More than Opioids: The Social Determinants of Drug Overdose and other ‘Deaths of Despair’ in the U.S.

Shannon M. Monnat
Lerner Chair for Public Health Promotion and Associate Professor of Sociology
Senior Research Associate, Center for Policy Research
Maxwell School of Citizenship and Public Affairs
Syracuse University

April 9, 2018
PAA Congressional Briefing

Grave Consequences: Why Some Americans are No Longer Living Longer
Drug, Alcohol, and Suicide Deaths have Increased

U.S. Total Drug, Suicide, and Alcohol Deaths, 1999-2016

Data: CDC Wonder Multiple Cause of Death Files; https://wonder.cdc.gov/
Chart: Shannon Monnat, smmonnat@maxwell.syr.edu
Drug, Alcohol, and Suicide Deaths have Increased

U.S. Total Drug, Suicide, and Alcohol Deaths, 1999-2016

- Additional Contributing Deaths
- Alcohol-Induced
- Suicide (other Cause)
- Suicide (Firearm)
- Suicide (Drug Overdose)
- Drug-Induced (Accidental or Unknown Intent)

174,498 deaths in 2016
2,106,823 deaths 1999-2016
+111%

Data: CDC Wonder Multiple Cause of Death Files; https://wonder.cdc.gov/
Chart: Shannon Monnat, smmonnat@maxwell.syr.edu
Mortality Rates from Drugs, Alcohol, and Suicide Vary by Race/Ethnicity and Sex

Data: CDC WONDER. Multiple Cause of Death Files, 2000-2016; including NCHS data https://wonder.cdc.gov/. Intentional drug overdoses are included in the drug induced category.
Rates for American Indians Far Exceed other Racial/Ethnic Groups

DRUG, ALCOHOL, AND SUICIDE MORTALITY RATES, BY RACE AND SEX (AGES 25-54)

Data: CDC WONDER. Multiple Cause of Death Files, 2000-2016; includes NCHS data [https://wonder.cdc.gov/](https://wonder.cdc.gov/).
Intentional drug overdoses are included in the drug induced category.
There is Wide Geographic Variation in Drug Mortality Rates

Rates are for NH whites (age 25-64) and are age-adjusted

Data: CDC WONDER. Multiple Cause of Death Files; [https://wonder.cdc.gov/](https://wonder.cdc.gov/) and NCHS
The Geographic Distribution for All-Cause Mortality is Different than for Drug, Alcohol, and Suicide Mortality.

Rates are for NH whites (age 25-64) for 2014-2016 and are age-adjusted. 

Data: CDC WONDER. Multiple Cause of Death Files 2014-2016; https://wonder.cdc.gov/.
On Average, Drug Mortality Rates are **Not** Higher in Rural Areas

**Drug Mortality Rates by Metropolitan Status, 1999-2016**

- Large Central Metro
- Large Fringe Metro
- Medium & Small Metro
- Micropolitan (Nonmetro)
- Noncore (Nonmetro)

**Data:** CDC WONDER. Multiple Cause of Death Files; [https://wonder.cdc.gov/](https://wonder.cdc.gov/) including NCHS data
Rural is not Monolithic: Substantial Variation in Drug Mortality across Rural Areas

Average Nonmetro County Drug Mortality Rate by Labor Market Type

Variation in Drug Mortality Rates Between & Within Regions

- Represents the pooled age-adjusted drug mortality rate of all nonmetro counties within the state, 2014-2016

Data: CDC WONDER. Multiple Cause of Death Files, 2014-2016 (https://wonder.cdc.gov/)

[Graph showing variation in drug mortality rates between and within regions.]

New England
Mid-Atlantic
E. North Central
W. North Central
South Atlantic
E. South Central
W. South Central
Mountain
Pacific

- CT
- VT
- PA
- NY
- NE
- WV
- KY
- OK
- CA
- NM
- OH
- WI
- MO
- GA
- MS
- TX
- ID
- HI

Deaths per 100,000 Population

Census Divisions

0
5
10
15
20
25
30
35
40
45
50
Significant Within-State Variation

- Represents the pooled age-adjusted drug mortality rate of all nonmetro counties within the state, 2014-2016

**State-Level Nonmetro Mortality Rates by Division**

Data: CDC WONDER. Multiple Cause of Death Files, 2014-2016 (https://wonder.cdc.gov/)
Significant Within-State Variation

- Represents the pooled age-adjusted drug mortality rate of all nonmetro counties within the state, 2014-2016

**State-Level Nonmetro Mortality Rates by Division**

<table>
<thead>
<tr>
<th>Census Divisions</th>
<th>McDowell County</th>
<th>Barbour County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>105.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19.9</td>
</tr>
</tbody>
</table>

Data: CDC WONDER. Multiple Cause of Death Files, 2014-2016 (https://wonder.cdc.gov/)
Prescription Opioids Bigger Nonmetro Problem, Heroin/Fentanyl Bigger Metro Problem

- Heroin & synthetics bigger problem in metro
- Prescription opioids bigger problem in nonmetro; declining in both metro and nonmetro

Note: Sum of all drug-specific deaths adds to more than 100% because multiple drugs can be involved in a death

*Opioid analgesics are natural or semi-synthetic opioids (e.g., prescription oxycodone, hydrocodone); Synthetic opioids include fentanyl

Data Source: CDC Wonder Multiple Cause of Death Files, 1999-2015
Don’t Lose Sight of other Drugs

Percentage of Metro Drug-Related Deaths Involving Specific Drugs

- Heroin & synthetics bigger problem in metro
- Prescription opioids bigger problem in nonmetro; declining in both metro and nonmetro
- Benzodiazepines and psychostimulants increased in recent years; bigger nonmetro problem
- Cocaine declined but showing signs of reversal; bigger metro problem
- Substantial drug mixing

Note: Sum of all drug-specific deaths adds to more than 100% because multiple drugs can be involved in a death

Opioid analgesics are natural or semi-synthetic opioids (e.g., prescription oxycodone, hydrocodone); Synthetic opioids include fentanyl

Data Source: CDC Wonder Multiple Cause of Death Files, 1999-2016
How Did We Get Here? The Spark vs. The Kindling

Opioids were the spark, but you can’t start a fire without kindling.
The Factors that Help Explain Geographic Variation in Drug Mortality Rates

ECONOMIC

FAMILY

COMMUNITY

The key connecting force is isolation.
Drug Mortality Rates are Higher in Places with More Economic and Family Distress and Lower in Places with More Opportunities for Community Interaction

Data Sources: CDC WONDER, Multiple Cause of Death Files, 2006-2015; U.S. Census 2000; Northeast Regional Center for Rural Development, 2005

Citation: Monnat, Shannon M. 2018. Drug Overdose Rates are Highest in Places with the Most Economic and Family Distress. National Issue Brief #134. Carsey School of Public Policy. University of New Hampshire.
Drug Mortality Rates are Higher in Places with More Economic and Family Distress and Lower in Places with More Opportunities for Community Interaction

% Difference in County Drug Mortality Rate per Standard Deviation Increase in Predictor

-10  -5  0   5   10  15  20

Separated/divorced, %
Single parent families, %
Supplemental security income, %
Work disability, %
Public assistance income, %
Poverty (age 25-54), %
No 4-year college degree, %
Not working (age 25-54), %
Rent >30% of HH income, %
Mental health professional shortage
Vacant housing units, %
Income inequality (gini)
Sports establishments per capita
Religious establishments per capita

Data Sources: CDC WONDER, Multiple Cause of Death Files, 2006-2015 with NCHS; U.S. Census 2000; Northeast Regional Center for Rural Development, 2005
Summary

• Drug epidemic not disproportionately rural:
  • Heterogeneity: very high rates in some rural counties (i.e., Appalachia, southwest), very low in others
  • Rural areas may have more challenges dealing with it.

• Don’t forget about the other “deaths of despair” and chronic diseases:
  • Alcohol & suicide mortality rates have also increased.
  • Heart disease remains the biggest contributor to premature mortality.

• Economic, family, and community factors are key upstream drivers.
“There I am standing by the shore of a swiftly flowing river and I hear the cry of a drowning man. So I jump into the river, put my arms around him, pull him to shore and apply artificial respiration. Just when he begins to breathe, there is another cry for help. So I jump into the river, reach him, pull him to shore, apply artificial respiration, and then just as he begins to breathe, another cry for help. So back in the river again, reaching, pulling, applying, breathing, and then another yell. Again and again, without end, goes the sequence. You know, I am so busy jumping in, pulling them to shore, applying artificial respiration, that I have no time to see who is upstream pushing them all in.”

Thank you.

Shannon Monnat

smmonnat@maxwell.syr.edu

Acknowledgements: USDA ERS Cooperative Agreement (58-6000-6-0028); Institute for New Economic Thinking (INO17-00003); SU Lerner Center for Public Health Promotion; USDA Agricultural Experiment Station Multistate Research Project: W4001: Social, Economic, and Environmental Causes and Consequences of Demographic Change in Rural America.

DATA

U.S. Centers for Disease Control and Prevention
National Center for Health Statistics
United States Department Agriculture Economic Research Service
U.S. Census Bureau