Reduction In OxyContin® Diversion Events Following the Introduction of Reformulated OxyContin

Severtson S. G.[1], Bucher Bartelson B.[1], Davis J. M.[1], Muñoz A.[2], Schneider M. F.[2], Chilcoat H.[3], Coplan P.[3], Surratt H.[4], Dart R. C.[1,5]

[1]Denver Health & Hospital Authority/Rocky Mountain Poison & Drug Center [2]Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health [3]Purdue Pharma L.P. [4]Nova Southeastern University [5]University of Colorado Department of Emergency Medicine

Introduction

Reformulated OxyContin® (oxycodone HCl Controlled-Release Tablets; ORF), was introduced in August 2010. The reformulated tablet has properties intended to prevent it from being easily cut, broken, crushed or dissolved to release more medication.

Objective

We hypothesized that the tamper resistant properties of ORF would make it less attractive to abuse. This would be reflected in a decrease in the diversion of OxyContin to illegal channels.

Methods

- Data from the Researched Abuse, Diversion and Addiction-Related Surveillance (RADARS)® System Drug Diversion Program were used.

- Approximately 300 drug diversion officers (municipal police departments, multi-jurisdictional drug task forces, county sheriffs' departments, regulatory agencies, state police agencies, prosecutors' offices, and departments of health) in 50 states and Puerto Rico submit data quarterly on the number of documented drug diversion cases within their jurisdiction for specific prescription drugs.

- Quarterly OxyContin diversion rates before introduction of ORF (October 2008 through September 2010) were compared to quarterly rates after introduction of ORF (October 2010 through December 2011). Rates per 1,000,000 population and rates per 10,000 unique recipients of dispensed drug (URDD) were calculated for each quarter.

- Differences were compared to those observed for other prescription opioids tracked by the RADARS System. Negative binomial regression was used to incorporate overdispersion.

Results

Figure 1. Diversion rates per 1,000,000 population and 10,000 URDD for OxyContin® and other prescription opioids from 4th quarter of 2008 through 4th quarter of 2011.
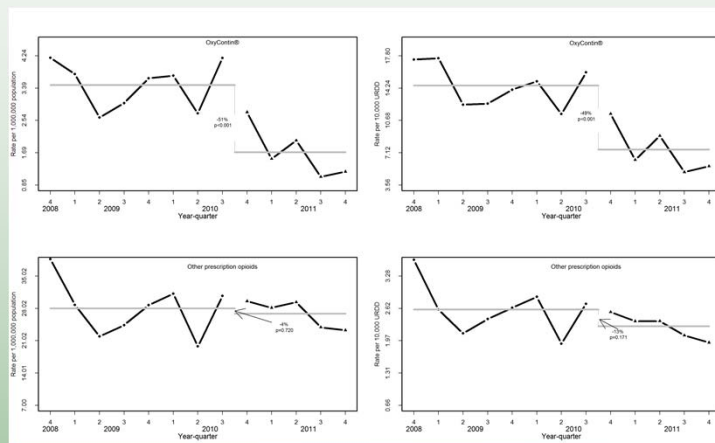

Table 1. US population coverage and the number of diversion events for OxyContin® and Other Prescription Opioids in Drug Diversion program of the RADARS® System.

	Quarter	Percent of 2000 US Population covered	OxyContin events	Other prescription opioids[a] events
Pre-ORF	2008Q4	37.26%	466	4,310
	2009Q1	38.55%	434	3,325
	2009Q2	49.65%	395	3,315
	2009Q3	50.03%	456	3,714
	2009Q4	38.23%	422	3,322
	2010Q1	38.19%	431	3,620
	2010Q2	49.84%	417	3,024
	2010Q3	38.35%	488	3,586
Post-ORF	2010Q4	36.33%	306	3,282
	2011Q1	40.22%	189	3,463
	2011Q2	38.90%	242	3,521
	2011Q3	45.28%	150	3,365
	2011Q4	42.79%	159	3,084

Note: [a] includes immediate release oxycodone, hydrocodone, fentanyl, hydromorphone, morphine, oxymorphone, methadone, buprenorphine, tramadol and tapentadol.

Results

- Figure 1 displays quarterly diversion rates per 1,000,000 population and per 10,000 URDD for OxyContin and results from the negative binomial regression models.

- Table 1 displays the percent of the US population covered by the Drug Diversion Program each quarter during the study period and the sums of diversion events for OxyContin and other prescription opioids.

- The average OxyContin diversion population rate in the post-ORF period is 51% (95% CI: 37 to 61%, p<0.001) less than the average population rate in the period before introduction of ORF.

- The average OxyContin diversion URDD rate declines by 49% (95% CI: 36 to 59%, p<0.001) following introduction of ORF.

- The population and URDD rates of other prescription opioids show no significant change. The interaction term in both models was significant (p<0.001), indicating that the declines in OxyContin diversion rates are significantly greater than the changes observed for other prescription opioids.

Conclusions

- Diversion of OxyContin declined following introduction of ORF. This finding was unique to OxyContin and remained after adjusting for declines in product availability.

- Future investigation is needed to understand the extent to which these declines reflect changes in abuse of OxyContin and whether there is a transition to other opioids or an increase treatment entries by individuals dependent on opioids.

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