



Hospitalizations for Opioid Overdose – 2016

This research brief focuses on inpatient hospitalizations for patients whose principal reason for admission was overdose of heroin or pain medication. This brief follows one released by PHC4 last year that examined overdose trends through 2014. This analysis updates those results by highlighting 2016 data. It includes Pennsylvania residents, age 15 and older, who were admitted to a Pennsylvania general acute care hospital.*

Heroin

1,524

There were 1,524 hospital admissions for heroin overdose in 2016.

9.4%

The in-hospital mortality rate for these patients was 9.4% (nearly 1 in 10)—up from 7.5% in 2014.

3%

About 3% of the patients hospitalized for a heroin overdose in 2016 had at least one additional admission for heroin overdose in that year.

33

The average age of patients admitted for a heroin overdose was 33. About 70% of hospital admissions for heroin overdose were for patients aged 20-39. About 2% of heroin overdose admissions were for patients aged 15-19.

66%

Between 2014 and 2016, the number of hospital admissions for heroin overdose increased 66% (from 919 to 1,524) and almost doubled since 2013 (from

786 to 1,524). The number was steady, averaging 385 a year, between 2003 and 2010.

Number of Heroin Hospitalizations



\$13.9 million

In 2016 heroin overdose admissions amounted to an estimated \$13.9 million in payments.

Calculated by applying the average Medicaid payment (2013 data) to Medicaid cases and the average Medicare fee-for-service payment (2015 data) to Medicare, other insurers and uninsured.

Urban/Rural Residents. Between 2011 and 2016, the number of heroin overdose admissions increased, on average, 27% each year for rural residents and 24% each year for urban residents. Urban residents still comprise a larger percent (84%) of the heroin overdose admissions.

* This analysis does not include overdoses that did not result in a hospital admission (e.g., those treated with naloxone and/or treated in the emergency department and not admitted to the hospital or overdose deaths that occurred outside the hospital setting). Data for Quarter 4, 2016 was considered preliminary at the time of this analysis.

Pain Medicine

1,775

There were 1,775 hospital admissions for overdose of pain medication in 2016.

2.8%

The in-hospital mortality rate for these patients was 2.8%.

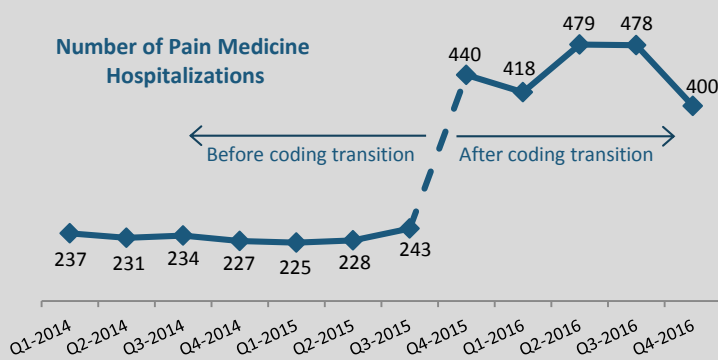
3%

About 3% of the patients hospitalized for overdose of pain medication in 2016 had at least one additional admission for pain medication overdose in that year.

54

The average age of patients admitted for pain medication overdose was 54. About 60% of the pain medication overdose admissions were for patients aged 50 and older. (Not included in the analysis for this brief were 28 admissions for patients less than 15 years old.)

Number of Pain Medicine Hospitalizations



Hospitalizations where pain medication overdose is the principal reason for the admission are more readily identified since new hospital coding requirements became effective October 1, 2015 (Q4-2015). As such, admissions for pain medication overdose are higher than previously believed. Recent results show an average of 443 per quarter versus 232 per quarter prior to the introduction of the new coding requirements.

\$13.2 million

In 2016 pain medication overdose admissions amounted to an estimated \$13.2 million in payments.

Calculated by applying the average Medicaid payment (2013 data) to Medicaid cases and the average Medicare fee-for-service payment (2015 data) to Medicare, other insurers and uninsured.

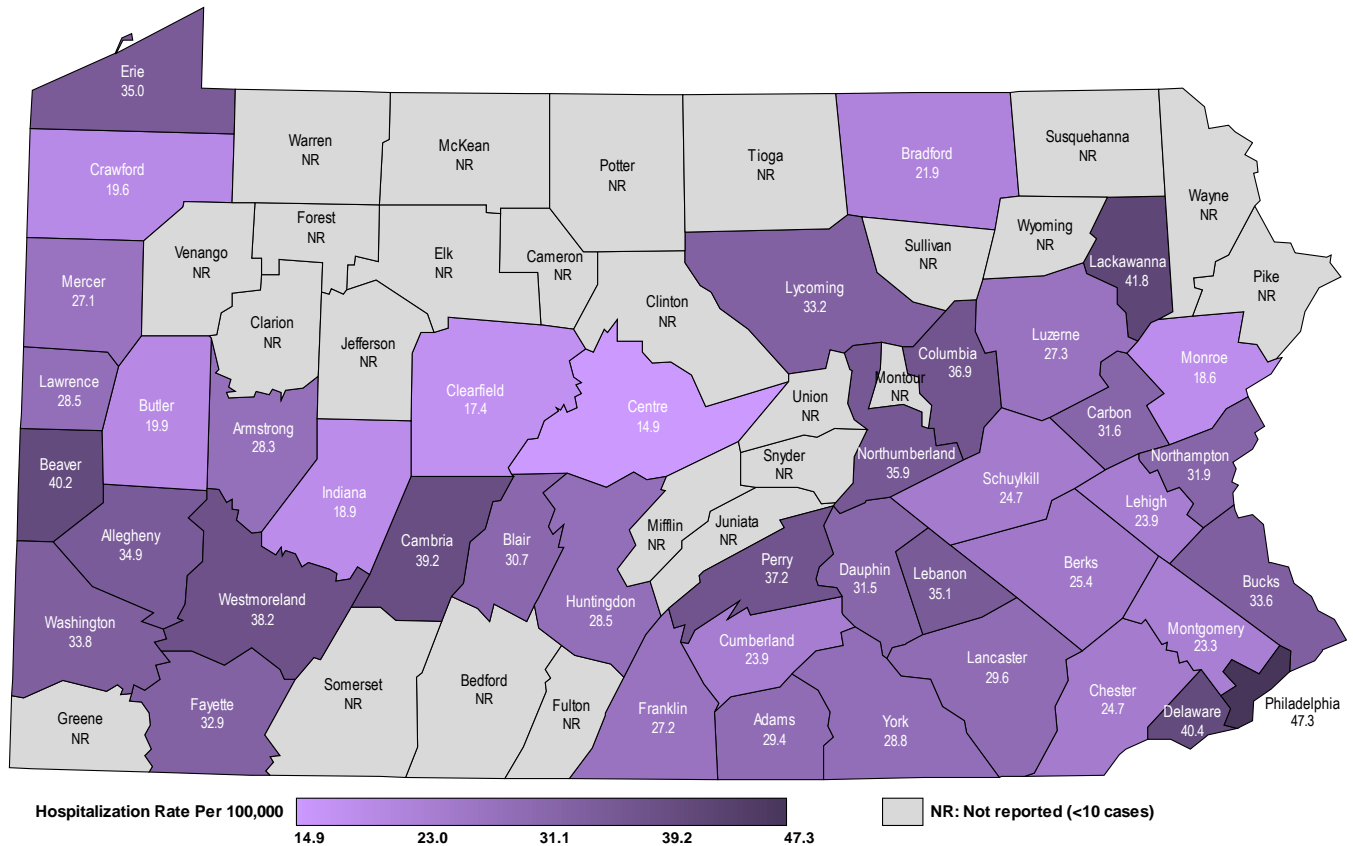
About PHC4

Created by the PA General Assembly in 1986, the PA Health Care Cost Containment Council (PHC4) is an independent state agency charged with collecting, analyzing and reporting information that can be used to improve the quality and restrain the cost of health care in the state. Today, PHC4 is a recognized national leader in public health care reporting. More than 840,000 public reports on patient treatment results are downloaded from the PHC4 website each year, and nearly 100 organizations and individuals annually utilize PHC4's special requests process to access and use data. PHC4 is governed by a 25-member board of directors, representing business, labor, consumers, health care providers, insurers and state government.

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Number of Hospitalizations for Opioid Overdose per 100,000 Residents, 2016



Population-based Rates. Overall, there were 31.1 hospital admissions statewide for opioid overdose per 100,000 Pennsylvania residents (combining hospital admission rates for both heroin and pain medication overdose as shown in the map above). Higher rates for some counties might be dependent on larger numbers of residents with high risk characteristics (e.g., factors related to income, race/ethnicity and gender). County rates were not adjusted for these population differences so that important effects of these patient characteristics were not masked by such adjustment.

Heroin Overdose. Statewide, there were 14.4 admissions for heroin overdose per 100,000 residents. Lower income residents had a higher rate at 21.8. The rates for white (non-Hispanic), Hispanic, and black (non-Hispanic) residents were 14.6, 13.3 and 12.2, respectively. The rate was 20.8 for males and 8.3 for females.

Pain Medication Overdose. Statewide, there were 16.8 admissions for overdose of pain medication per 100,000 residents. Lower income residents had a higher rate at 22.8. The rates for black (non-Hispanic), white (non-Hispanic), and Hispanic residents were 19.8, 17.4 and 7.5, respectively. The rate was 15.5 for males and 17.9 for females.

Note: Rates include residents 15 years of age and older and were calculated using PHC4 hospital discharge data and US Census Bureau data; 2016 rates were based on 2015 population numbers.

Hospitalizations for Opioid Overdose by County, 2016

| | Hospitalization Rate per 100,000 Residents* | Total Number of Hospitalizations | Number of Hospitalizations for Heroin | Number of Hospitalizations for Pain Medicine |
|------------|---|----------------------------------|---------------------------------------|--|
| Statewide | 31.1 | 3,299 | 1,524 | 1,775 |
| Adams | 29.4 | 25 | NR | NR |
| Allegheny | 34.9 | 362 | 179 | 183 |
| Armstrong | 28.3 | 16 | NR | NR |
| Beaver | 40.2 | 57 | 36 | 21 |
| Bedford | NR | NR | NR | NR |
| Berks | 25.4 | 86 | 53 | 33 |
| Blair | 30.7 | 32 | NR | NR |
| Bradford | 21.9 | 11 | NR | NR |
| Bucks | 33.6 | 175 | 94 | 81 |
| Butler | 19.9 | 31 | 18 | 13 |
| Cambria | 39.2 | 45 | 17 | 28 |
| Cameron | NR | NR | NR | NR |
| Carbon | 31.6 | 17 | NR | NR |
| Centre | 14.9 | 21 | NR | NR |
| Chester | 24.7 | 103 | 48 | 55 |
| Clarion | NR | NR | NR | NR |
| Clearfield | 17.4 | 12 | NR | NR |
| Clinton | NR | NR | NR | NR |
| Columbia | 36.9 | 21 | NR | NR |
| Crawford | 19.6 | 14 | NR | NR |
| Cumberland | 23.9 | 49 | 19 | 30 |
| Dauphin | 31.5 | 70 | 36 | 34 |
| Delaware | 40.4 | 186 | 98 | 88 |
| Elk | NR | NR | NR | NR |
| Erie | 35.0 | 80 | 34 | 46 |
| Fayette | 32.9 | 37 | 14 | 23 |
| Forest | NR | NR | NR | NR |
| Franklin | 27.2 | 34 | 17 | 17 |
| Fulton | NR | NR | NR | NR |
| Greene | NR | NR | NR | NR |
| Huntingdon | 28.5 | 11 | NR | NR |
| Indiana | 18.9 | 14 | NR | NR |
| Jefferson | NR | NR | NR | NR |

| | Hospitalization Rate per 100,000 Residents* | Total Number of Hospitalizations | Number of Hospitalizations for Heroin | Number of Hospitalizations for Pain Medicine |
|----------------|---|----------------------------------|---------------------------------------|--|
| Juniata | NR | NR | NR | NR |
| Lackawanna | 41.8 | 74 | 13 | 61 |
| Lancaster | 29.6 | 127 | 61 | 66 |
| Lawrence | 28.5 | 21 | 10 | 11 |
| Lebanon | 35.1 | 39 | 19 | 20 |
| Lehigh | 23.9 | 70 | 34 | 36 |
| Luzerne | 27.3 | 73 | 32 | 41 |
| Lycoming | 33.2 | 32 | 10 | 22 |
| McKean | NR | NR | NR | NR |
| Mercer | 27.1 | 26 | 11 | 15 |
| Mifflin | NR | NR | NR | NR |
| Monroe | 18.6 | 26 | 11 | 15 |
| Montgomery | 23.3 | 157 | 81 | 76 |
| Montour | NR | NR | NR | NR |
| Northampton | 31.9 | 80 | 37 | 43 |
| Northumberland | 35.9 | 28 | NR | NR |
| Perry | 37.2 | 14 | NR | NR |
| Philadelphia | 47.3 | 603 | 297 | 306 |
| Pike | NR | NR | NR | NR |
| Potter | NR | NR | NR | NR |
| Schuylkill | 24.7 | 30 | 11 | 19 |
| Snyder | NR | NR | NR | NR |
| Somerset | NR | NR | NR | NR |
| Sullivan | NR | NR | NR | NR |
| Susquehanna | NR | NR | NR | NR |
| Tioga | NR | NR | NR | NR |
| Union | NR | NR | NR | NR |
| Venango | NR | NR | NR | NR |
| Warren | NR | NR | NR | NR |
| Washington | 33.8 | 59 | 35 | 24 |
| Wayne | NR | NR | NR | NR |
| Westmoreland | 38.2 | 116 | 46 | 70 |
| Wyoming | NR | NR | NR | NR |
| York | 28.8 | 104 | 56 | 48 |

* Hospitalization rate per 100,000 residents is based on the total number of hospitalizations for heroin and pain medicine combined. NR: Not Reported. Fewer than 10 hospitalizations for heroin and pain medication individually or combined.