Background

- Buprenorphine and buprenorphine/naloxone sublingual formulations are diverted for illegal sale and abused.
- The Researched Abuse, Diversion and Addictive Surveillance (RADARS®) System collects product-specific data about diversion and abuse of prescription opioids.
- Previous reports showed differences in diversion and abuse rates between formulations, but observation periods were short.
- This study presents cumulative data about diversion and abuse rates of buprenorphine sublingual formulations.

Methods

- Quarterly data were obtained from the RADARS System Drug Diversion, Opioid Treatment (OTP) and Survey of Key Informants’ Patients (SKIP) Programs.
- Drug Diversion Program: October 2010 – March 2013
- Treatment programs (OTP and SKIP): April 2011 – March 2013
- Reports about buprenorphine tablets, buprenorphine/naloxone tablets and buprenorphine/naloxone film were analyzed.
- The Drug Diversion Program collects data from 250 police agencies in 50 US states and the District of Columbia.
- A case in the Drug Diversion Program is a new law enforcement investigation involving a buprenorphine sublingual product.
- The treatment programs (OTP and SKIP) collect confidential survey data from patients entering substance abuse therapy.
- Patients report all drugs used “to get high” in the past month.
- OTP: 73 federally certified treatment programs in 33 states
- 83% of eligible subjects participate
- SKIP: 125 substance abuse treatment practices in 50 states
- >90% of eligible subjects participate
- To account for wide variation in prescribing between formulations and over the 21-month study period, event ratios (rates) were calculated based on the number of patients filling prescriptions for each formulation in a covered geographic area (Unique Recipients of a Dispensed Drug, URDD).

Results

Drug Diversion Investigations

Based on 1,505 diversion investigation reports

<table>
<thead>
<tr>
<th>Rate</th>
<th>95% CI</th>
<th>Rate</th>
<th>95% CI</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combination Tablets</td>
<td>13.6</td>
<td>12.8 – 14.5</td>
<td>10.6</td>
<td>9.0 – 12.4</td>
</tr>
<tr>
<td>Single Ingredient Tablets</td>
<td>8.7</td>
<td>7.6 – 9.8</td>
<td>6.7</td>
<td>5.5 – 8.2</td>
</tr>
<tr>
<td>Combination Film</td>
<td>1.3</td>
<td>1.1 – 1.5</td>
<td>Reference</td>
<td></td>
</tr>
</tbody>
</table>

Past-Month Abuse Endorsements

Based on 5,293 abuse endorsements

<table>
<thead>
<tr>
<th>Rate</th>
<th>95% CI</th>
<th>Rate</th>
<th>95% CI</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combination Tablets</td>
<td>21.3</td>
<td>20.3 – 22.3</td>
<td>2.3</td>
<td>2.2 – 2.5</td>
</tr>
<tr>
<td>Single Ingredient Tablets</td>
<td>61.8</td>
<td>59.2 – 64.6</td>
<td>6.8</td>
<td>6.3 – 7.3</td>
</tr>
<tr>
<td>Combination Film</td>
<td>9.1</td>
<td>8.7 – 9.6</td>
<td>Reference</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions

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

Limitations

These data do not include generic buprenorphine/naloxone tablets, which were introduced in February 2013.

Funding / Disclosures

Research funded by Reckitt Benckiser Pharmaceuticals.

The Denver Health and Hospital Authority, a Colorado governmental entity, has research and/or consulting agreements with Reckitt Benckiser Pharmaceuticals and the manufacturers of several generic buprenorphine sublingual products.

Presented at the American College of Medical Toxicology Annual Scientific Meeting, Phoenix, AZ, March 29, 2014.