



Title:	Buprenorphine/Naloxone Abuse and Diversion: Film Rates are Less Than Tablet Rates
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Abstract:

Background: Buprenorphine is sometimes diverted and abused. Previous reports showed differences in diversion and abuse rates between formulations, but observation periods were short.

Aim/Hypothesis: This study extends the comparison of diversion and abuse rates between buprenorphine sublingual formulations.

Methods: Data from the Researched Abuse, Diversion, and Addiction-Related Surveillance (RADARS®) System Drug Diversion (DD), Opioid Treatment (OTP), and Survey of Key Informants' Patients (SKIP) Programs were analyzed. The DD program captures new police investigations. The treatment programs (OTP and SKIP) collect patient reports of using a product "to get high" in the previous 30 days. Quarterly data from 2010Q4-2013Q1 (DD) and 2011Q2-2013Q1 (OTP/SKIP) were analyzed. To account for availability, event ratios (rates) were based on the number of patients filling prescriptions for each formulation ("Unique Recipients of a Dispensed Drug," URDD). Quarterly rates, average rates, and 95% confidence intervals (CIs) were calculated using negative binomial regression.

Results: 1,505 diversion reports and 5,293 abuse reports were analyzed.

Average diversion rates for buprenorphine/naloxone tablets (13.6 reports/10,000 URDD; 95% CI: 12.8-14.5) and monoingredient tablets (8.7; CI: 7.6-9.8) exceeded the combination film rate (1.3; CI: 1.1-1.5) (Rate ratio (RR) c/w film: 10.6 (CI: 9.0-12.4; $p < 0.0001$) for combination tablets and 6.7 (CI: 5.5-8.2; $p < 0.0001$) for monoingredient tablets).

Average abuse rates for buprenorphine monoingredient tablets (61.8 reports/10,000 URDD; CI: 59.2-64.6) and buprenorphine/naloxone tablets (21.3; CI: 20.3-22.3) exceeded the combination film rate (9.1; CI: 8.7-9.6) (RR c/w film: 6.8 (CI: 6.3-7.3; $p < 0.0001$) for monoingredient tablets and 2.3 (CI: 2.2-2.5; $p < 0.0001$) for combination tablets).

Limitations: This analysis excludes generic buprenorphine/naloxone tablets, introduced in February,

2013.

Conclusion: Diversion and abuse rates for buprenorphine and buprenorphine/naloxone tablets consistently exceed those of buprenorphine/naloxone sublingual film.

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