Catastrophic Consequences: Preliminary Findings on the Use of Opioids in Rural Communities

John Gale
Jennifer Lenardson

Rural Health Research Gateway Webinar
June 25, 2015

Acknowledgement

The Maine Rural Health Research Center gratefully acknowledges support for this project from the Federal Office of Rural Health Policy within the Health Services and Resources Administration.
Background

- Opiate use declared a national epidemic
- 2013 CDC data highlight the complexities of over-prescribing controlled substances
  - 16,235 deaths from prescription opioids, up 1% from 2012
  - 8,257 heroin-related deaths, up 39% from 2012
- 2012 National Survey on Drug Use and Health
  - 2.1 million people in the US suffer from substance use disorders related to prescription opioid pain relievers
  - 467,000 addicted to heroin

Complex Problem

- Evidence suggests a relationship between increased non-medical use of opioid analgesics and heroin abuse in the United States (SAMHSA 2013)
- Confront opioid abuse while preserving the medical role of prescription pain relievers
- # of prescriptions for opioids have increased from 76 million in 1991 to nearly 207 million in 2013 (IMS's National Prescription Audit)
- # of past-year heroin users increased between 2005 and 2012, from 380,000 to 670,000
Link between Prescription Meds and Heroin Use

2010 National Prescribing Patterns - Opioids

Source: Center for Disease Control and Prevention: Morbidity and Mortality Weekly Report
Rural Issues

- Long standing issue in rural communities
- Non-medical use of prescription opiates in rural areas – “Hillbilly Heroin”
- Use of heroin as a substitute for prescription pain killers by those without health insurance – Maine
- Major initiatives—Vermont, Ohio, other rural states
- Heroin is cheap, accessible, and stronger
- Treatment and law enforcement resources are more limited

Methods

- Approximately 56,000 respondents each year.
- Rural and urban designation based on the OMB’s metropolitan and non-metropolitan variable.
- To date, crosstabs on residence by opioid use, age at first use, sociodemographic characteristics, receipt of treatment, source for pain relievers, and negative behaviors.
Prevalence of opiate use

Data: National Survey on Drug Use and Health, 2008-13; differences by residence significant at p<.05.

Sociodemographic variation for persons who ever used heroin

- Persons who ever used heroin were similar between rural and urban areas on most indicators except for race, income, and insurance status.
- Within rural areas, persons who ever used heroin were more likely to have the following characteristics than those who did not:
  - Ages 20-29 and 30-49, male, white, fair or poor health status, unmarried, less than a high school education, low-income, and uninsured.
Sociodemographic variation for persons who ever used pain relievers - rural vs. urban

Data: National Survey on Drug Use and Health, 2008-13; differences by residence significant at p<.05.

**Sociodemographic variation within rural areas**

Within rural areas, persons who ever used pain relievers non-medically differed from those who did not:

- Ages 20-29 and 30-49
- Male
- White
- Unmarried
- No military service
- Employed
- No college degree
- Low-income
- Uninsured

Data: National Survey on Drug Use and Health, 2008-13; differences by pain reliever use significant at p<.05.
Access to treatment

Receipt of Treatment Varies by Recency and Residency

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received treatment for drugs or alcohol in past year</td>
<td>14.5%</td>
<td>19.4%</td>
</tr>
<tr>
<td>Ever Used Heroin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever Received treatment for drugs or alcohol</td>
<td>21.1%</td>
<td>18.8%</td>
</tr>
<tr>
<td>Ever Used Pain relievers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data: National Survey on Drug Use and Health, 2008-13; differences by residence significant at p<.05.

Sources for pain relievers

Friends and relatives are the primary sources of pain relievers for non-medical use, regardless of residence

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friend or relative</td>
<td>69.6%</td>
</tr>
<tr>
<td>One or more doctors</td>
<td>21.0%</td>
</tr>
<tr>
<td>Drug dealer</td>
<td>4.3%</td>
</tr>
<tr>
<td>Internet / other</td>
<td>4.3%</td>
</tr>
<tr>
<td>Fake prescription / stole from provider</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

Data: National Survey on Drug Use and Health, 2008-12; differences by residence not significant.
Negative behaviors and opioid use

Negative behaviors are high among persons who have ever used heroin or pain relievers non-medically

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drove under the influence of drugs in the past year</td>
<td>32.3%</td>
<td>31.8%</td>
</tr>
<tr>
<td>On probation in the past year</td>
<td>0.1%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Ever arrested and booked for breaking the law</td>
<td>41.0%</td>
<td>37.4%</td>
</tr>
</tbody>
</table>

Data: National Survey on Drug Use and Health, 2008-13; with the exception of driving under the influence of drugs, differences by residence significant at p < .05.

Opiate Treatment Resources

<table>
<thead>
<tr>
<th>Services</th>
<th>Urban</th>
<th>Large Rural</th>
<th>Small Rural</th>
<th>Isolated Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatient Methadone or Buprenorphine</td>
<td>12.3%</td>
<td>5.6%</td>
<td>4.5%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Uses Buprenorphine</td>
<td>18.5%</td>
<td>11.1%</td>
<td>9.2%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Uses Oral Naltrexone</td>
<td>14.9%</td>
<td>12.8%</td>
<td>12.2%</td>
<td>16.8%</td>
</tr>
<tr>
<td>Uses Vivitrol</td>
<td>9.6%</td>
<td>7.1%</td>
<td>9.8%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Methadone Detox</td>
<td>7.0%</td>
<td>2.2%</td>
<td>2.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Methadone Maintenance</td>
<td>10.1%</td>
<td>3.5%</td>
<td>2.4%</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Source: 2015 SAMHSA Treatment Services Locator
### General Treatment Resources

<table>
<thead>
<tr>
<th>Services</th>
<th>Urban</th>
<th>Large Rural</th>
<th>Small Rural</th>
<th>Isolated Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient</td>
<td>9.9%</td>
<td>7.8%</td>
<td>3.9%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Inpatient Detox</td>
<td>3.7%</td>
<td>2.8%</td>
<td>0.8%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Outpatient</td>
<td>58.6%</td>
<td>58.3%</td>
<td>65.0%</td>
<td>71.0%</td>
</tr>
<tr>
<td>Day Treatment/Partial Hospitalization</td>
<td>10.1%</td>
<td>6.4%</td>
<td>4.8%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Intensive Outpatient</td>
<td>36.2%</td>
<td>33.4%</td>
<td>34.3%</td>
<td>31.9%</td>
</tr>
<tr>
<td>Outpatient Detox</td>
<td>8.6%</td>
<td>4.5%</td>
<td>3.6%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Detox</td>
<td>15.3%</td>
<td>11.2%</td>
<td>8.3%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Residential</td>
<td>21.7%</td>
<td>19.2%</td>
<td>14.5%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Residential Detox</td>
<td>4.7%</td>
<td>5.0%</td>
<td>4.2%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Halfway House</td>
<td>7.6%</td>
<td>6.5%</td>
<td>4.1%</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

Source: 2015 SAMHSA Treatment Services Locator

### Conclusions & Implications

- Opiate use and treatment in rural areas remain ongoing problems
- Extent of the problem may vary from community to community
- Fear of over-prescribing is impacting use of opiates by primary care providers
- Treatment services are:
  - Less available in rural communities
  - Providers may be less experienced in recognizing and treating opiate abuse
  - Longer travel distances are common
Conclusions & Implications

• Complexity of the problem calls for a multisectoral approach – healthcare, law enforcements, schools, public health, prescription monitoring programs

• More information is needed to understand:
  ▫ How to improve service capacity, particularly for buprenorphine and methadone to manage withdrawal
  ▫ Access issues for prescription meds and heroin
  ▫ How to help providers manage pain issues
  ▫ Reduce unnecessary opiate prescriptions

The Rural Health Research Gateway provides access to all publications and projects from seven research centers funded by the Federal Office of Rural Health Policy

Visit our website for more information: http://www.ruralhealthresearch.org/
Sign up for email or RSS alerts at: http://www.ruralhealthresearch.org/alerts
Contact Information

Maine Rural Health Research Center
Muskie School of Public Service
University of Southern Maine
PO Box 9300
Portland, ME 04104-9300

John Gale 207-228-8246
jgale@usm.maine.edu

Jennifer Lenardson 207-228-8399
jlenardson@usm.main.edu

UNIVERSITY OF SOUTHERN MAINE
Muskie School of Public Service

GEOGRAPHIC AND SPECIALTY DISTRIBUTION OF US PHYSICIANS TRAINED TO TREAT OPIOID USE DISORDER

Roger A. Rosenblatt, MD, MPH, MFR
C. Holly A. Andrilla, MS
Mary Caitlin, BSN, MPH
Eric H. Larson, PhD
Disclaimer

This study was supported by the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS) under cooperative agreement #U1CRH03712. The information, conclusions and opinions expressed in this presentation are those of the authors and no endorsement by FORHP, HRSA, or HHS is intended or should be inferred.

Background

The US is experiencing an epidemic of opioid-related deaths

- Excessive prescribing
- Misuse of prescriptions drugs
- Increased use of heroin
Background

Opioid Use Rates
- In 2013, over 5 million Americans 12 years old and older abused or were dependent on opioids
  - Prescription pain relievers: 4.5 million
  - Heroin: estimated 681,000 past year users, 169,000 past year initiates

Opioid Death Rates
- Death rates from prescription opioid ODs in the US more than quadrupled between 1999 and 2010
- Opioid analgesics were involved in 30% of drug overdose related deaths in 1999, compared to nearly 60% in 2010.

Background

From 2001 to 2013 there was a 3-fold increase in the total number of deaths.
Background

Buprenorphine-naloxone is an effective treatment for opioid use disorder that can be provided in an office-based setting

- To expand treatment options the US Congress passed the Drug Addiction Treatment Act (DATA 2000)
- Allows physicians who complete training to prescribe buprenorphine to treat opioid use disorder
  - Obtain a waiver
  - Year 1 – Allowed to treat up to 30 patients concurrently
  - After 1 year, the physician can apply to have the limit increased to provide treatment to 100 patients concurrently.

Research Questions

WWAMI Rural Health Research Center investigated the distribution of physicians with a DEA waiver to prescribe buprenorphine

- What are the characteristics of physicians that obtain a waiver to prescribe buprenorphine?
- Where are the DEA waivered physicians located?
- Are certain segments of the population lacking access to buprenorphine as a treatment option for opioid use disorder?
Methods

This research used multiple data sources:

- The Drug Enforcement Administration (DEA) DATA Waived Physician List (July 2012)
- The American Medical Association (AMA) Physician Masterfile (2012)
- The US Department of Agriculture’s (USDA) 2004 Economic Research Service County Typology data

Methods

- DEA and AMA Data were linked using the provider’s DEA number (except in Wisconsin)
- The physician’s practice ZIP code was used to determine the physician’s practice county
- County Level Urban Influence Codes were used to assign all physicians to 1 of 4 geographic categories:
  Metropolitan, Adjacent to Metropolitan, Micropolitan, Not Adjacent to Metropolitan, Small and Remote Rural Counties
Results

Gender

Significantly more men than women had obtained a waiver to prescribe buprenorphine

2.4% vs 1.8%, respectively, (p<0.001)

Age

- Physicians <35 years represent 7.8% of workforce but only 2.6% of buprenorphine prescribers
- 2.3% of physicians ≥35 had obtained a waiver
- Almost 3% of physicians aged 55-64 years received a waiver

Number and Percentage of Waivered and Non-Waivered Physicians by Specialty

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Number (%) of Waivered Physicians with this Specialty</th>
<th>Number (%) Non-Waivered</th>
<th>Total (%)</th>
<th>Percentage of Specialty with a DEA Waiver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatry</td>
<td>7,584 (41.6)</td>
<td>39,157 (83.3)</td>
<td>46,741 (5.6)</td>
<td>16.2</td>
</tr>
<tr>
<td>Family medicine</td>
<td>4,066 (22.3)</td>
<td>108,913 (96.4)</td>
<td>112,979 (13.6)</td>
<td>3.6</td>
</tr>
<tr>
<td>Internal medicine</td>
<td>2,618 (14.4)</td>
<td>119,980 (97.9)</td>
<td>122,598 (14.8)</td>
<td>2.1</td>
</tr>
<tr>
<td>Anesthesiology</td>
<td>753 (4.1)</td>
<td>44,884 (98.4)</td>
<td>45,637 (5.5)</td>
<td>1.7</td>
</tr>
<tr>
<td>Physical medicine and rehab</td>
<td>471 (2.6)</td>
<td>8,441 (94.7)</td>
<td>8,912 (1.1)</td>
<td>5.3</td>
</tr>
<tr>
<td>Emergency medicine</td>
<td>370 (2.0)</td>
<td>37,645 (99.0)</td>
<td>38,015 (4.6)</td>
<td>1.0</td>
</tr>
<tr>
<td>Other specialty</td>
<td>339 (1.9)</td>
<td>71,891 (99.5)</td>
<td>72,230 (8.7)</td>
<td>0.5</td>
</tr>
<tr>
<td>Internal medicine sub-specialties</td>
<td>333 (1.8)</td>
<td>112,155 (99.7)</td>
<td>112,488 (13.6)</td>
<td>0.3</td>
</tr>
<tr>
<td>Pain management</td>
<td>279 (1.5)</td>
<td>1,559 (84.8)</td>
<td>1,838 (0.2)</td>
<td>15.2</td>
</tr>
<tr>
<td>Surgery and sub-specialties</td>
<td>227 (1.3)</td>
<td>116,442 (99.8)</td>
<td>116,669 (14.1)</td>
<td>0.2</td>
</tr>
<tr>
<td>Addiction medicine*</td>
<td>182 (1.0)</td>
<td>62 (25.4)</td>
<td>244 (0.03)</td>
<td>74.6</td>
</tr>
<tr>
<td>Obstetrics-gynecology</td>
<td>181 (1.0)</td>
<td>41,541 (99.6)</td>
<td>41,722 (5.0)</td>
<td>0.4</td>
</tr>
<tr>
<td>Pediatrics and sub-specialties</td>
<td>147 (0.8)</td>
<td>76,449 (99.8)</td>
<td>76,596 (9.2)</td>
<td>0.2</td>
</tr>
<tr>
<td>Neurology</td>
<td>147 (0.8)</td>
<td>13,521 (98.9)</td>
<td>13,668 (1.7)</td>
<td>1.1</td>
</tr>
<tr>
<td>Missing specialty</td>
<td>528 (2.9)</td>
<td>18,179 (97.2)</td>
<td>18,707 (2.3)</td>
<td>2.8</td>
</tr>
<tr>
<td>Total</td>
<td>18,225 (100.0)</td>
<td>810,819 (100.0)</td>
<td>829,044 (100.0)</td>
<td>2.2</td>
</tr>
</tbody>
</table>

*The American Board of Medical Specialties does not recognize addiction medicine as a specialty, therefore the number of persons listed on the AMA Masterfile as board certified addiction specialists is in error, and the number of persons dedicating at least part of their practice to addiction medicine is underestimated. The American Board of Addiction Medicine has certified more than 5,000 physicians since 1984. Some 3,000 physicians are members of the American Society of Addiction Medicine. The Center for Addiction Medicine at Columbia University estimates that there are 1,200 addiction medicine specialists and another 300 addiction medicine psychiatrists. Given these unresolved issues, it is impossible to know how many certified addiction medicine specialists have received a DEA waiver.
Supply of Physicians with DEA DATA waivers in US Counties, by Rural-Urban Status

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Metropolitan*</th>
<th>Adjacent to Metropolitan*</th>
<th>Micropolitan, Not Adjacent to Metropolitan*</th>
<th>Small and Remote Rural Counties*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Population, No. (%),</td>
<td>260,479,400</td>
<td>33,691,096</td>
<td>9,677,339 (3.1)</td>
<td>7,744,082 (2.4)</td>
<td>311,591,917 (100.0)</td>
</tr>
<tr>
<td>Counties with ≥1 physicians with waivers, No. (%),</td>
<td>789 (72.4)</td>
<td>419 (39.6)</td>
<td>132 (46.8)</td>
<td>125 (17.5)</td>
<td>1,465 (46.6)</td>
</tr>
<tr>
<td>Counties with no physician with waiver, No. (%),</td>
<td>301 (27.6)</td>
<td>639 (60.4)</td>
<td>150 (53.2)</td>
<td>588 (82.5)</td>
<td>1,678 (53.4)</td>
</tr>
<tr>
<td>Total counties, No. (%),</td>
<td>1,080 (34.7)</td>
<td>1,058 (33.7)</td>
<td>282 (9.0)</td>
<td>713 (22.7)</td>
<td>3,143 (100.0)</td>
</tr>
<tr>
<td>Physicians with waivers per 100,000 residents, No.,</td>
<td>6.3</td>
<td>3.3</td>
<td>4.2</td>
<td>3.1</td>
<td>5.8</td>
</tr>
<tr>
<td>Physicians with waivers, %</td>
<td>90.4</td>
<td>61.6</td>
<td>23.0</td>
<td>13.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

DATA = Drug Addiction Treatment Act; DEA = Drug Enforcement Administration; UIC = Urban Influence Code.

Note: counties were classified as urban or into 1 of 3 categories of rural using the US Department of Agriculture UIC.

* Counties with an urban core with a population of at least 50,000.

* Counties that are geographically adjacent to a metropolitan area whose largest town/urban cluster has 10,000-49,999 residents.

* Counties that are not adjacent to a metropolitan area and whose largest town/urban cluster has 10,000-49,999 residents.

* Counties whose largest town has fewer than 10,000 residents regardless of proximity to a metropolitan county.

US Counties with physicians with waivers to prescribe buprenorphine.

Note: data source: Drug Enforcement Administration, July 2012. Map date: September 2013.
Results

- A majority of US counties –most of them rural – have no physician with a DEA waiver to prescribe buprenorphine

- 82.1% of counties without a waivered physician were rural counties

- The ratio of waivered physicians to population is much lower in the most rural places compared to metropolitan counties (3.1 and 6.3 physicians per 100,000 residents respectively)

- 30 million people (9.7% of the US population) live in a county without a waivered physician who could prescribe buprenorphine
  - 21.2 million in rural counties and 8.8 million in metropolitan counties

Discussion

- Having a waivered physician in a county does not mean that buprenorphine treatment is available.

- In a study of physicians in Washington State trained to use buprenorphine in 2010-2011 only 28% reported ever prescribing buprenorphine.

- The access problem may be much worse than our data indicate.
Ongoing Research

Who Treats Opioid Addiction in Rural America? Quantifying the Availability of Buprenorphine Services in Rural Areas?

- What proportion of physicians in rural areas with a DEA waiver to prescribe buprenorphine is actually using it in their practices?
- How many patients with opioid use disorder do waived physicians treat with buprenorphine?
- Are waived physicians providing treatment to only their own patients, only patients from their practice, or to patients from the community at large?
- What are the primary reasons waived physicians choose to include office-based opioid treatment in their practice?
- What are the primary reasons waived physicians are not including office-based opioid treatment in their practice?

References


Contact Information

Holly Andrilla, Research Scientist
WWAMI Rural Health Research Center
hollya@uw.edu  (206) 685-6680

http://depts.washington.edu/uwrhrc

The Rural Health Research Gateway provides access to all publications and projects from seven different research centers. Visit our website for more information.

www.ruralhealthresearch.org

Sign up for our email or RSS alerts!
www.ruralhealthresearch.org/alerts

Shawnda Schroeder, PhD
Principal Investigator
701-777-0787 • shawnda.schroeder@med.und.edu

Center for Rural Health
University of North Dakota
SD2 N. Columbia Road Stop 9037
Grand Forks, ND 58202

Rural Health Gateway