicine combinations (such as benzodiazepines and opioids), receives high opioid doses, or visits multiple prescribers. We aimed to determine the impact of SafeScript NSW on NSW Poisoning Information Centre (NSW-PIC) poisoning exposure calls.

Design and Methods: We analysed monthly poisoning exposure calls using NSW-PIC data (Jan 2019–April 2024), investigating separate trends in exposure types, age and sex. We performed separate interrupted time series analyses on the medicine groups: opioids, benzodiazepines, all medicines (including benzodiazepines and opioids) and other medicines (excluding opioids and benzodiazepines). November 2021 or May 2022 served as intervention dates for the different regions of the Hunter New England and Central Coast (Hunter) regions and the rest of NSW (NSW) respectively. We used PBS dispensings and PHREDSS opioid emergency presentations as comparators and conducted changepoint analysis.

Results: After the intervention date of May 2022 for NSW, poisoning calls for benzodiazepines, opioids, all medicines and other medicines groups had significant negative step changes of -17 (95%CI: -32 to -1.3), -4.9 (95%CI: -9.1 to -0.76), -43 (95%CI: -64 to -22) and -10 (95%CI: -28 to 7.5). Likewise, Hunter had significant negative step changes for all medicines and other medicines groups of -3.7 (95%CI: -6.0 to -1.3) and -3.1 (95%CI: -5.1 to -1.2) respectively. Changepoint analysis revealed earlier decreases in NSW data (Dec 2020 – Oct 2021), before interventions.

Conclusions: Our results revealed significant immediate decreases in poisoning exposure calls occurring in all medicine groups for NSW region upon implementation of SafeScript NSW, although there were no

significant prolonged changes over time for any analysis group. Further work is needed to examine the impact of SafeScript NSW on dispensing rates.