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Title:	Reduction over time in RADARS® System Poison Center opioid abuse/misuse rates associated with prescription monitoring programs
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Abstract:

Background: Most states have implemented Prescription Monitoring Programs (PMPs) in an attempt to curb prescription drug abuse and diversion; however assessment of possible impact is only beginning. PMPs are statewide databases, containing patient-level prescription data on select drugs, intended for clinicians or other officials to use in identifying patients or providers engaging in abuse related illegal activities. Long acting opioids (which include extended release drugs) are preferred among prescription drug abusers, and PMPs' impact on this type of abuse is of special interest. This analysis evaluated the association between PMPs and abuse and misuse rates over time for immediate release (IRO) versus long acting (LAO) formulations.

Methods: Data (2003–2009) are from the RADARS® System Poison Center Program (PC) which collects quality reviewed intentional exposure (IE) events from participating US poison centers. PC IEs are considered surrogates of abuse and misuse. Formulations of oxycodone, fentanyl, hydrocodone, hydromorphone, morphine, and methadone were selected and summarized according to whether they were LAO or IRO. Information on states' PMPs was compiled using public documents. Unique recipient of dispensed drug (URDD) data were used as a measure for drug availability in calculating IE rates. Repeated measures negative binomial regression was applied to predict states' intentional exposure URDD rates. PMP presence was modeled as a time varying covariate for each state, and interactions of time, PMP status and LAO drug type were examined.

Results: Both IRO and LAO results support that PMPs have an impact on IE rates over time. Model results display when states do not have a PMP in place, state IE rates increase on average 0.8% per quarter, where as rates decrease 1.2% ($p = 0.0004$) per quarter in those states with a PMP in place. However, results did not support that PMPs differentially influence LAO IE rates compared to IRO IE rates.

Conclusions: PC observational data offer preliminary support that PMPs are effective, but do not support a difference in impact across long acting and immediate release opioid IE rates.