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

¹Denver Health & Hospital Authority/Rocky Mountain Poison & Drug Center ²Department of Epidemiology, Johns Hopkins Bloomberg School of

Public Health 3Purdue Pharma L.P. 4Nova Southeastern University 5University of Colorado Department of Emergency Medicine

Introduction

Reformulated OxyContin® (oxycodone HCI 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 displays quarterly diversion rates per

1,000,000 population and per 10,000 URDD for

OxyContin and results from the negative binomial

regression models.

**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 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.

**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**

**opioidsa**

**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**

•• 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.

**Conclusion**

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. 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.

**s**