RADARS® SYSTEM

Researched Abuse, Diversion and Addiction-Related Surveillance System

1st Quarter 2016 Technical Report

Effect of hydrocodone rescheduling on intentional abuse exposures reported to poison centers

Key Points:

1. In October 2014, the Drug Enforcement Administration (DEA) rescheduled hydrocodone products from Schedule III to Schedule II.
2. In 4 of 5 quarters following the rescheduling, RADARS System Poison Center Program hydrocodone intentional abuse exposure rates were significantly less (17% to 23%) than expected based on trends prior to rescheduling.
3. Oxycodone intentional abuse exposure rates were significantly greater (24% and 43%) than expected in 2 of 5 quarters following rescheduling.

Background

In October 2014, the DEA rescheduled hydrocodone combination products from Schedule III to Schedule II. This change was designed to limit abuse by placing more restrictions on medication refills. Jones and colleagues (2016) found a 22% decline in the number of hydrocodone products prescribed within a year after rescheduling.[1] Though prescriptions filled for other opioid analgesics (e.g. combination oxycodone products) increased after the rescheduling, this did not offset the reduction in hydrocodone prescriptions.[1] This technical report examines the effect of the rescheduling on intentional abuse exposures involving either hydrocodone or oxycodone reported to poison centers.

Methods

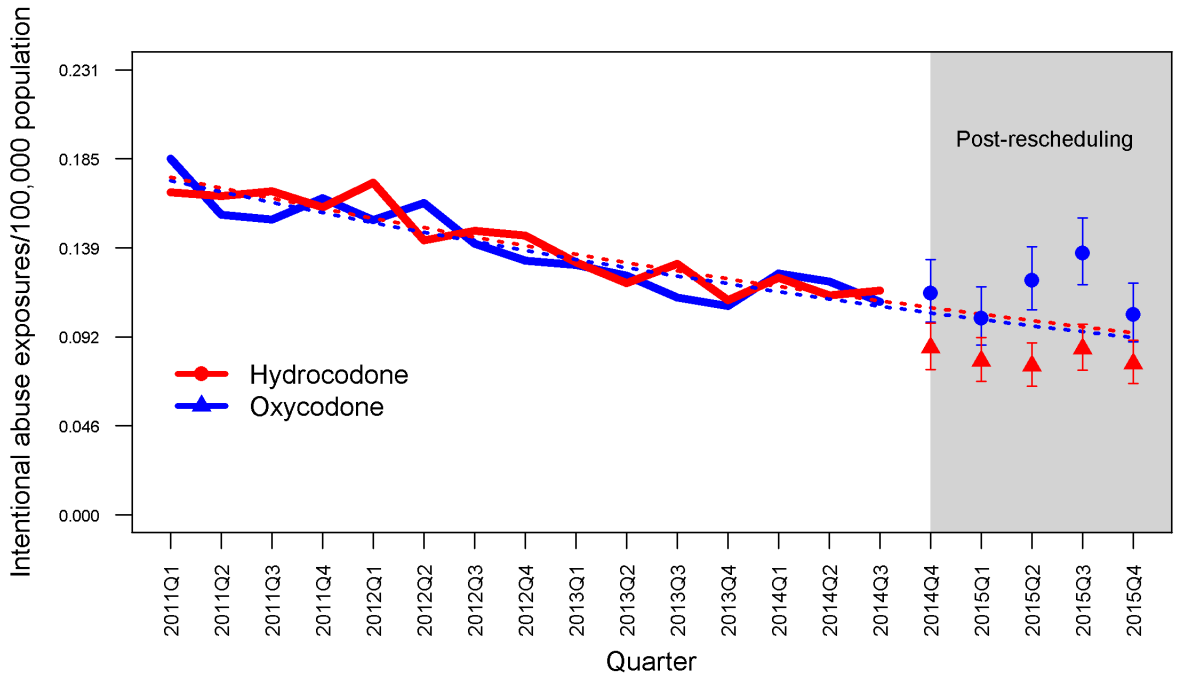
Data from the Researched, Abuse, Diversion, and Addiction-Related Surveillance (RADARS®) System Poison Center Program were used in this analysis. Intentional abuse exposures between January 2011 and December 2015 mentioning hydrocodone were analyzed and compared to those mentioning oxycodone, a commonly prescribed Schedule II opioid analgesic. To account for decreasing trends observed in opioid abuse cases since 2010[2], we compared the observed rate in each of the five post-rescheduling quarters (4th quarter 2014 to 4th quarter 2015) to the projected rate using data from the pre-rescheduling quarters (January 2011 to September 2014). Poisson regression with a by drug group multiplicative dispersion parameter was used for all comparisons.

Results

From January 2011 to September 2014, hydrocodone and oxycodone had similar numbers of intentional abuse exposures and similar trends (Figure 1). Both were significantly decreasing at an average rate of 3% each quarter. In the first quarter after rescheduling (4th quarter 2014), intentional abuse exposures to hydrocodone were 19% (p=0.005) lower than projected based on the pre-rescheduling trend. In the 2nd and 3rd quarters following rescheduling (1st and 2nd quarters 2015), hydrocodone abuse rates were 23% lower than projected rates (p=001). These differences decreased in magnitude in 3rd quarter 2015 when the abuse rate was 12% lower than projected (p=0.126). In 4th quarter 2015, the abuse rate was 17% (p=0.031) lower than projected.

In the first two quarters after rescheduling (4th quarter 2014 and 1st quarter 2015), oxycodone abuse rates showed slight deviations from projected rates that failed to achieve statistical significance; a 10% increase in 4th quarter 2014 (p=0.245) and a 1% increase in 1st quarter 2015 (p=0.245). However, oxycodone abuse rates significantly deviated from projected rates in the 2nd and 3rd quarters 2015. Abuse rates in 2nd and 3rd quarters 2015 were 24% (p=0.009) and 43% (p<0.001) greater than projected estimates, respectively. In 4th quarter 2015, oxycodone abuse rates were 13% greater than projected (p=0.170).

Figure 1. Observed and projected intentional abuse exposure population rates (per 100,000) for hydrocodone and oxycodone from January 2011 to December 2015. Dashed lines represent predicted values based on the pre-rescheduling trend.



Conclusions

Hydrocodone abuse rates were significantly lower than expected based on pre-rescheduling trends. The magnitude of the effect in the first three quarters post-rescheduling is similar to what Jones and colleagues observed in prescription patterns of hydrocodone. However, our results suggest that the rescheduling may be associated with changes in abuse patterns of oxycodone. Abuse rates involving oxycodone were significantly greater than projected rates in the 2nd and 3rd quarters 2015. Continued research is needed to understand the impact this policy change has on the abuse of hydrocodone and other opioids used in the treatment of pain.

Suggested Citation

Fischer L, McDaniel HA, Severtson SG, Green JL, Dart RC (2016). Effect of hydrocodone rescheduling on intentional abuse exposures reported to poison centers. RADARS® System Technical Report, 2016-Q1.

References

1. Jones CM, Lurie PG, Throckmorton DC. Effect of US Drug Enforcement Administration's Rescheduling of Hydrocodone Combination Analgesic Products on Opioid Analgesic Prescribing. *JAMA Internal Medicine*. January 25, 2016. doi:10.1001/jamainternmed.2015.7799.
2. Dart RC, Surratt HL, Cicero TJ, Parrino MW, Severtson SG, Bucher Bartelson B, Green JL. Trends in opioid analgesic abuse and mortality in the United States. *N Engl J Med* 2015; 372(3):241-8.