

Title: Assessing abuse deterrence strategies for pharmaceuticals using

crowdsourcing for black market street prices

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Abstract:

<u>Aims</u>: Create an online crowdsourcing platform to collect information on street prices of controlled substances. Compare results of crowdsourcing with surveys of law enforcement and regulatory officials. Evaluate 3 abuse deterrence strategies (physical barrier, agonist-antagonist, & prodrug) using real world street prices.

<u>Methods</u>: Launched in Nov. 2010, StreetRx.com allows submission of prices for diverted prescription drugs, search for prices by geography, & rate prices (cheap to overpriced). Data collected were compared to the RADARS® System Drug Diversion Program's Street Price Questionnaire (SPQ) survey, which collects quarterly data from 125 law enforcement and regulatory officials. Street prices for different "abuse deterrent formulations" were compared to corresponding unprotected formulations. Prices were standardized by milligram. Geometric means and 95% confidence intervals were calculated in STATA 11.

Results: There were 15,544 unique site visitors and more than 2000 submissions of street prices in the first year. On StreetRx.com, the mean reported street price for OxyContin® OC (original) was \$0.78 per mg, and the more difficult to crush OxyContin OP (reformulation) was \$0.56, a 28% difference. Similar results were found using SPQ. Suboxone® (buprenorphine plus antagonist naloxone) had a lower street price than Subutex® (buprenorphine alone): 14% lower in StreetRx and 17% lower in SPQ. Produrg lisdexamfetamine (Vyvanse®) has lower street prices than active metabolite amphetamine: 60% lower in StreetRx and 52% lower in SPQ.

<u>Conclusions</u>: Street prices collected via StreetRx were similar to prices from law enforcement. Of 3 abuse deterrent strategies assessed, prodrugs had greatest difference compared to unprotected formulation, followed by physical barrier and agonist- antagonist. Further work is needed to characterize data collected from online crowdsourcing. StreetRx may be a useful tool for law enforcement.

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