



## Maternal and Child Health and the U.S. Drug Crisis:

### Data and Resources from the Rural Health Research Gateway

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## Opioid Use and Treatment Availability

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**Description** This resource examines opioid use in rural communities, as well as the perceived need for and utilization of treatment for opioid use disorder, based on a summary of the Rural Health Research Centers' most recent research.

**Topics** [Healthcare access](#) [Substance use and treatment](#)

**Rural Health Research Products Included in this Recap**

- [Barriers Rural Physicians Face Prescribing Buprenorphine for Opioid Use Disorder](#)  
WWAMI Rural Health Research Center  
Date: 07/2017  
 Opioid use disorder is a serious public health problem. Management with buprenorphine is an effective medication-assisted treatment, but 60.1% of rural counties lack a physician with a Drug Enforcement Agency waiver to prescribe buprenorphine. This national study surveyed all rural physicians who have received a waiver in the United States.
- [Changes in the Supply of Physicians with a DEA DATA Waiver to Prescribe Buprenorphine for Opioid Use Disorder](#)  
Policy Brief  
WWAMI Rural Health Research Center  
Date: 05/2017  
 This project mapped the location of physicians with a DEA DATA 2000 waiver to prescribe buprenorphine for opioid use disorder in July 2012 and April 2016. The number of counties without a waived physician and the



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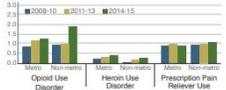
**Opioid Use and Treatment Availability**

Funded by the Federal Office of Rural Health Policy (FORHP), under the Health Resources and Services Administration, the Rural Health Research Gateway strives to disseminate the work of the FORHP-funded Rural Health Research Centers (RHRCs) to diverse audiences. The RHRCs are committed to providing timely, quality national research on the most pressing rural health issues. This resource provides a summary of their most recent research on opioid use and treatment, all of which may be found on Gateway's website at [ruralhealthresearch.org](http://ruralhealthresearch.org).

**Opioid Use in Rural Communities**

Opioids are prescribed for pain relief; most recognizable are morphine, hydrocodone, oxycodone, and fentanyl. Opioids also include the illegal drug, heroin. Opioid use disorder (OUD) (to include prescription drugs and heroin) is the fastest growing substance use problem in the nation. During 2008-13, 4.7% of U.S. residents ages 12 and older reported using non-medical opioids in the past year. Mean age at first use was 23. This did not vary between rural and urban communities.<sup>1</sup> Among those who missed prescription opioids, 73% admitted to obtaining the pain relievers from someone who held a prescription for the drug.<sup>2</sup> Despite implementation of treatment and prevention programs, rates of OUDs continue to rise in rural (non-metropolitan) and urban (metropolitan) communities alike (see Figure 1).<sup>3,4</sup>

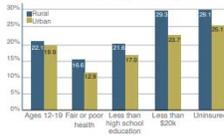
**Figure 1. Prevalence of Past-year Drug Use Disorders over Time, by Geography<sup>1</sup>**



There has been little to no variation in the overall prevalence of OUDs between rural and urban populations. However, particular groups of rural residents have reported a greater prevalence of past-year use.<sup>5</sup> Specifically, 8% of all rural residents ages 12-19 and 9.5% of those 20-29 had used opioids in the past year. Among those who had used opioids, rural were more likely than urban to be uninsured, low income, in poor health, and between ages 12-19 (see Figure 2).<sup>6</sup>

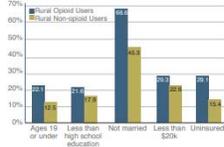
Rural opioid users were also more likely than urban to have ever been arrested (42.5% compared to 36.1%) and more likely to have been on probation in the past year (10.6% compared to 8.2%).<sup>7</sup>

**Figure 2. Rural and Urban Opioid Users, 2008-13<sup>1</sup>**



Among rural residents, those who had used opioids in the past year were more likely than those who had not used opioids to be under the age of 19, not married, low-income, and uninsured (see Figure 3).<sup>8</sup>

**Figure 3. Rural Opioid and Non-opioid Users, 2008-13<sup>1</sup>**



**Support for Opioid Use Disorder**

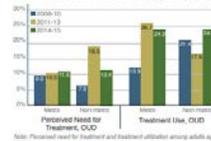
Matrix-assisted treatment (MAT) is the use of various in combination with counseling and social therapies for the treatment of OUD. buprenorphine-suboxone is one of the effective OUD treatment medications that may be provided as a primary drug. The Drug Addiction Treatment Act (DATA) passed in 2002 to expand OUD treatment options. It allows a physician to prescribe buprenorphine after it receives a waiver from the Drug Enforcement Administration (DEA). From 2012 through 2016, the percentage of rural physicians with at least one waiver increased from 35.5% to 32.3%. However, while only 26.2% of counties were without a waiver provider in 2016, 11% of rural counties were still without one.<sup>9,10</sup> The percentage of rural counties with a waiver provider slightly increased since 2012; however, a majority of rural providers (91.2%) are still disproportionately in urban counties.<sup>11</sup>

Of 124 rural physicians with DEA DATA waivers who answered in 2016, only 60% were currently accepting new patients. Overall, the most cited barriers of waiver providers providing buprenorphine or misuse of medication (indicated 8% of rural waiver providers, lack of available health support services (41.4%), and time constraints (40.2%). Nonprescribers (over and former prescribers) were significantly more likely than current prescribers to identify the following barriers: time constraints, lack of patient need, resistance from patients, lack of specialty backup for complex problems, and confidence in their ability to manage OUD. For alcohol DEA waivers on their practices, and time of drug users to their practices.<sup>12</sup>

**Perceived Need and Use of Treatment**

of the need for providers in concerns with identified use and utilization of treatment. The rate of need OUD treatment need among those with use was did not vary significantly between rural and urban use in rural adults during 2014-15.<sup>13</sup> However, the perceived need for treatment did increase among rural users from 2008-10 to 2011-13; however, treatment use for OUD did not vary in rural and urban adults, though rural adults had a more significant increase in treatment from 2013 to 2014-15 (see Figure 4).<sup>14</sup>

**Figure 4. Perceived Need for Treatment and Treatment Use over Time for OUD, by Geography<sup>1</sup>**



Note: Perceived need for treatment and treatment utilization among adults ages 12 and older with past-year opioid use disorder, not treatment.

**Rural Community Response**

Rural community-based strategies are imperative for the prevention and treatment of and recovery from OUD and most exposed beyond the availability of waiver providers. Specific rural challenges in the prevention/treatment of OUD include workforce shortages, timely access to prevention and/or treatment, stigma, lack of community-provider collaborations, and providers not using current protocols for prescribing opioids.<sup>15</sup> Community models for OUD treatment have included the use of telehealth, medication, evidence-based prescribing protocols, emergency department protocols, and harm reduction strategies through public health.<sup>16</sup> Rural Opioid Abuse Prevention and Treatment Strategies for more information on these programs.<sup>17</sup>

**Resources**

1. Moore Rural Health Research Center (2016). Rural opioid abuse: Prevalence and new abuse victims. [ruralhealthresearch.org/publications/1002](http://ruralhealthresearch.org/publications/1002)
2. Rural and Urban Opioid Abuse Research Center (2017). How long opioid use disorder among non-metropolitan residents. [ruralhealthresearch.org/publications/1006](http://ruralhealthresearch.org/publications/1006)
3. WVAH Rural Health Research Center (2015). Changes in the supply of physicians with DEA DATA waivers to provide buprenorphine treatment for OUD. [ruralhealthresearch.org/publications/1011](http://ruralhealthresearch.org/publications/1011)
4. WVAH Rural Health Research Center (2016). Geographic and specialty distribution of 19 physicians trained to treat opioid use disorder. [ruralhealthresearch.org/publications/1009](http://ruralhealthresearch.org/publications/1009)
5. WVAH Rural Health Research Center (2017). Better rural physician care for patients with opioid use disorder. [ruralhealthresearch.org/publications/1016](http://ruralhealthresearch.org/publications/1016)
6. Rural and Urban Opioid Abuse Research Center (2017). Perceived need for treatment and treatment utilization for OUD among rural and urban adults. [ruralhealthresearch.org/publications/1008](http://ruralhealthresearch.org/publications/1008)
7. Moore Rural Health Research Center (2017). Rural opioid abuse: prevalence and treatment among prescribers. [ruralhealthresearch.org/publications/1005](http://ruralhealthresearch.org/publications/1005)

For more information, visit the Rural Health Research Gateway website, [ruralhealthresearch.org](http://ruralhealthresearch.org).  
Shawanna Schneider, PhD

# Today's Presentation

- All data presented today come from the work of the Rural Health Research Centers, funded by the Federal Office of Rural Health Policy
- These data come from more than two dozen different policy briefs
- Outline:
  - Recent rural data and trends around opioid use/misuse
  - Recent rural data and trends around women's healthcare utilization and health status
  - Rural data on rural maternal health and access

## Rural Opioid Use and Treatment Availability

- Rates of OUDs continue to rise in rural (non-metropolitan) and urban (metropolitan) communities alike
- 2008-13, 4.7% of U.S. residents ages 12 and older reported using non-medical opioids in the past year. Mean age at first use was 23
  - This did not vary between rural and urban communities
- Important to identify groups within rural communities at greater risk of OUD for program development, prevention, and intervention

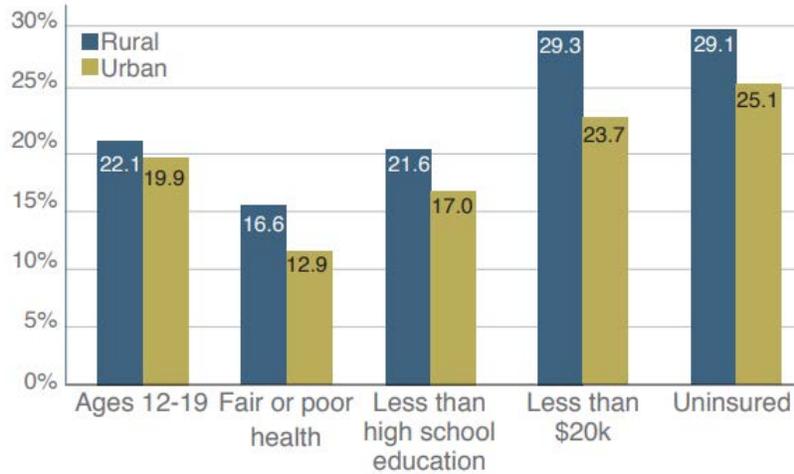
## Rural Opioid Use

- 42.5% of rural opioid users had ever been arrested compared to 36.1% of urban
- 10.6% of rural opioid users had ever been on probation compared to 8.2% of urban

Among those who had used opioids, rural were more likely than urban to be:

- Uninsured
- Low-income
- In poor health
- Between ages 12-19

**Figure 2. Rural and Urban Opioid Users, 2008-13<sup>1</sup>**

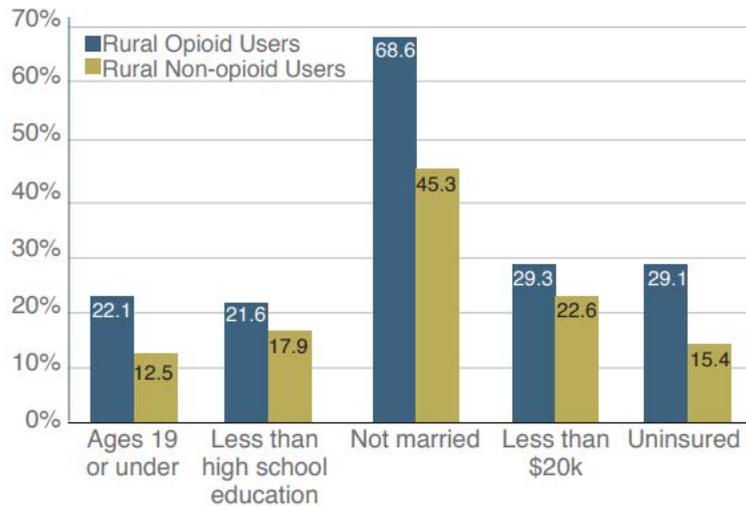


## Rural Opioid Use

Among rural residents, those who had used opioids in the past year were more likely than rural residents who had not used opioids in the last year to:

- Be under the age of 19
- Hold less than a high school education
- Be unmarried
- Lower-income (less than \$20,000)
- Be Uninsured

**Figure 3. Rural Opioid and Non-opioid Users, 2008-13<sup>1</sup>**



## Rural OUD Treatment

- 26.2% of urban counties were without a waived provider in 2016 compared to 60.1% of rural counties
- A majority of waived providers (91.2%) are located in urban counties
- Of the 1,124 rural physicians with DEA DATA waivers who were surveyed in 2016, only 60% were current prescribers accepting new patients

## Rural Women's Healthcare

- A significantly smaller proportion of rural women reported receiving a cholesterol check (68%) compared to urban women (72%)
- Rural women ages 40-74 had significantly lower odds of receiving a mammogram in the past year compared to urban women in that age group
- Compared to urban women, rural women had significantly lower odds of ever being vaccinated against HPV

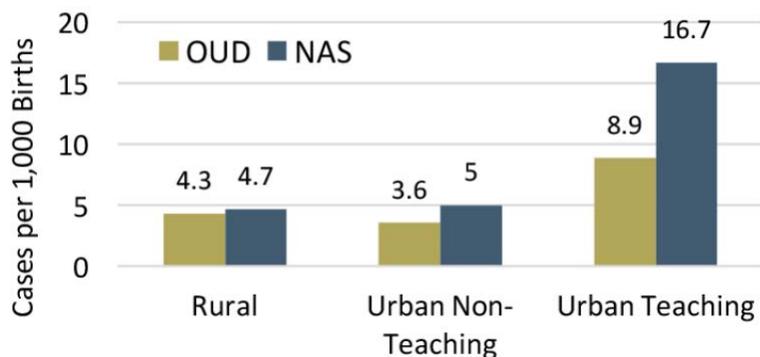
## Rural Women's Healthcare

- A significantly greater proportion of rural women were defined as obese (41%) compared to urban (32%)
- A smaller proportion of rural women reported their health status as "Excellent/Very Good" (51%) compared to urban women (61%)
- Rural women ages 40-74 had significantly lower odds of receiving a mammogram in the past year
- Compared to urban women, rural women had significantly lower odds of ever being vaccinated against HPV
- Greater proportions of rural women use tobacco than urban

## Maternal Substance Use

- 2008 through 2013, rural mothers were significantly more likely to smoke than urban
  - 26% indicated past-month daily smoking compared to 12% of urban mothers
- 7% of rural pregnant women reported non-medical opioid use compared to 5% of urban
- Having a high school education or less increased the odds of opioid use among rural pregnant women
- Other substance use and diagnosis of anxiety or depression increased the odds of opioid use for urban and rural pregnant women

**Figure 2: Prevalence of Maternal OUD and Infant NAS among Rural Women by Hospital Type<sup>11</sup>**



## Rural Obstetric Services

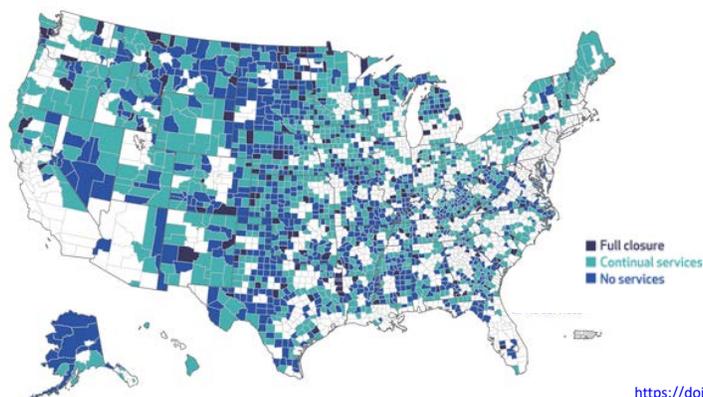
Between 2004 and 2014, 179 rural counties lost hospital-based obstetric (OB) services. By 2014:

- 54% of rural counties lacked hospital-based OB services (up from 45% in 2004)
- Only 30% of rural noncore counties had in-county, hospital-based OB care compared to 78% of micropolitan counties
- More than half of rural counties had no hospital-based OB services
- The most rural areas (noncore counties) had fewer hospitals providing OB care and experienced the greatest reduction in services

## Rural Obstetric Services: State Variability

78% of rural counties in Florida (78%) reported no in-county hospital OB services compared to only 9% of rural counties in Vermont (2014).

Exhibit 3 Hospital obstetric services in US counties, 2004–14



## No Hospital-Based OB Services

Counties with greater odds of having no hospital-based OB services in 2014 were those with:

- Fewer OBs per women of reproductive age
- Fewer family physicians (FP) per capita
- Lower birthrates
- A higher percentage of non-Hispanic Black women of reproductive age
- Lower median household incomes
- More restrictive Medicaid income eligibility thresholds

## Rural OB Unit Closures

Factors associated with a rural OB unit closure included:

- Limited supply of OBs and/or FPs
- Private hospital ownership
- Located in a lower income community
- Smaller hospital size

Rural OB unit closures were *not* related to:

- System affiliation
- Distance to nearest hospital providing OB services
- Proportion of women reporting Medicaid as primary payer

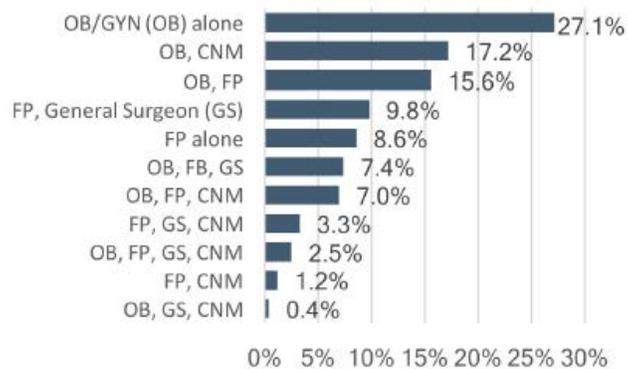
## Rural OB Workforce

- OB and family physician (FP) workforce shortages
- Smaller rural hospitals rely more heavily on FPs to provide OB care

2013-2014 survey of rural hospitals providing OB services in 9 states found:

- 77% had obstetricians attending deliveries
- 55.3% reported FPs doing deliveries
- 23.4% relied on general surgeons to perform cesarean deliveries
- 31.6% had certified nurse midwives (CNMs) attend deliveries

**Figure 2. Percentage of Rural Hospitals by Type(s) of Clinicians Attending Deliveries, 2013-14<sup>7</sup>**



OB: Obstetrician  
 CNM: Certified Nurse Midwife  
 FP: Family Physician  
 GS: General Surgeon

## Impact of Limited OB Services

Compared to rural counties with continual OB services, loss of services in rural counties not adjacent to urban areas was associated with significant increases in:

- Out of hospital births
- Births in a hospital without an OB unit
- Preterm births

Loss of hospital-based OB services among rural counties that were adjacent to urban areas was associated with low prenatal care use and an increase in births in hospitals without OB services although this gap declined over time

## Rural Health Research Gateway Recaps

- Opioid Use and Treatment Availability
- State of Rural Women's Healthcare Utilization and Health Indicators
- Rural Obstetric Services: Access, Workforce, and Impact

<https://www.ruralhealthresearch.org/recaps>

## Opioid Use and Treatment Availability

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2. Rural and Underserved Health Research Center (2017). Illicit drug opioid use disorder among non-metropolitan residents, [ruralhealthresearch.org/publications/1164](http://ruralhealthresearch.org/publications/1164).
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7. Maine Rural Health Research Center (2017). Rural opioid abuse prevention and treatment strategies: The experience in four states, [ruralhealthresearch.org/publications/1108](http://ruralhealthresearch.org/publications/1108).

## Rural Obstetric Services: Access, Workforce, and Impact

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6. MN RHRC (2015). The rural obstetric workforce in US hospitals: Challenges and opportunities. *JRH*, 31(4): 365-72, [ruralhealthresearch.org/publications/1024](http://ruralhealthresearch.org/publications/1024).
7. MN RHRC (2014). The obstetric care workforce in critical access hospitals (CAHs) and rural non-CAHs, [ruralhealthresearch.org/publications/944](http://ruralhealthresearch.org/publications/944).
8. MN RHRC (2017). The maternity care nurse workforce in rural U.S. hospitals. *J Obstet Gynecol Noenatal Nurs*, 46(3):411-22, [ruralhealthresearch.org/publications/1149](http://ruralhealthresearch.org/publications/1149).

## State of Rural Women's Healthcare Utilization and Health Indicators

1. Maine RHRC (2019). Preventive Health Service Use among Rural Women, [ruralhealthresearch.org/publications/1249](http://ruralhealthresearch.org/publications/1249).
2. North Dakota and NORC RHRPC (2017). Use of the Emergency Department for Mental Health and Substance Abuse among Women, [ruralhealthresearch.org/publications/1120](http://ruralhealthresearch.org/publications/1120).
3. Minnesota RHRC (2016). Ensuring Access to High-Quality Maternity Care in Rural America, [ruralhealthresearch.org/publications/1083](http://ruralhealthresearch.org/publications/1083).
4. Minnesota RHRC (2017). Closure of Hospital Obstetric Services Disproportionately Affects Less Populated Counties, [ruralhealthresearch.org/publications/1106](http://ruralhealthresearch.org/publications/1106).
5. Minnesota RHRC (2017). State Variability in Access to Hospital-Based Obstetric Services in Rural US Counties, [ruralhealthresearch.org/publications/1107](http://ruralhealthresearch.org/publications/1107).
6. Minnesota RHRC (2015). Rural Women Delivering Babies in Non-Local Hospitals: Differences by Rurality and Insurance Status, [ruralhealthresearch.org/publications/971](http://ruralhealthresearch.org/publications/971).
7. Minnesota RHRC (2018). Challenges Related to Pregnancy and Returning to Work after Childbirth in a Rural, Tourism-Dependent Community, [ruralhealthresearch.org/publications/1167](http://ruralhealthresearch.org/publications/1167).
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9. Minnesota RHRC (2014). Birth Volume and the Quality of Care in Rural Hospitals, [ruralhealthresearch.org/publications/1015](http://ruralhealthresearch.org/publications/1015).
10. Maine RHRC (2015). Implications of Rural Residence and Single Mother Status for Maternal Smoking Behaviors, [ruralhealthresearch.org/publications/990](http://ruralhealthresearch.org/publications/990).
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12. Minnesota RHRC (2018). Non-Medical Opioid Use among Rural and Urban Pregnant Women 2007-2014, [ruralhealthresearch.org/publications/1203](http://ruralhealthresearch.org/publications/1203).

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The Rural Health Research Gateway ensures this research lands in the hands of our rural leaders.



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