15. Trends in Suspected Suicide Involving Prescription Opioids by Four US Regions

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**Background:** Little is known about the use of prescription (Rx) opioids with suicidal intent by region of the US. This study aims to describe these trends during 2006–2014.

**Methods:** Trends in suspected suicidal intent involving Rx opioids during 2006–2014 were examined by four geographic regions defined by the U.S. Census: Midwest, Northeast, South and West. Data were used from the Researched Abuse, Diversion and Addiction-Related Surveillance (RADARS®) System Poison Center Program, which collects and reviews human exposure cases from participating US poison centers. Each case is classified by exposure reason and substance(s) used. Cases classified as intentional suspected suicide involving buprenorphine, fentanyl, hydromorphone, hydrocodone, methadone, morphine, oxycodone or tramadol were summed by year and region. Sums were divided by the covered population for each region to calculate rates. Polynomial regression using a Poisson distribution was used to model trends for the 4 regions. Linear and quadratic terms for year, and year by region were fit and assessed for significance in the model. A dispersion parameter was estimated for each region to allow for potentially unequal variances.

**Results:** Terms that were significant in the model were: region (p-value < 0.0001), linear term for year (p-value < 0.0001), the quadratic term for year (p-value < 0.0001), and the interaction of region and the linear term for year (p-value = 0.0099). There was not a significant interaction of region and the quadratic term for year (p-value = 0.4766). The trends demonstrate a rise in rates early in the study period followed by a decline later. Although rates in the South were higher in 2006, compared to the other regions, rates in the South began to decline earlier (1Q2011) than other regions. The West had the most striking change in rates, moving from the second to lowest rate in 2006 to the highest rate in 2014. Further, compared to the other regions, the decline in rates in the West was observed later in the time period (3Q2012).

**Conclusion:** Data from the RADARS System suggest that during 2006–2014, there was an initial increase in rates of use of Rx opioids cases with suspected suicidal intent, followed by a recent decline in all regions. Awareness of regional trends is critical in order to facilitate the continued decline in all rates.

**Keywords:** prescription opioids, exposures, suicide
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<table>
<thead>
<tr>
<th>Region</th>
<th>Estimated 2006 Rate (CI)</th>
<th>Estimated 2014 Rate (CI)</th>
<th>Start of Decline in Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midwest</td>
<td>5.03 (4.56, 5.54)</td>
<td>7.55 (6.97, 8.18)</td>
<td>1Q2012</td>
</tr>
<tr>
<td>Northeast</td>
<td>3.83 (3.45, 4.26)</td>
<td>5.52 (5.09, 5.98)</td>
<td>3Q2011</td>
</tr>
<tr>
<td>South</td>
<td>5.08 (4.54, 5.68)</td>
<td>6.57 (5.96, 7.25)</td>
<td>1Q2011</td>
</tr>
<tr>
<td>West</td>
<td>4.18 (3.77, 4.65)</td>
<td>7.87 (7.26, 8.53)</td>
<td>3Q2012</td>
</tr>
</tbody>
</table>

16. To tell or not to tell?

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**Background:** Poison exposures in the workplace are commonly handled by poison center staff. In 2013, 570 cases were reported to this poison center (PC), a total of 25,946 occupational exposures were reported nationwide. While managing the exposure and providing treatment recommendations for the exposed victim remains our primary concern, efforts to further protect the worker and prevent future events from occurring are lacking. In 1970 Congress passed the Occupational Safety and Health Act to assure safe and healthful workplaces for working men and women. This act established the Occupational Safety and Health Administration (OSHA) and authorized OSHA to promulgate and enforce workplace health and safety standards. In June of 2014, this PC entered into a formal agreement with the Regional OSHA office to refer poison cases originating in the workplace for possible further investigation and action by the governmental agency. Our experience over the past 9 months is described.

**Methods:** In early 2014, the authors held informal meetings with OSHA to discuss workplace exposures previously reported to this PC. In June of 2014, a memorandum of understanding was jointly drafted and approved by each organization. A data collection strategy was established, various in-services were performed to train center personnel as to how to collect information, and a substance-based coding plan was incorporated into the PC’s EMR system for further identification of eligible cases. Queries were run and reports were generated on a weekly basis. Only cases meeting all inclusion criteria were then sent to OSHA offices for further review and evaluation.

**Results:** Over a 9 month period, 172 cases that met the criteria for workplace exposures were sent to OSHA. Of those sent, 41% forgot to ask for permission, 34% were not granted permission, and 17% were granted permission to OSHA for review, evaluation and possible investigation. 3% were not in jurisdiction, 3% were given citations and 2% were unsure cases. From the 172 cases sent, 5 cases warranted an investigation and/or were fined and given citations from OSHA.

**Conclusion:** Through this cooperative effort, our PC has enhanced OSHA’s knowledge of exposure scenarios that occur in our state and has allowed them the opportunity to provide corrective action for different workplaces that would not normally be inspected through conventional targeting. The PC’s partnership with the occupational safety agency, allows the agency to implement workplace corrective measures more quickly, and provides the PC with more information about the case and strategies for avoiding a recurrence of the event. With this collaboration, both are assuring safe and healthful working conditions for working men and women.

**Keywords:** Public health, Poison center, Education
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17. Use of e-cigarettes to vape recreational drugs in clubbers in London, UK

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