



Hospitalizations for Opioid Overdose – Population Differences

This research brief is part of a series produced by the PA Health Care Cost Containment Council (PHC4) that examines opioid-related hospitalizations. This edition examines population differences in hospitalization rates for opioid overdose among Pennsylvania residents (2017 data) and examines rate increases (2016 to 2017). It includes Pennsylvania residents, age 15 and older, who were admitted to a Pennsylvania general acute care hospital. 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).

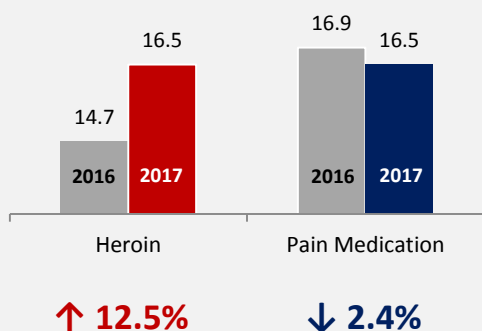
In 2017, there were 3,500 hospitalizations for opioid overdose—divided almost evenly between heroin overdoses at 1,753 hospitalizations and pain medication overdoses at 1,747 hospitalizations.

This brief looks at these hospitalizations with a focus on demographic differences among Pennsylvania residents (by age, race/ethnicity, income, rural/urban residency and female/male). It highlights...

- Residents with the **highest rates** of hospitalization for overdose of heroin or pain medication.
- Residents with the **highest increases** in hospitalization rates for overdose of heroin or pain medication between 2016 and 2017.

In 2017, Pennsylvanians were hospitalized at the rate of 16.5 per 100,000 residents for both heroin overdose and pain medication overdose. Between 2016 and 2017, the rate of admission increased 12.5% for heroin overdose and decreased 2.4% for overdose of pain medication.

Overdose Hospitalization Rate per 100,000 Residents



Key Findings

Heroin

- Highest rates by demographic:

	Rate per 100,000
Statewide	16.5
Residents age 15-34	28.8
Hispanic residents	19.3
Lower income residents	40.5
Urban residents	19.0
Male residents	24.1

- Highest increases by demographic:

Statewide	↑ 12.5%
Residents age 55 and older	↑ 35.8%
Hispanic residents	↑ 48.8%
Lower income residents	↑ 40.8%
Urban residents	↑ 14.0%
Male residents	↑ 13.5%

Pain Medication

- Highest rates by demographic:

	Rate per 100,000
Statewide	16.5
Residents age 55 and older	19.8
Black (non-Hispanic) residents	18.5
Lower income residents	27.5
Urban residents	16.8
Male residents	16.8

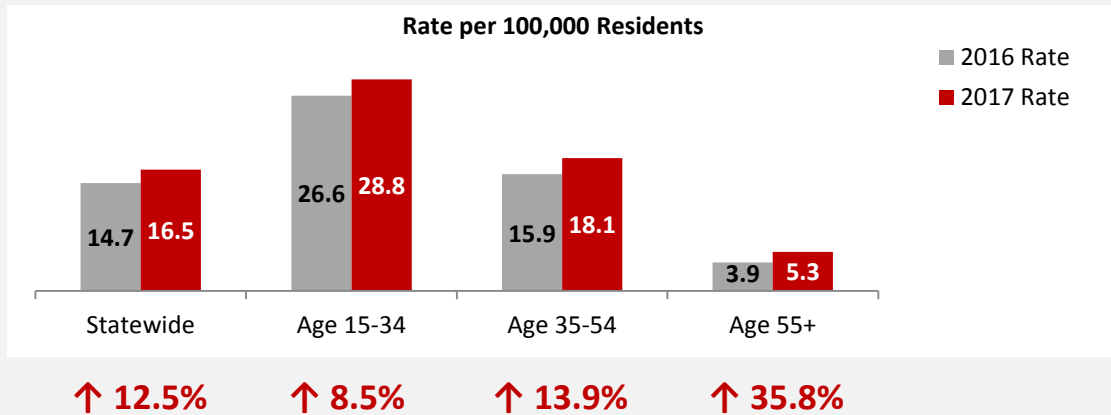
- Highest increases by demographic:

Statewide	↓ 2.4%
Residents age 15-34	↑ 8.0%
Hispanic residents	↑ 31.1%
Lower income residents	↑ 8.7%
Male residents	↑ 7.8%

Rates decreased for both rural and urban residents.

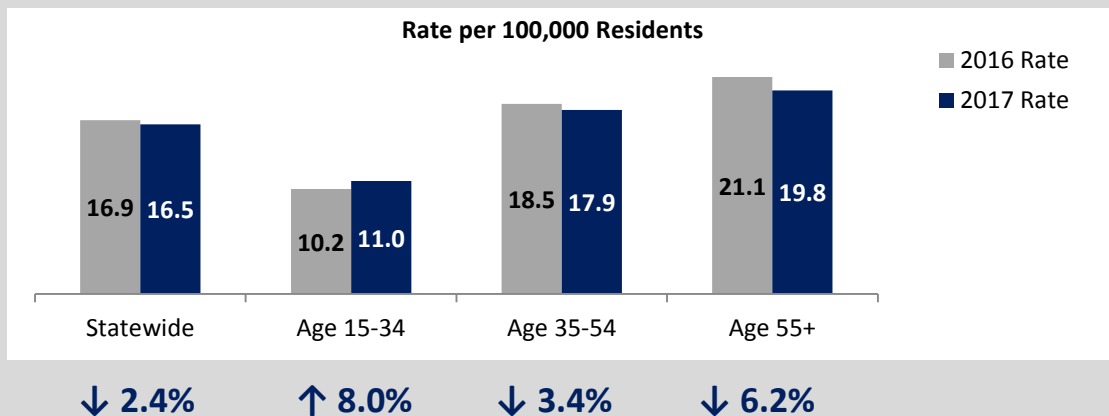
By Age...

Heroin Overdose



In 2017, residents age 15-34 had the highest hospitalization rate for heroin overdose at 28.8 per 100,000 residents. While residents age 55 and older had the lowest rate at 5.3 per 100,000, they had the highest rate increase—35.8% between 2016 (when the rate was 3.9) and 2017. The rate more than tripled for this age group since 2013 (when the rate was 1.5 per 100,000). Rate increases between 2016 and 2017 for other age groups: age 15-34 (↑8.5%; from 26.6 to 28.8) and age 35-54 (↑13.9%; from 15.9 to 18.1).

Pain Medication Overdose

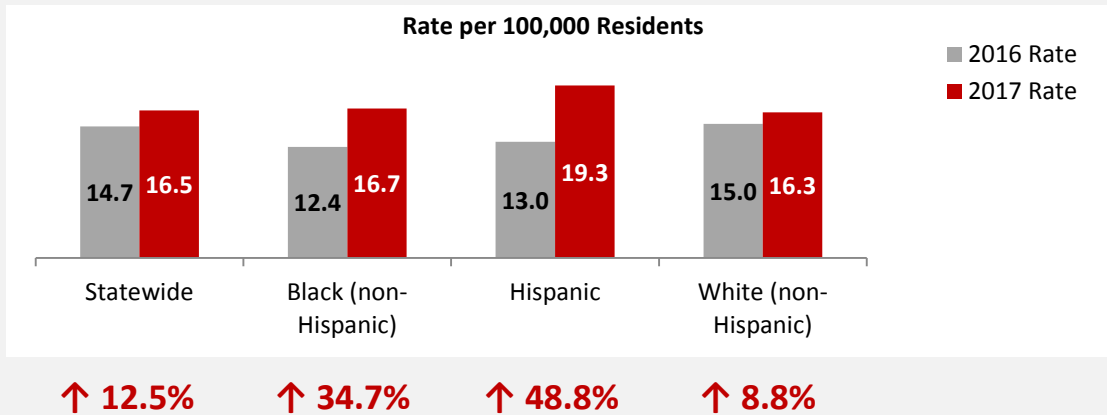


In 2017, residents age 55 and older had the highest rate of hospitalization for overdose of pain medication at 19.8 per 100,000 residents. Residents age 15-34 had the only rate increase between 2016 and 2017 (↑8.0%; from 10.2 to 11.0). Other age groups had rate decreases: age 35-54 (↓3.4%; from 18.5 to 17.9) and age 55+ (↓6.2%; from 21.1 to 19.8).

Rate Calculations: Rates include residents age 15 and older and were calculated using PHC4 hospital discharge data and US Census Bureau data (2016 and 2017 population figures). Rates by income were based on Census 2016 estimates of median household income and population at the zip code level. Rate increases/decreases were calculated using unrounded rates.

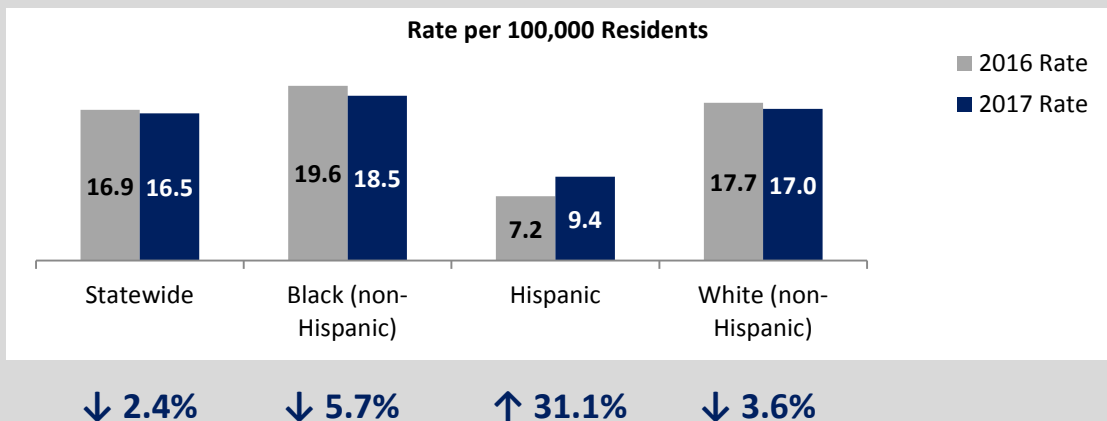
By Race/Ethnicity...

Heroin Overdose



In 2016, white (non-Hispanic) residents had the highest rate of hospitalization for heroin overdose at 15.0 per 100,000 residents. By 2017, Hispanic residents had the highest rate at 19.3 per 100,000. That figure represents an increase of 48.8% between 2016 (when the rate was 13.0) and 2017. In 2017, black (non-Hispanic) and white (non-Hispanic) residents had similar rates at 16.7 and 16.3, respectively. The rate increase for black (non-Hispanic) residents was 34.7% (from 12.4 to 16.7). The rate increase for white (non-Hispanic) residents was 8.8% (from 15.0 to 16.3).

Pain Medication Overdose

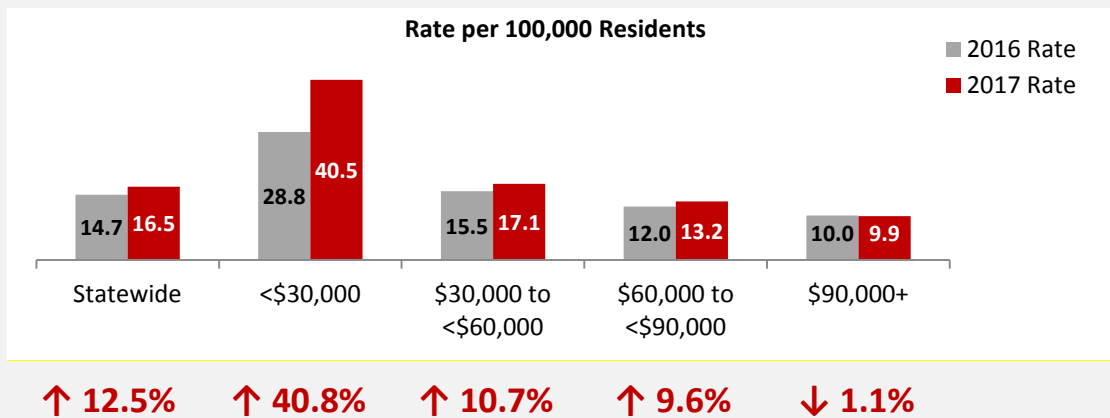


In 2017, black (non-Hispanic) residents had the highest hospitalization rate for pain medication overdose at 18.5 per 100,000 residents, followed by white (non-Hispanic) residents at 17.0 per 100,000. Hispanic residents had the lowest hospitalization rate for pain medication overdose at 9.4 per 100,000 residents; yet, that figure is a 31.1% increase from the 2016 rate of 7.2. Rates decreased for black (non-Hispanic) residents (↓5.7%; from 19.6 to 18.5) and white (non-Hispanic) residents (↓3.6%; from 17.7 to 17.0).

Note: Other race/ethnicity groups not displayed due to low volume.

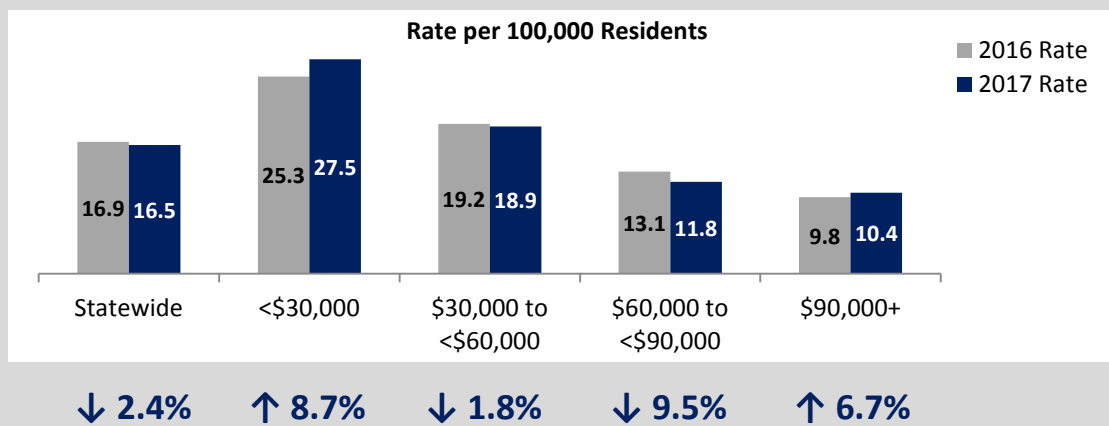
By Household Income...

Heroin Overdose



In 2017, residents living in areas where the average household income is less than \$30,000 a year had the highest rate of hospitalization for heroin overdose at 40.5 per 100,000 residents. This group also had the highest rate increase (↑40.8%) between 2016 and 2017. Residents living in areas where the average annual household income was \$90,000 or more had the lowest rate (9.9 per 100,000) and was the only income group with a rate decrease between 2016 and 2017.

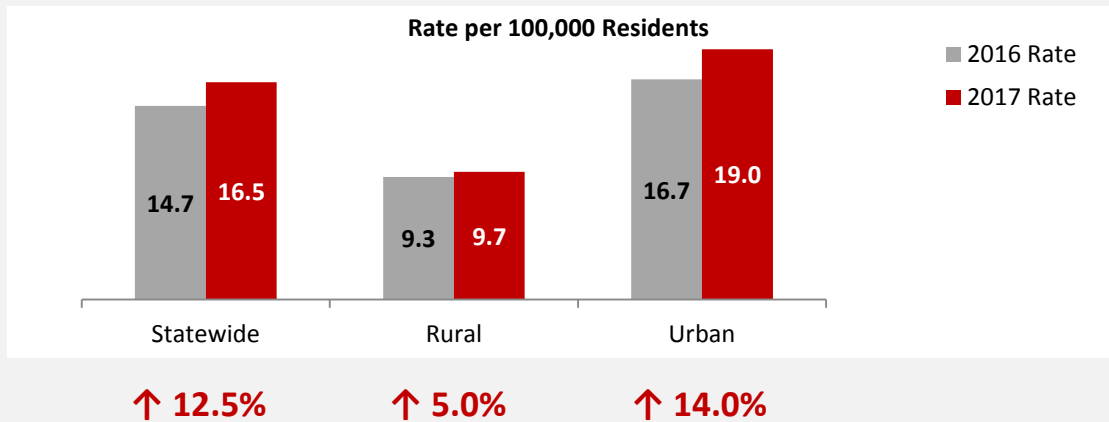
Pain Medication Overdose



In 2017, residents living in areas where the average household income is less than \$30,000 a year had the highest rate of hospitalization for pain medication overdose at 27.5 per 100,000 residents. This income group also had the highest rate increase (↑8.7%) between 2016 and 2017. Residents living in areas where the average annual household income was \$90,000 or more had the lowest rate (10.4 per 100,000), a 6.7% rate increase since 2016.

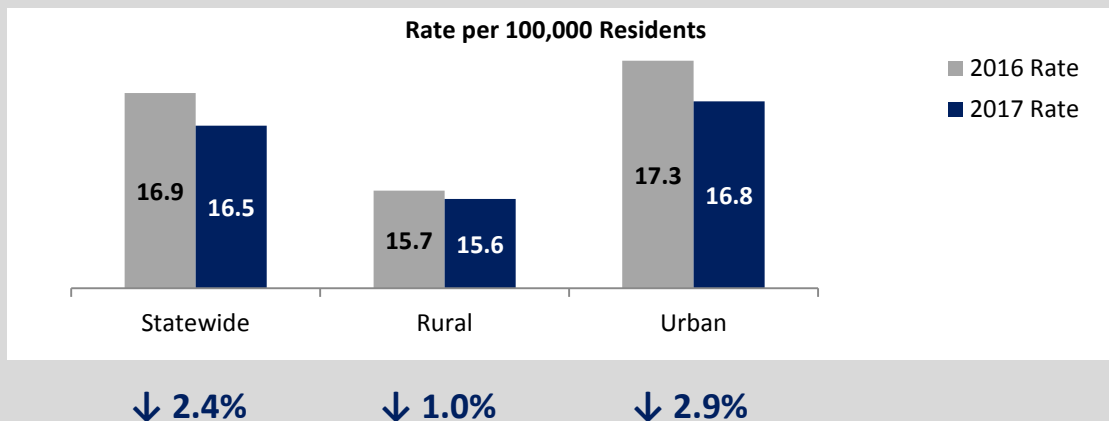
By Rural/Urban Residency...

Heroin Overdose



In 2017, residents living in urban counties had a higher rate of hospitalization for heroin overdose at 19.0 per 100,000 residents. That figure represents a 14.0% increase between 2016 (when the rate was 16.7) and 2017. For residents living in rural counties, the 2017 rate of 9.7 per 100,000 is a 5.0% increase over the 2016 rate of 9.3. Over the longer-term (between 2000 and 2017), the rate of hospitalization for heroin overdose increased 588% for rural residents and 334% for urban residents.

Pain Medication Overdose

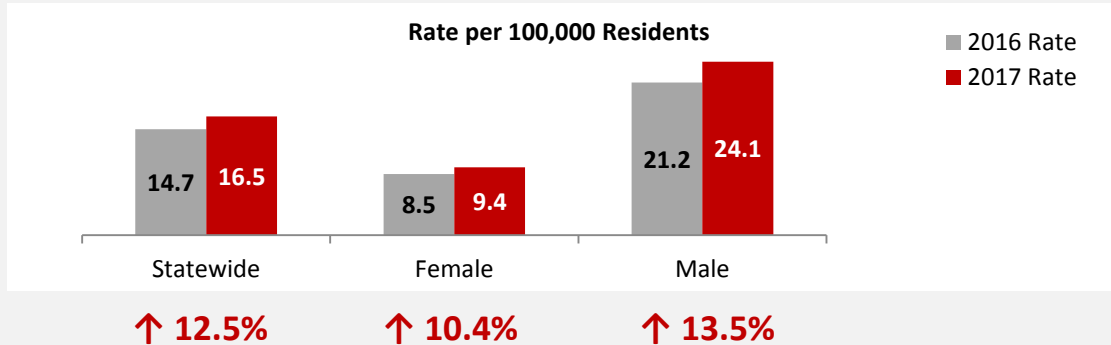


In 2017, the hospitalization rate for overdose of pain medication was 16.8 per 100,000 for residents living in urban counties and 15.6 per 100,000 for residents living in rural counties. Between 2016 and 2017, the rate for urban residents decreased 2.9% (from 17.3 to 16.8). The rate for rural residents decreased 1.0% (from 15.7 to 15.6).

Urban counties include: Allegheny, Beaver, Berks, Bucks, Chester, Cumberland, Dauphin, Delaware, Erie, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, Montgomery, Northampton, Philadelphia, Westmoreland, and York. All other counties are considered rural. (Source: Center for Rural PA)

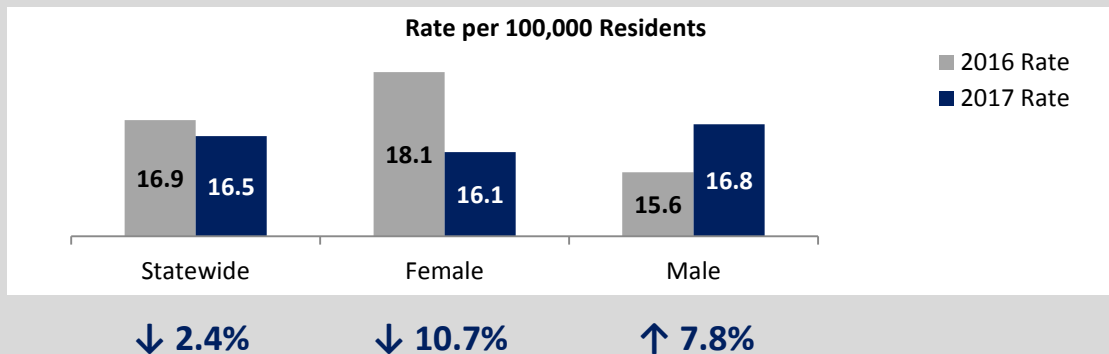
By Female/Male...

Heroin Overdose



In 2017, male residents had a higher rate of hospitalization for heroin overdose at 24.1 per 100,000 residents. Males also had a higher rate increase (↑13.5%) between 2016 and 2017.

Pain Medication Overdose



In 2016, female residents had a higher rate of hospitalization for pain medication overdose at 18.1 per 100,000 residents. By 2017, male residents had the higher rate at 16.8 per 100,000. The rate increased for males (↑7.8%) between 2016 and 2017 and decreased for females (↓10.7%).

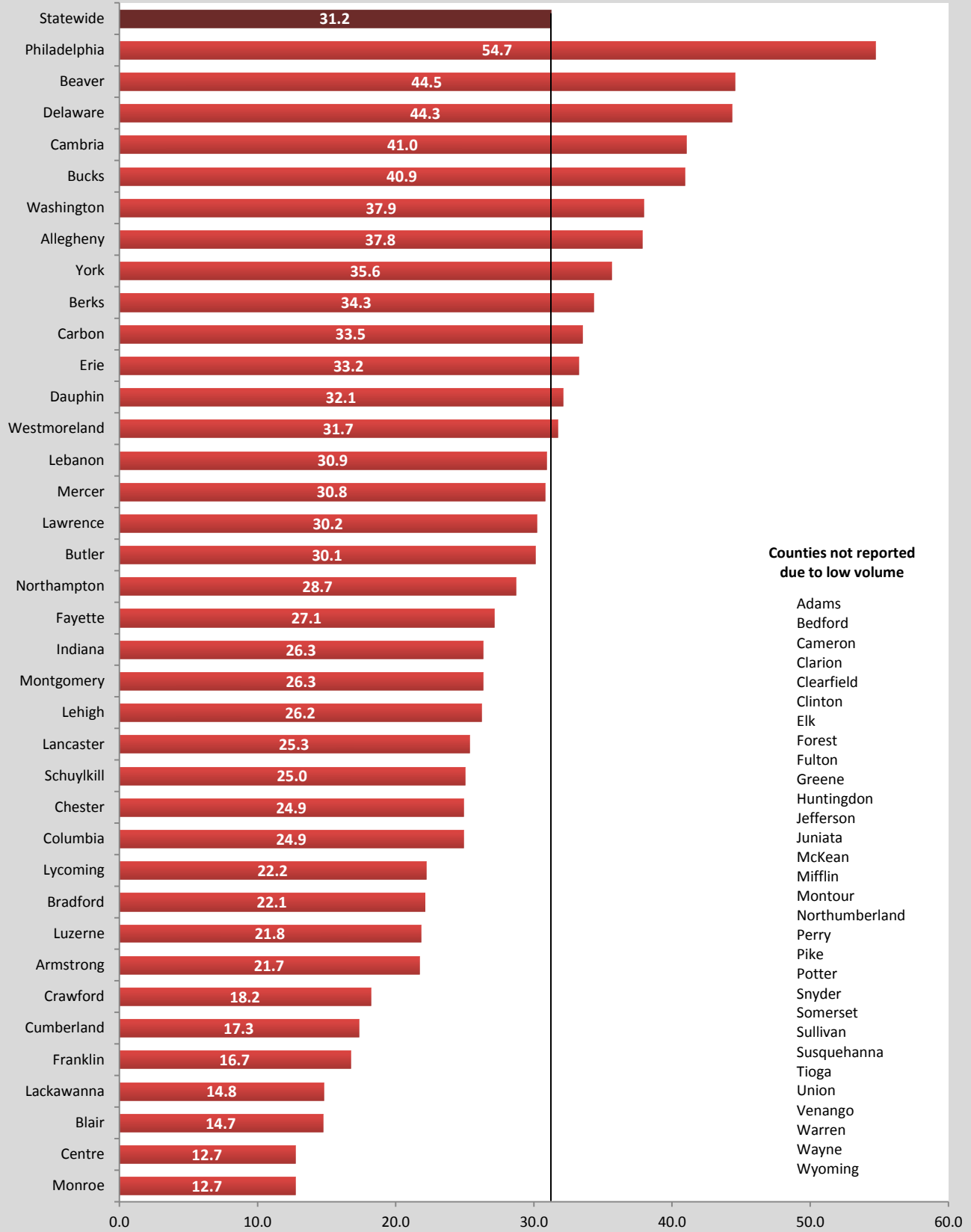
About PHC4

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. 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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**Heroin Overdose - Rate of Hospitalization per 100,000 County Residents
Two-Year Period 2016 and 2017**



**Pain Medication Overdose - Rate of Hospitalization per 100,000 County Residents
Two-Year Period 2016 and 2017**

