Prescribing Opioids in Rural America: High-Risk Combinations, Low-Risk Solutions

Jeff Talbert, PhD
Lars Peterson, MD, PhD
Chris Delcher, PhD

University of Kentucky

Rural & Underserved Health Research Center

The Rural & Underserved Health Research Center is 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 # U1CRH30041. The information, conclusions and opinions expressed in this presentation are those of the authors and no endorsement by FORHP, HRSA, HHS, or the University of Kentucky is intended or should be inferred.

Agenda

- Part 1: Policy Solutions to the opioid crisis: Jeff Talbert
- Part 2: Family physician buprenorphine prescribing: Lars Peterson
- Part 3:Naloxone distribution in the US by payer and urbanicity: Chris Delcher

Rural & Underserved Health Research Center

Policy solutions to the opioid crisis

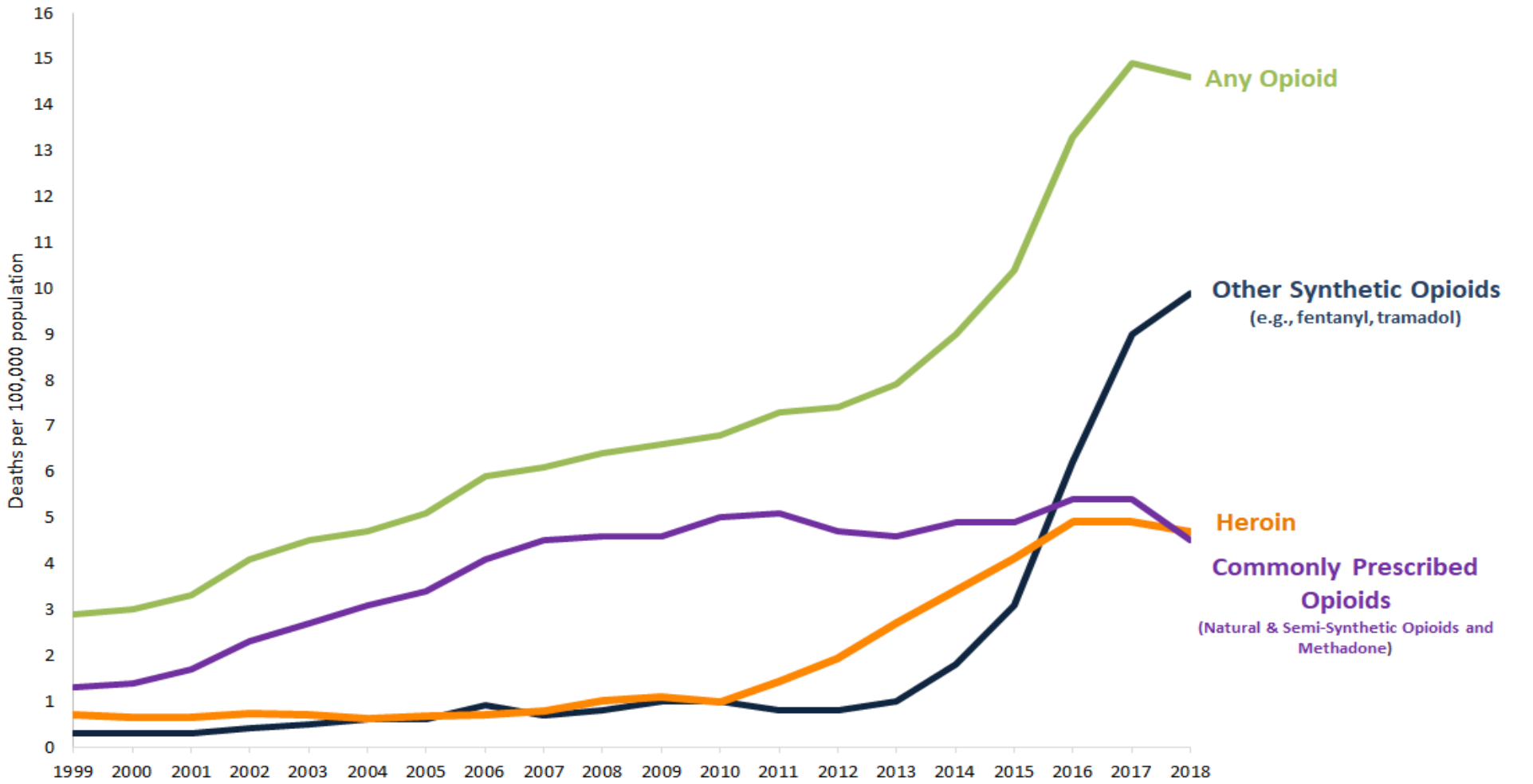
Jeff Talbert, PhD

Director, Institute for Pharmaceutical Outcomes and Policy
College of Pharmacy
University of Kentucky

Rural & Underserved Health Research Center

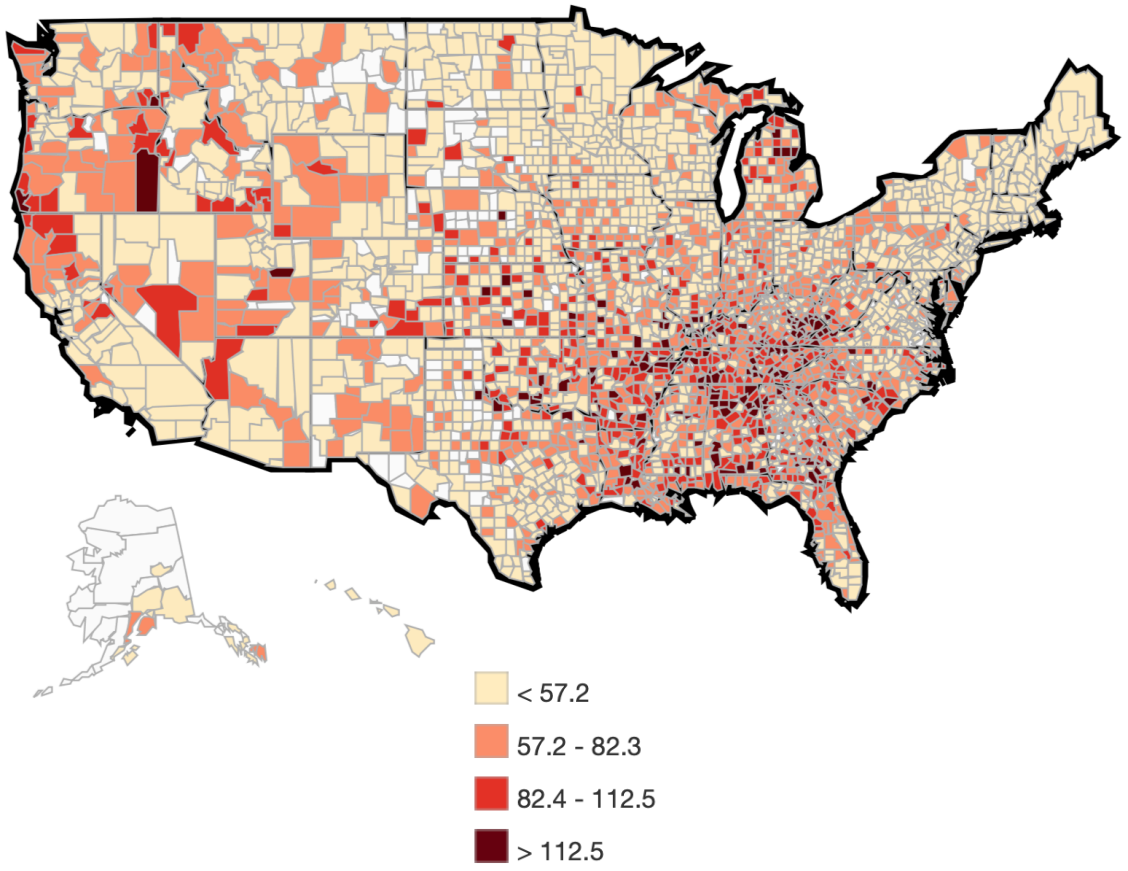
The Rural & Underserved Health Research Center is supported by the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), U.S. Department of Health and Human Services (HHS) under cooperative agreement # U1CRH30041. The information, conclusions and opinions expressed in this presentation are those of the authors and no endorsement by FORHP, HRSA, HHS, or the University of Kentucky is intended or should be inferred.

Background

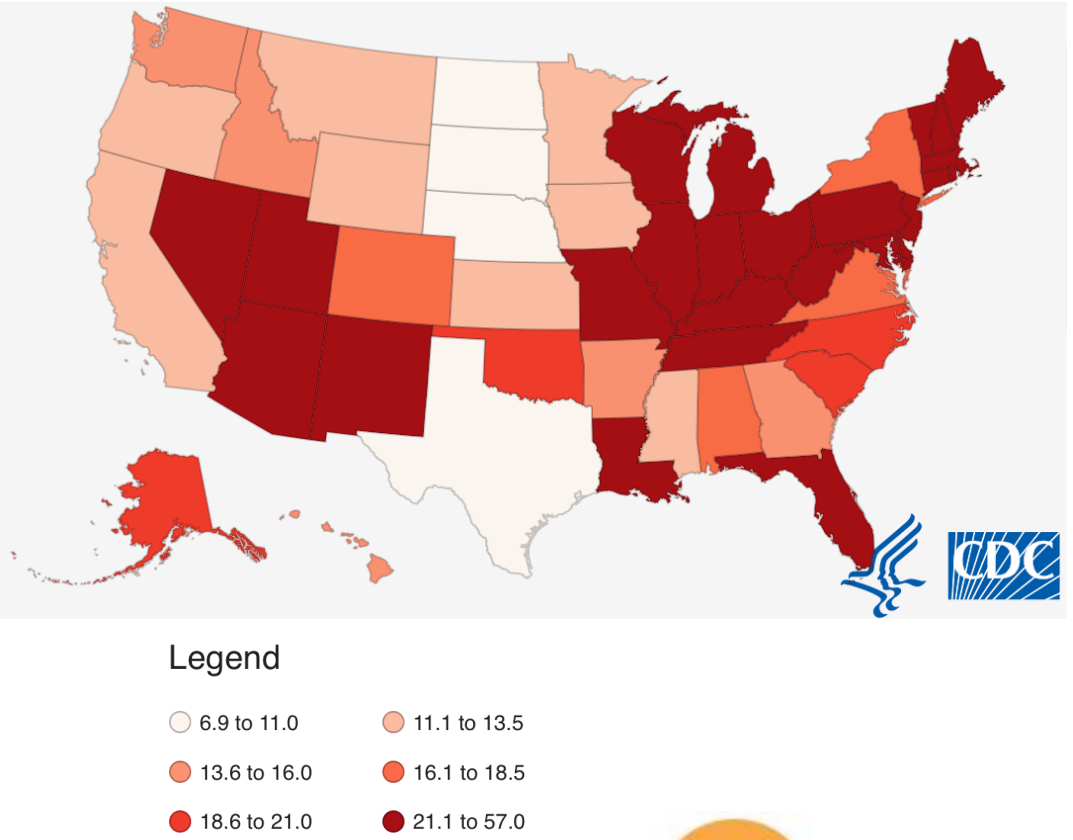

Overdose Death Rates Involving Opioids, by Type, United States, 1999-2018
Deaths per 100,000 population
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
Any Opioid
Other Synthetic Opioids
(e.g., fentanyl, tramadol)
Heroin
Commonly Prescribed Opioids
(Natural & Semi-Synthetic Opioids and Methadone)
SOURCE: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2020.
https://wonder.cdc.gov/.
www.cdc.gov
Your Source for Credible Health Information

It Matters Where You Live

U.S. State Opioid Prescribing Rates (per 100 persons), 2018

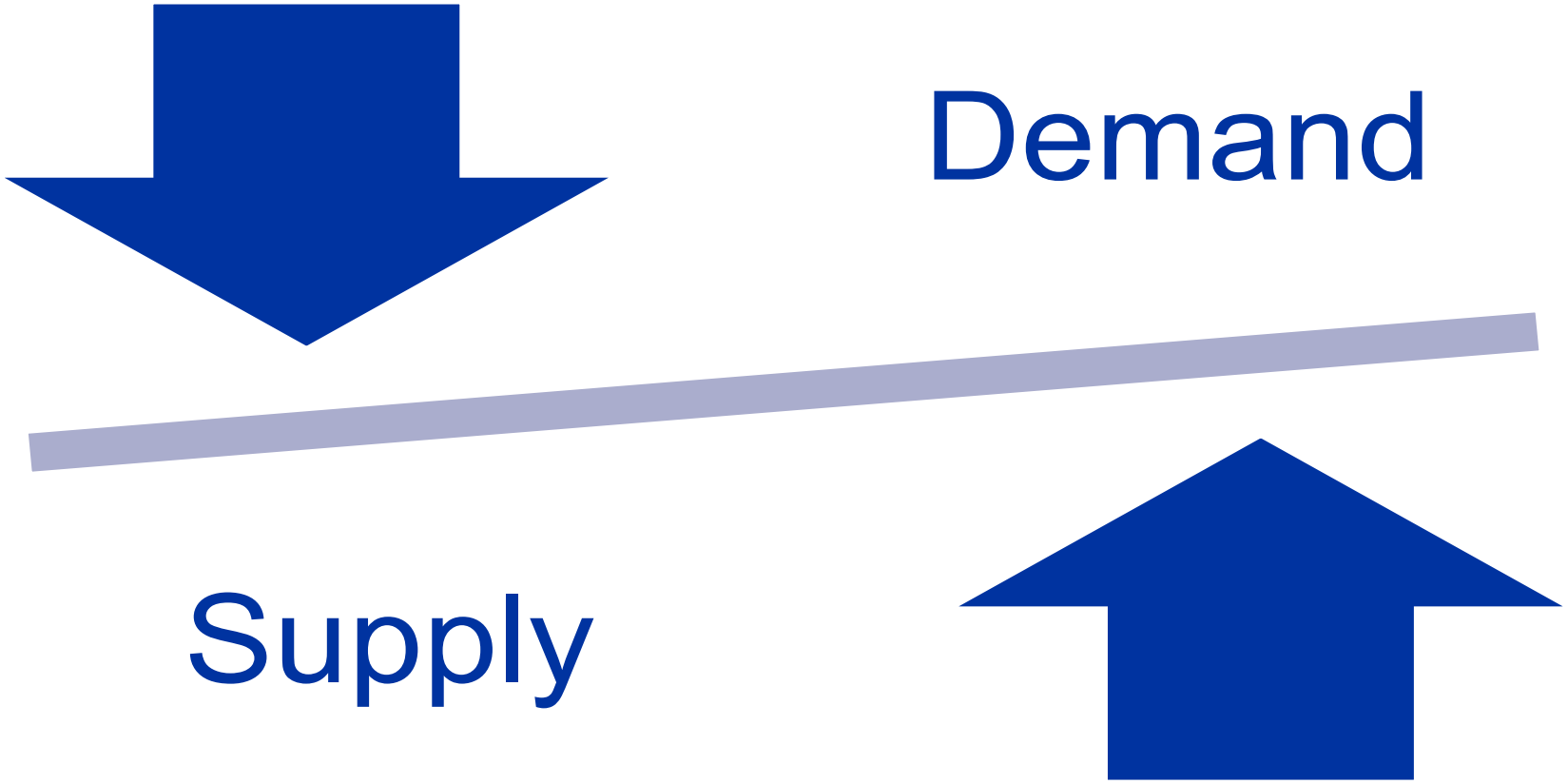


Drug Overdose Mortality Rates (per 100,000 persons), 2017



Rural & Underserved Health Research Center

Policy Solutions to the Opioid Crisis



Rural & Underserved Health Research Center

Policy Solutions: Supply Side

- Provider/pharmacist level
  - PDMPs
  - Prescribing limits
  - Prescribing guidelines
  - Rescheduling of previously non-scheduled medications
- Payer level
  - Formulary product and quantity restrictions
- FDA/manufacturer level
  - REMS
  - Abuse deterrent formulations

Rural & Underserved Health Research Center

CDC Guide to Reduce Opioid Use Disorder

- Prescription drug monitoring programs
- State prescription drug laws
- Formulary management: PA, quantity limits, DUR
- Academic detailing to educate providers on prescribing guidelines
- Patient education on safe storage and disposal
- Improve risk awareness of prescription opioids

GUIDELINE FOR PRESCRIBING OPIOIDS FOR CHRONIC PAIN

IMPROVING PRACTICE THROUGH RECOMMENDATIONS

CDC's *Guideline for Prescribing Opioids for Chronic Pain* is intended to improve communication between providers and patients about the risks and benefits of opioid therapy for chronic pain, improve the safety and effectiveness of pain treatment, and reduce the risks associated with long-term opioid therapy, including opioid use disorder and overdose. The Guideline is not intended for patients who are in active cancer treatment, palliative care, or end-of-life care.

DETERMINING WHEN TO INITIATE OR CONTINUE OPIOIDS FOR CHRONIC PAIN

1. Nonpharmacologic therapy and nonopioid pharmacologic therapy are preferred for chronic pain. Clinicians should consider opioid therapy only if expected benefits for both pain and function are anticipated to outweigh risks to the patient. If opioids are used, they should be combined with nonpharmacologic therapy and nonopioid pharmacologic therapy, as appropriate.

2. Before starting opioid therapy for chronic pain, clinicians should establish treatment goals with all patients, including realistic goals for pain and function, and should consider how opioid therapy will be discontinued if benefits do not outweigh risks. Clinicians should continue opioid therapy only if there is clinically meaningful improvement in pain and function that outweighs risks to patient safety.

3. Before starting and periodically during opioid therapy, clinicians should discuss with patients known risks and realistic benefits of opioid therapy and patient and clinician responsibilities for managing therapy.

CLINICAL REMINDERS

- Opioids are not first-line or routine therapy for chronic pain
- Establish and measure goals for pain and function
- Discuss benefits and risks and availability of nonopioid therapies with patient

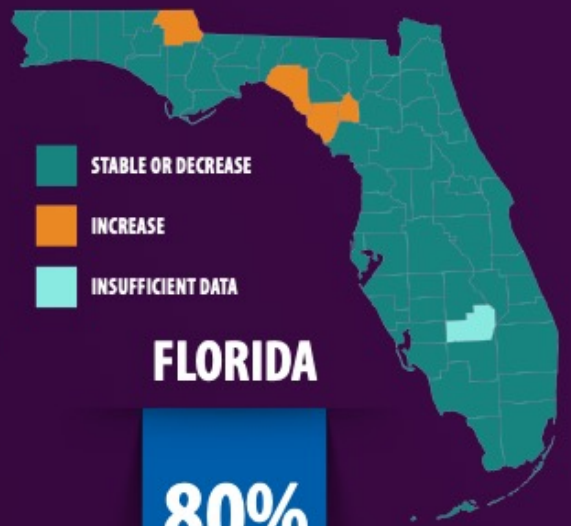
Rural & Underserved Health Research Center

STATE SUCCESSES: Decreases in Opioid Prescribing

Average Morphine Milligram Equivalants (MME)* per person decreased in most counties in Florida, Ohio, and Kentucky from 2010 to 2015.

These states have regulated pain clinics and set requirements for their state's PDMP.

PDMP, Prescription Drug Monitoring Program, is a state-run electronic database used to track the prescribing and dispensing of controlled prescription drugs to patients.



FLORIDA

80% of counties DECREASED

OHIO

85% of counties DECREASED

KENTUCKY

62% of counties DECREASED

* MME is a way to calculate the amount of opioids, accounting for differences in opioid drug type and strength.

www.cdc.gov/vitalsigns/opioids

Rural & Underserved Health Research Center

Policy Solutions: Demand Side

- Prevention
  - Education programs
- Treatment
  - Behavioral Counseling
  - Medication for opioid use disorder (MOUD)
- General harm reduction policies
  - Syringe access
  - Naloxone access

Rural & Underserved Health Research Center

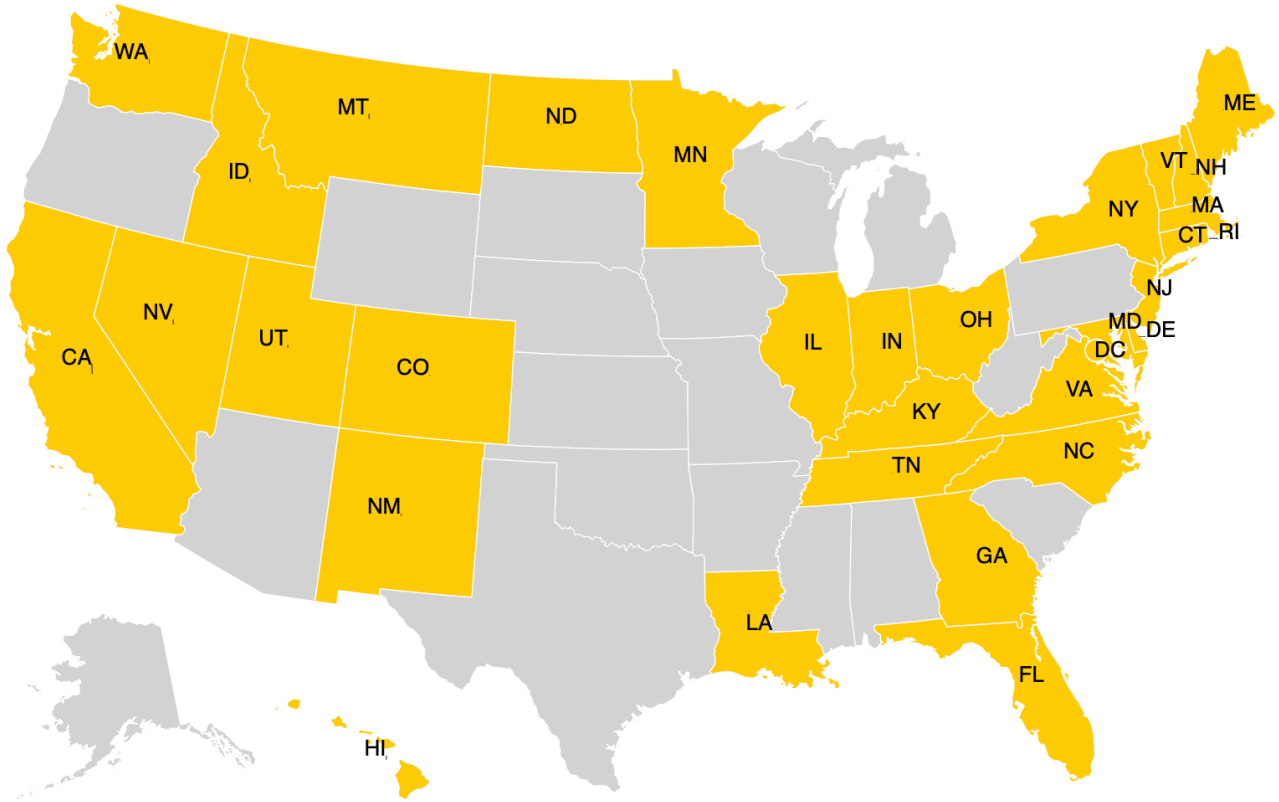
Syringe Services Programs (SSPs) FAQs

What is an SSP?

Syringe services programs (SSPs) are also referred to as syringe exchange programs (SEPs) and needle exchange programs (NEPs). Although the services they provide may vary, SSPs are community-based programs that provide access to sterile needles and syringes, facilitate safe disposal of used syringes, and provide and link to other important services and programs such as

- Referral to substance use disorder treatment programs.
- Screening, care, and treatment for viral hepatitis and HIV.
- Education about overdose prevention and safer injection practices.
- Vaccinations, including those for hepatitis A and hepatitis B.
- Screening for sexually transmitted diseases.
- Abscess and wound care.
- Naloxone distribution and education.
- Referral to social, mental health, and other medical services.

States with laws that allow SSPs



The Policy Surveillance Program is housed at the Temple University Beasley School of Law.

SSPs in Kentucky

Kentucky Public Health
Prevent. Promote. Protect.

54 Kentucky Counties with Increased Vulnerability to Rapid Dissemination of HIV/HCV Infections Among People who Inject Drugs and Preventive Syringe Services Programs (SSPs)

National Ranking by County*

1	Wolfe	34	Martin	108	Gallatin
3	Breathitt	35	Boyle	125	Bath
4	Perry	39	Lawrence	126	Grayson
5	Clay	40	Rockcastle	129	Greenup
6	Bell	45	Harlan	132	Green
8	Leslie	48	McCreary	153	Casey
9	Knox	50	Letcher	154	Carter
10	Floyd	53	Johnson	163	Monroe
11	Clinton	54	Russell	167	Garrard
12	Owsley	56	Elliott	175	Robertson
14	Whitley	65	Laurel	178	Lewis
15	Powell	67	Carroll	179	Edmonson
17	Knott	75	Taylor	180	Allen
21	Pike	77	Grant	187	Boyd
23	Magoffin	93	Adair	191	Hickman
25	Estill	97	Lincoln	202	Breckinridge
30	Lee	99	Wayne	212	Campbell
31	Menifee	101	Cumberland	214	Mercer

** Vulnerable Counties in RED have Operating SSPs*

Specific concerns regarding Kentucky Counties:

1. Dense drug user networks similar to Scott County, Indiana
2. Lack of syringe services programs

54 Vulnerable Counties

72 Operating SSPs (60 Counties) as of 3/20/2020

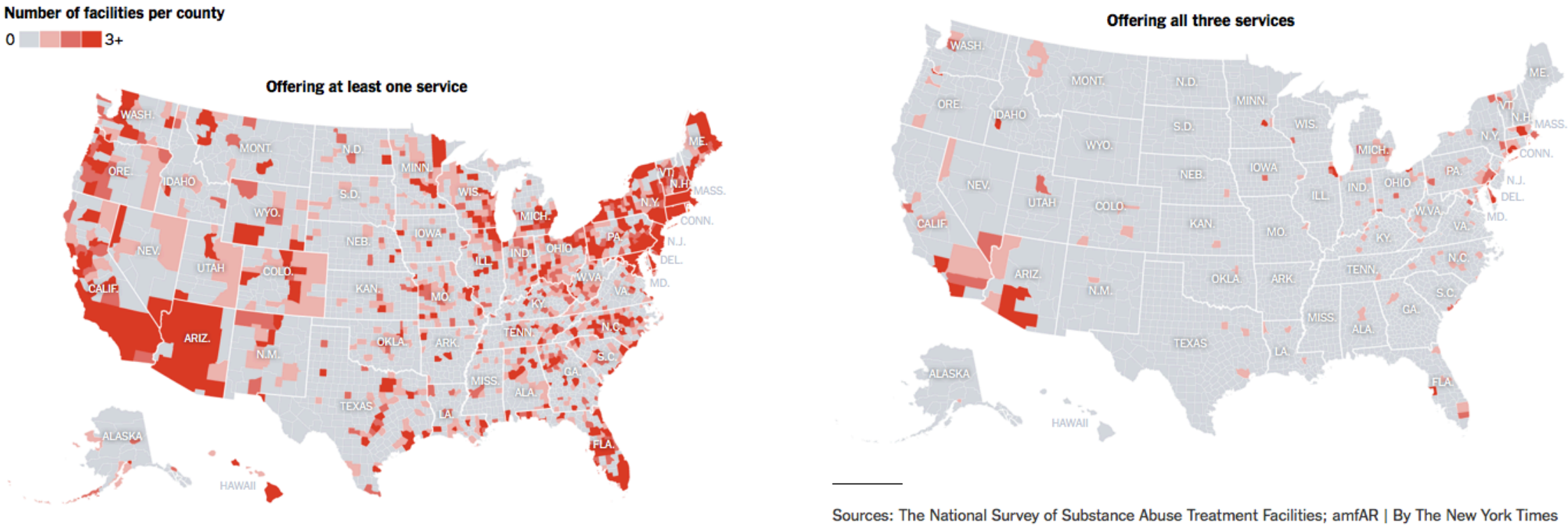
3 Counties are Approved but Not Yet Operational

NOTE: CDC stresses that this is a REGION-WIDE problem, not just a county-specific problem.

Rural & Underserved Health Research Center

It Matters Where You Live

County level access to Buprenorphine, Methadone, and Naltrexone



https://www.nytimes.com/2018/04/21/opinion/an-opioid-crisis-foretold.html

Family physician buprenorphine prescribing

Lars Peterson, MD, PhD

American Board of Family Physicians

Rural & Underserved Health Research Center

The Rural & Underserved Health Research Center is 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 # U1CRH30041. The information, conclusions and opinions expressed in this presentation are those of the authors and no endorsement by FORHP, HRSA, HHS, or the University of Kentucky is intended or should be inferred.

American Board of Family Medicine

- ABMS member board
- 93,000+ current diplomates
- Mission to improve health of public
- Research Dept since 2012
- Collects data on examination registration
- Graduate survey of recent residency graduates done 3 years after training

Medication Assisted Therapy (MAT) for Opioid Use Disorder (OUD)

- MAT can be done with buprenorphine, naltrexone, or methadone
  - Methadone for OUD dispensed at facility daily
- Drug Addiction Treatment Act (DATA 2000) allowed prescribing of buprenorphine by office based clinicians to treat OUD
- Clinicians with a DEA license complete additional training to obtain an X-license

Rural & Underserved Health Research Center

Specialty & Distribution of Physician Prescribers

2012

Supplemental Appendix . Number and Percentage of Waivered and Non-Waivered Physicians by Specialty

Specialty	Number (%) of Waivered Physicians with this Specialty	Number (%) Non-Waivered	Total (%)	Percentage of Specialty with a DEA Waiver
Psychiatry	7,584 (41.6)	39,157 (83.8)	46,741 (5.6)	16.2
Family medicine	4,066 (22.3)	108,913 (96.4)	112,979 (13.6)	3.6
Internal medicine	2,618 (14.4)	119,980 (97.9)	122,598 (14.8)	2.1
Anesthesiology	753 (4.1)	44,884 (98.4)	45,637 (5.5)	1.7

- A 2016 survey of all rural located physicians with waivers found that 48.1% were family physicians
  - Range 37.8% – 65.2% by Census region

Sources: Annals of Family Medicine 2015;13(1):23-26 & Journal of Rural Health 2019;35:108-112 & Am J Prev Med 2018;54(6S3):S208–S214

Rural & Underserved Health Research Center

Waivered ≠ Prescribing

- 2016 survey of rural physicians found 53% with a 30 patient waiver were not current prescribing buprenorphine
- Commonly cited barriers to prescribing
  - No practice partner who prescribes
  - Lack of institutional support
  - Fear of regulatory authorities
  - Lack of mental health support
  - Attracting drug users to the practice

Sources: Annals of Family Medicine 2014:12;128-133 & Am J Prev Med 2018;54(6S3):S208–S214 & Journal of Rural Health 2019;35;113-121

Rural & Underserved Health Research Center

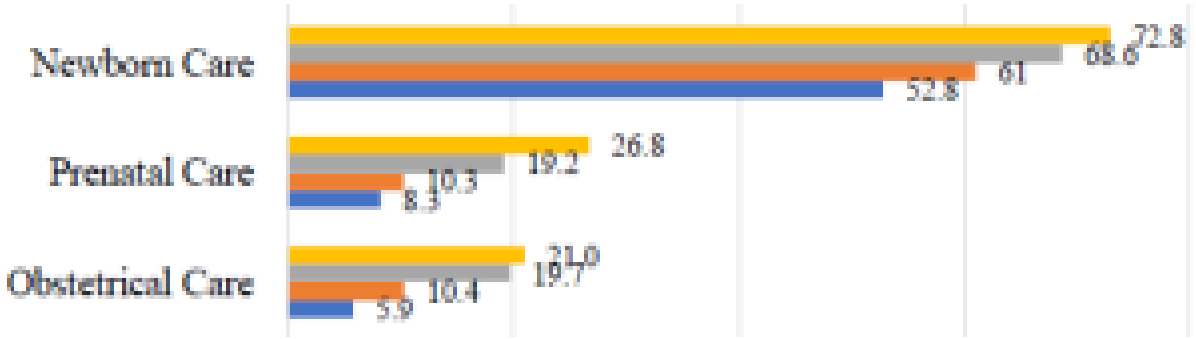
Family Physician Training to Prescribe Buprenorphine

- In 2015 only 28.6% of family medicine residencies had a required addiction medicine curriculum
- Only 31.2% had at least 1 graduate obtain a waiver to prescribe buprenorphine in the past year
- Using ABFM data from 2016 survey of recent residency graduates, graduated in 2013
  - Training and current practice in Northeast or West region, and current practice in an FQHC were associated with higher preparation to prescribe and actual prescribing

Sources: Fam Med. 2017;49:537-543. & Ann Fam Med 2018;16:443-446.

Rural & Underserved Health Research Center

Buprenorphine and Maternity Care



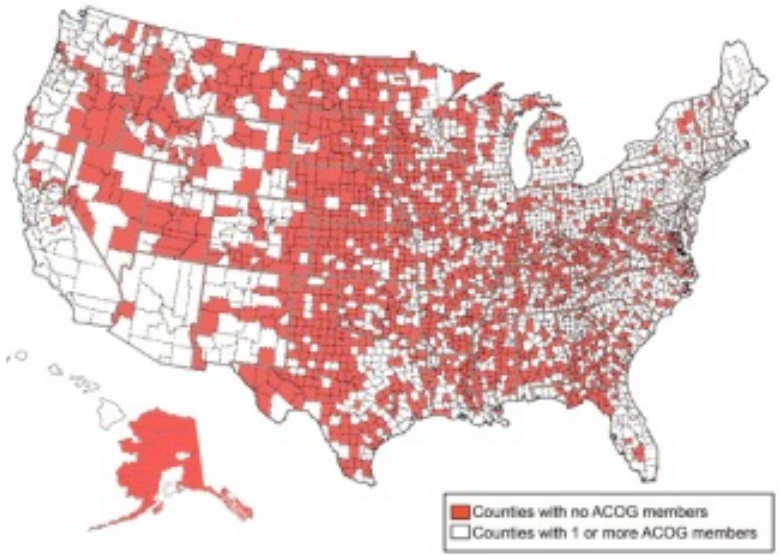


Fig. 1. U.S. counties in which there was no American Congress of Obstetricians and Gynecologists (ACOG) member in practice, 2010.

Raybum. Distribution of Obstetrician–Gynecologists. Obstet Gynecol 2012.

Source: https://uknowledge.uky.edu/ruhrc_reports/5 & Annals of Family Medicine 2015;13:23-26 & Obstet Gynecol 2012;119:1017–22

Rural & Underserved Health Research Center

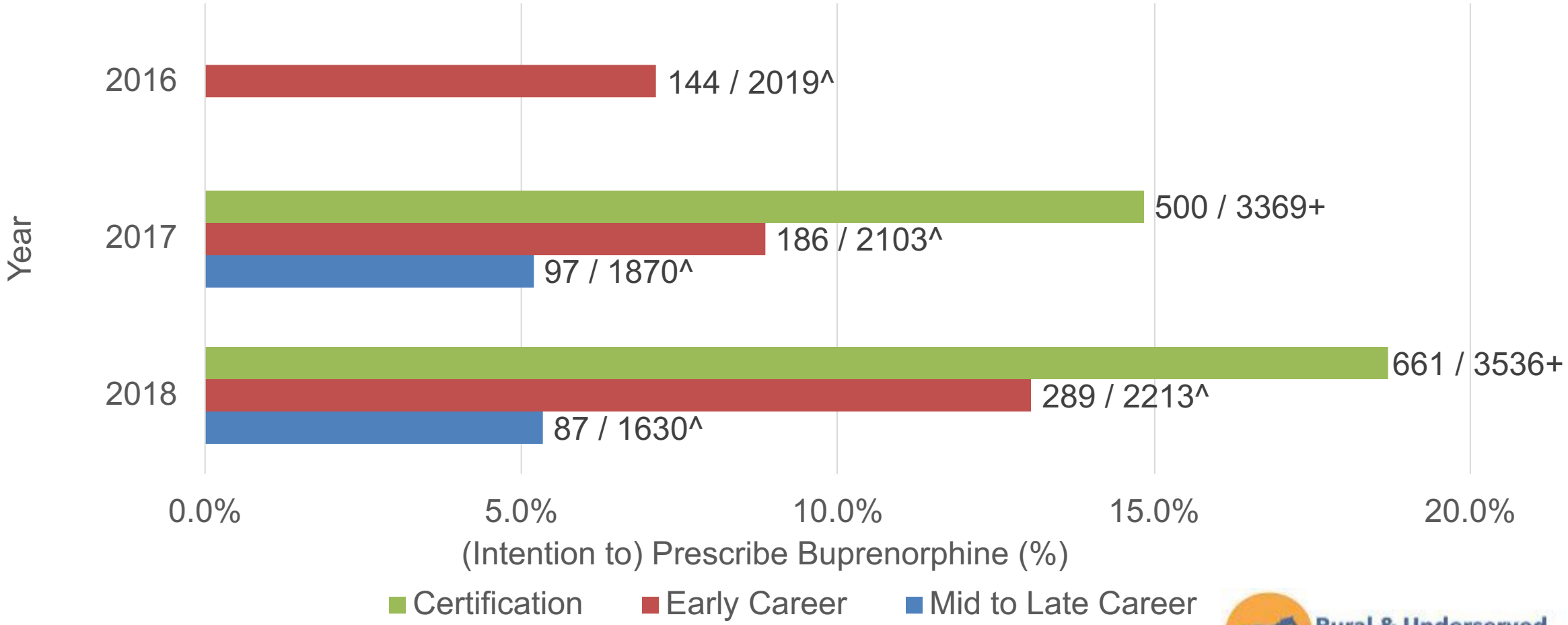
Buprenorphine and Maternity Care

- Used 2016 – 2018 ABFM graduate survey data
- 5,103 in sample of exclusions
  - 517 (10.1%) prescribed buprenorphine
  - 829 (16.2%) deliver babies
  - 153 (2.9%) deliver babies & prescribe buprenorphine
  - 108 (2.1%) provide only prenatal care and prescribe buprenorphine
- Of 614 residencies, 15 produced one quarter of these physicians

Rural & Underserved Health Research Center

Source: Ann Fam Med 2020;18:156-158

Buprenorphine Prescribing by Years in Practice



Rural & Underserved Health Research Center

Source: J Am Board Fam Med 2020;33:7– 8

Characteristics Associated with Buprenorphine Prescribing by Family Physicians

- Used ABFM exam registration data in 2017 and 2018, 100% response rate
- 1 in 5 given question on buprenorphine prescribing, sample size = 2726
- 161 (5.9%) prescribed buprenorphine
- Positively associated with prescribing
  - Federal Qualified Health Center (1.98 (95% CI, 1.08, 3.63))
  - Solo practice (2.60 (1.38, 4.92))
  - Mental health professional in practice (2.70 (1.73, 4.22))
- Practice in a rural county or in a whole county mental health professional shortage area were not associated with buprenorphine prescribing.

Source: J Am Board Fam Med 2020; 33:118 –123

Rural & Underserved Health Research Center

Conclusions

- Family physicians are positioned to treat OUD in rural America
  - Can treat special populations; e.g. pregnant persons, adolescents
- Rural family physicians not more likely to prescribe
- Early career family physicians are increasingly being trained to, and are, prescribing buprenorphine
- Barriers (lack of mental health support) remain

Rural & Underserved Health Research Center

Naloxone Distribution in the United States by Payer Type and Urbanicity

Chris Delcher, PhD

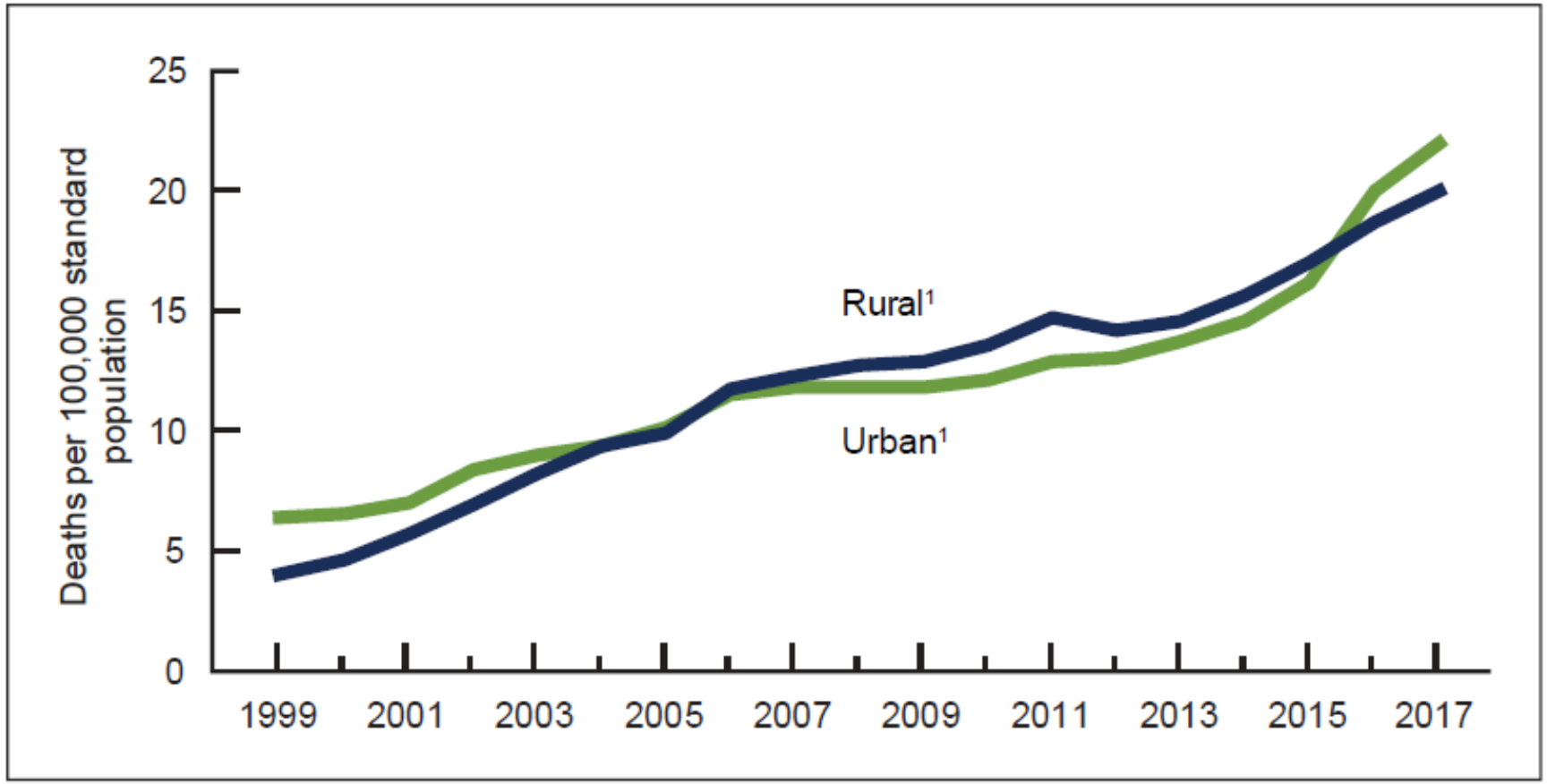
Associate Director, Institute for Pharmaceutical Outcomes and Policy
College of Pharmacy
University of Kentucky

Rural & Underserved Health Research Center

The Rural & Underserved Health Research Center is 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 # U1CRH30041. The information, conclusions and opinions expressed in this presentation are those of the authors and no endorsement by FORHP, HRSA, HHS, or the University of Kentucky is intended or should be inferred.

Background: Drug overdose death rates quadruple

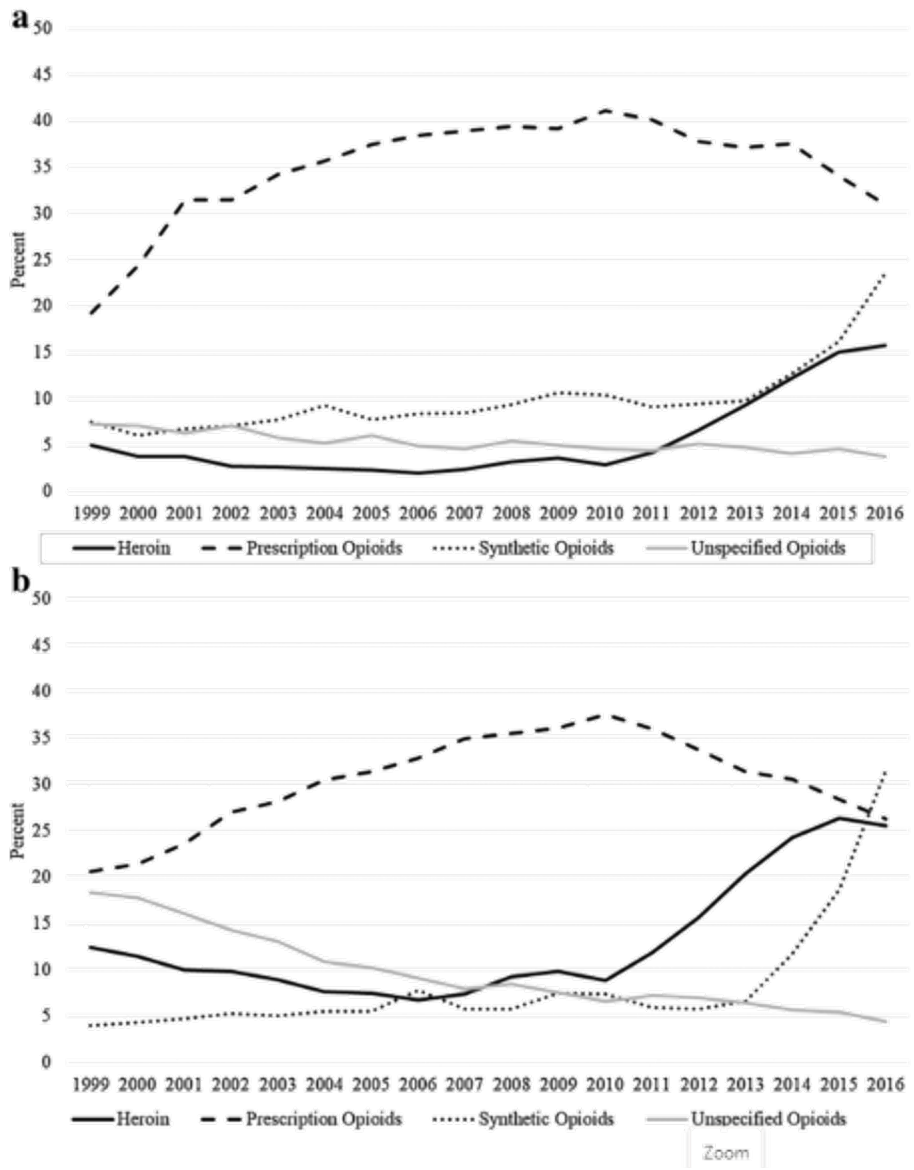
Figure 1. Age-adjusted rates of drug overdose deaths, by urban and rural residence: United States, 1999–2017



Source: Hedegaard H, Miniño AM, Warner M. Urban-rural Differences in Drug Overdose Death Rates, by Sex, Age, and Type of Drugs Involved, 2017. NCHS Data Brief. 2019 Aug;(345):1–8.

Rural & Underserved Health Research Center

Background: New era of synthetic opioids



Rural

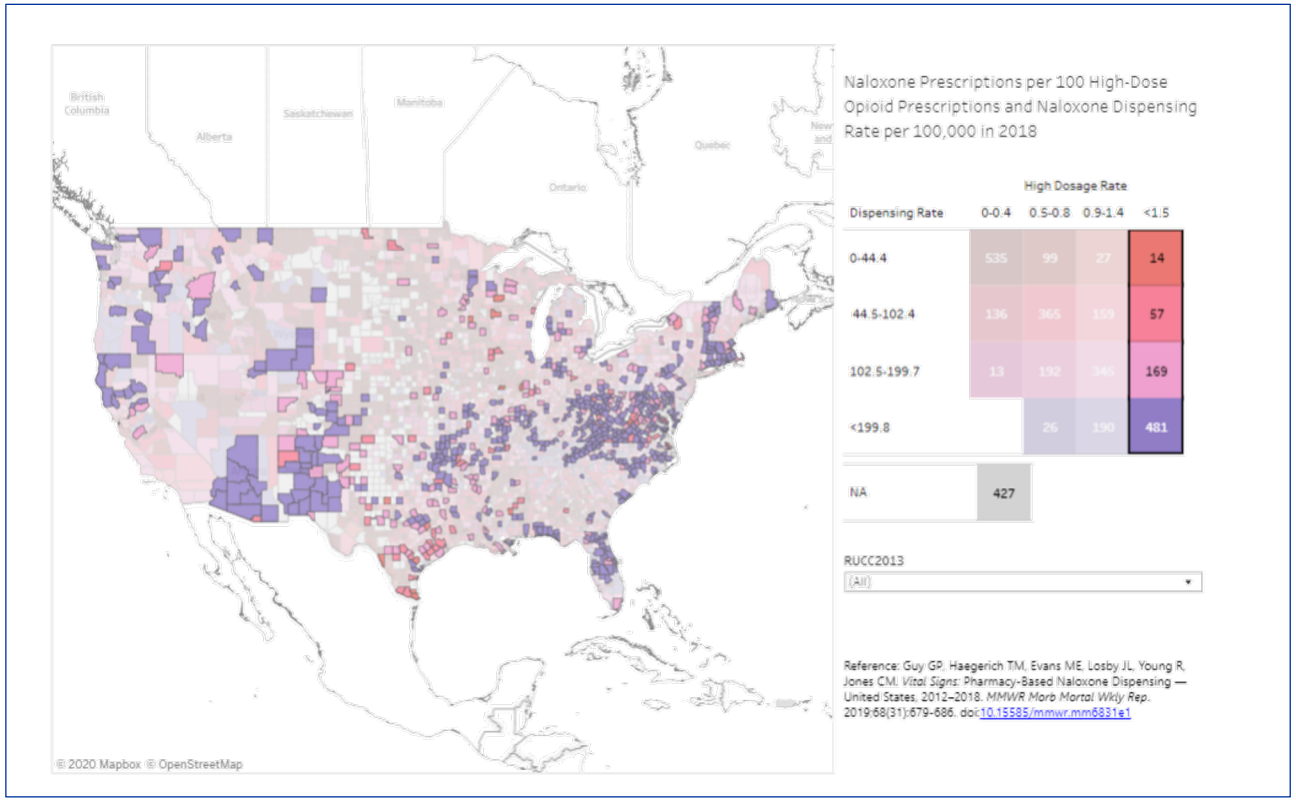
Urban

Source: Rigg KK, Monnat SM, Chavez MN. Opioid-related mortality in rural America: Geographic heterogeneity and intervention strategies. International Journal of Drug Policy. 2018 Jul;57:119–29.

Rural & Underserved Health Research Center

Background: Naloxone

- 71.2% or rural counties lack a publicly available OUD medication provider in 2017 [1]
- Naloxone (aka, opioid overdose reversal medication)
- Rural counties less likely to be “high” naloxone dispensing [2]
- Interactive map showing high dose opioid prescribing & naloxone dispensing rates



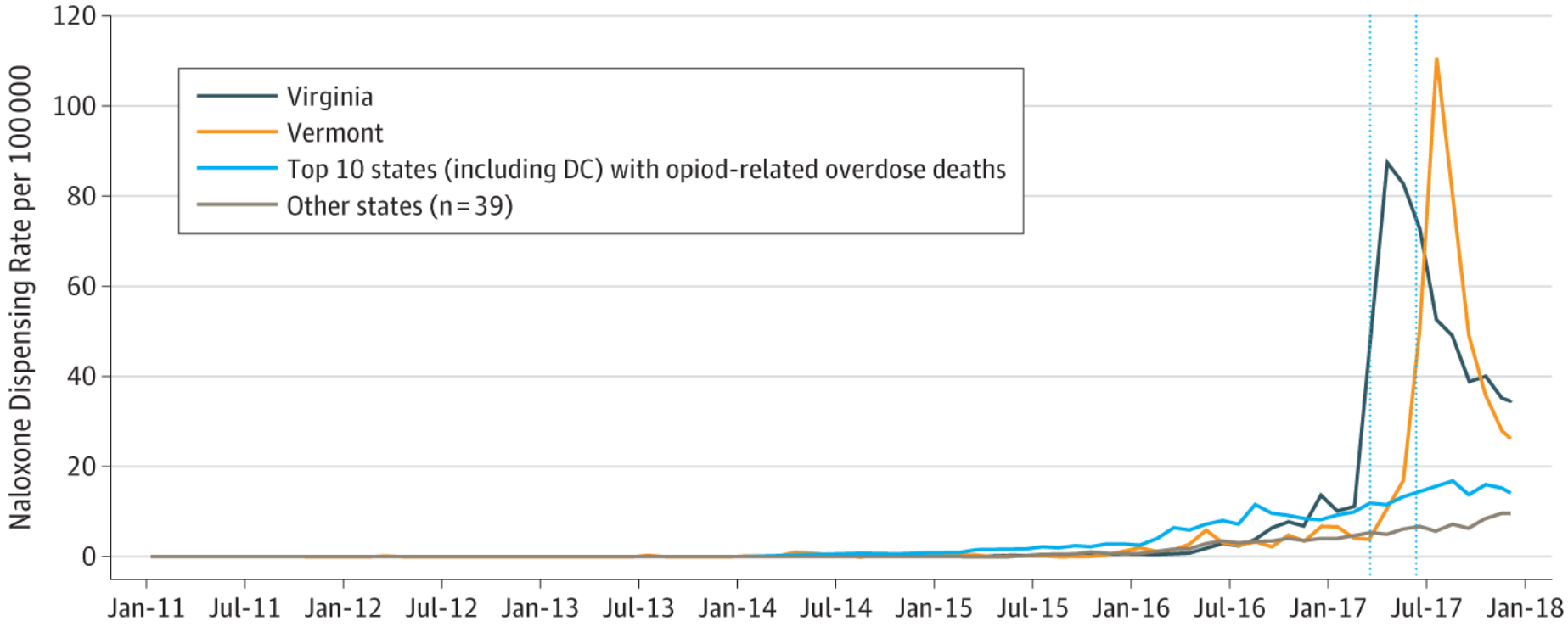
https://pharmacy.uky.edu/county-dispensing-usa

Source:
[1] Haffajee RL, Lin LA, Bohnert ASB, Goldstick JE. Characteristics of US Counties With High Opioid Overdose Mortality and Low Capacity to Deliver Medications for Opioid Use Disorder. JAMA NETWORK OPEN. 2019 Jun;2(6).

[2] Guy GP, Haegerich TM, Evans ME, Losby JL, Young R, Jones CM. Vital Signs: Pharmacy-Based Naloxone Dispensing — United States, 2012–2018. MMWR Morb Mortal Wkly Rep. 2019 Aug 9;68(31):679–86.

Rural & Underserved Health Research Center

Policy options: Co-prescribing with opioids



Source: Sohn M, Talbert JC, Huang Z, Lofwall MR, Freeman PR. Association of Naloxone Coprescription Laws With Naloxone Prescription Dispensing in the United States. JAMA Netw Open. 2019 Jun 21;2(6):e196215.

Rural & Underserved Health Research Center

Policy options: Medicaid payments

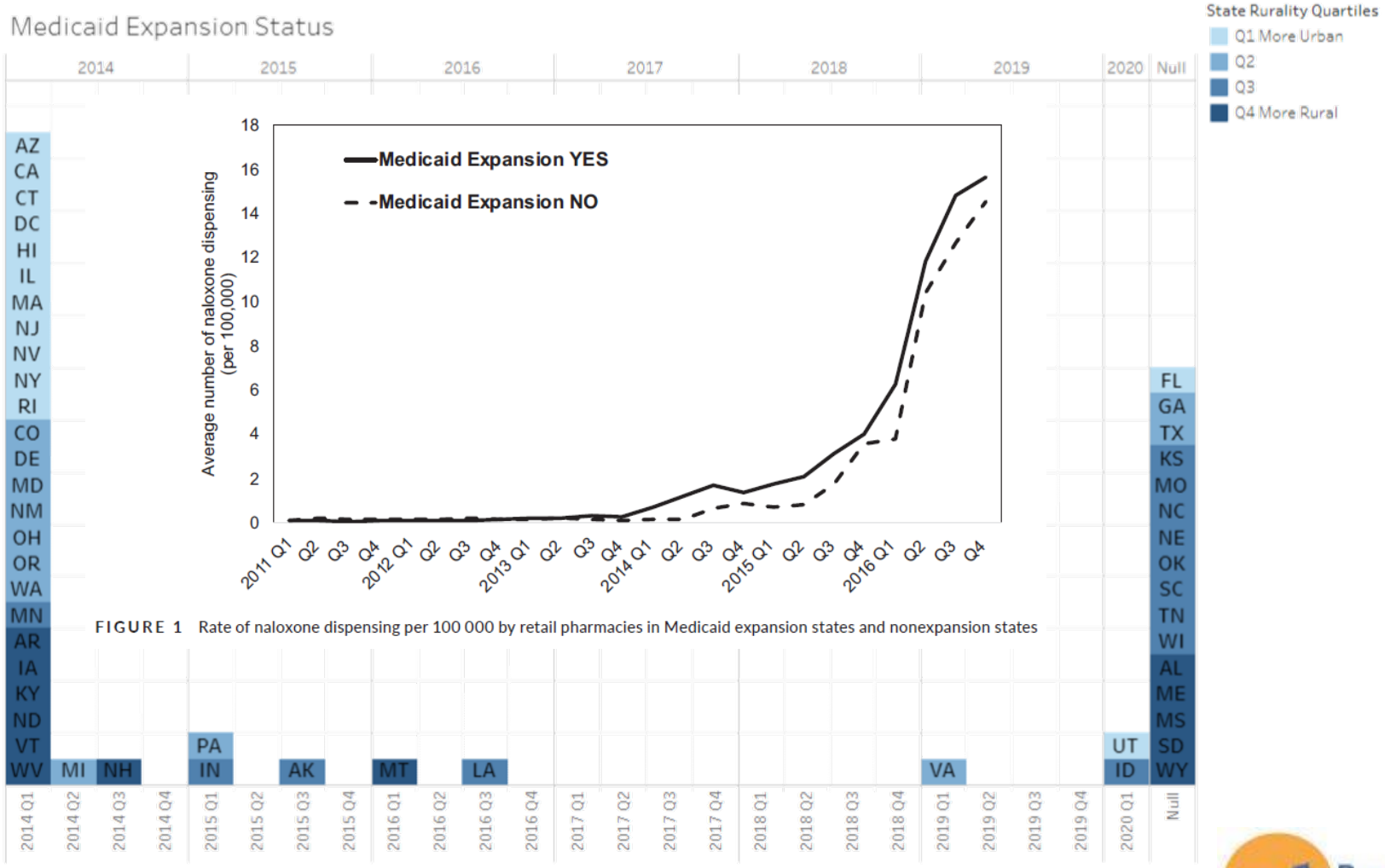


FIGURE 1 Rate of naloxone dispensing per 100 000 by retail pharmacies in Medicaid expansion states and nonexpansion states

Source: Sohn M, Talbert JC, Delcher C, Hankosky ER, Lofwall MR, Freeman PR. Association between state Medicaid expansion status and naloxone prescription dispensing. Health Serv Res. 2020 Feb 7;1475-6773.13266.

Rural & Underserved Health Research Center

https://ruhrc.uky.edu

Current Study Aims

- *Aim 1:* To describe the annual national trend of naloxone dispensing across the US, stratified by payer type and rurality
- *Aim 2:* To evaluate the impact of Medicaid expansion under the Affordable Care Act and other Naloxone prescribing laws on naloxone prescriptions dispensed by payer type and rurality

Rural & Underserved Health Research Center

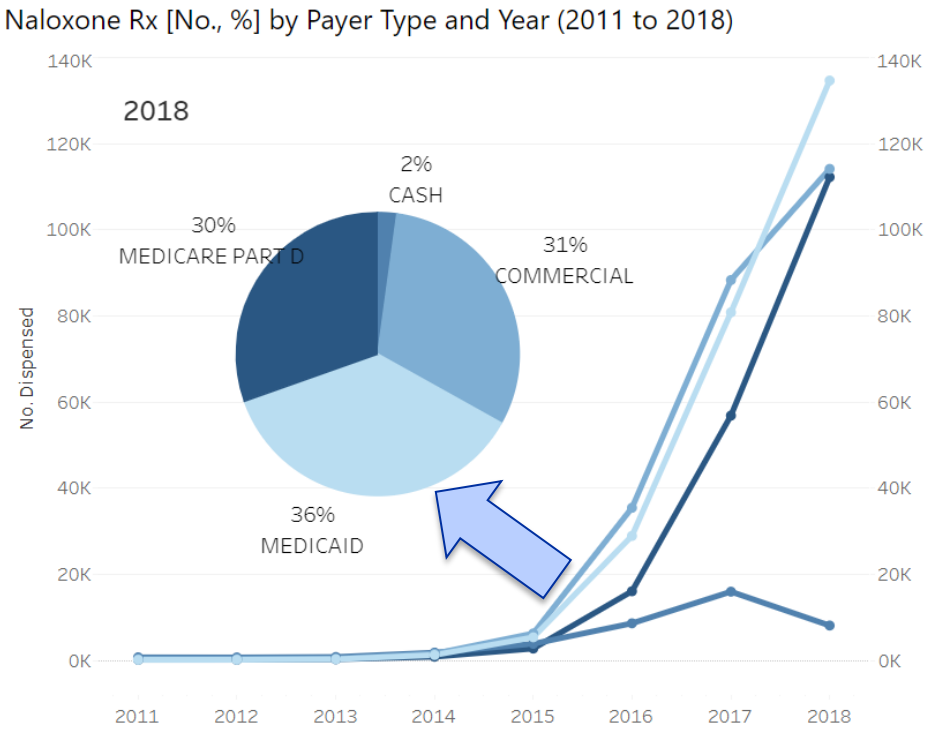
Data Sources: Dependent Variable

Naloxone dispensing data source:

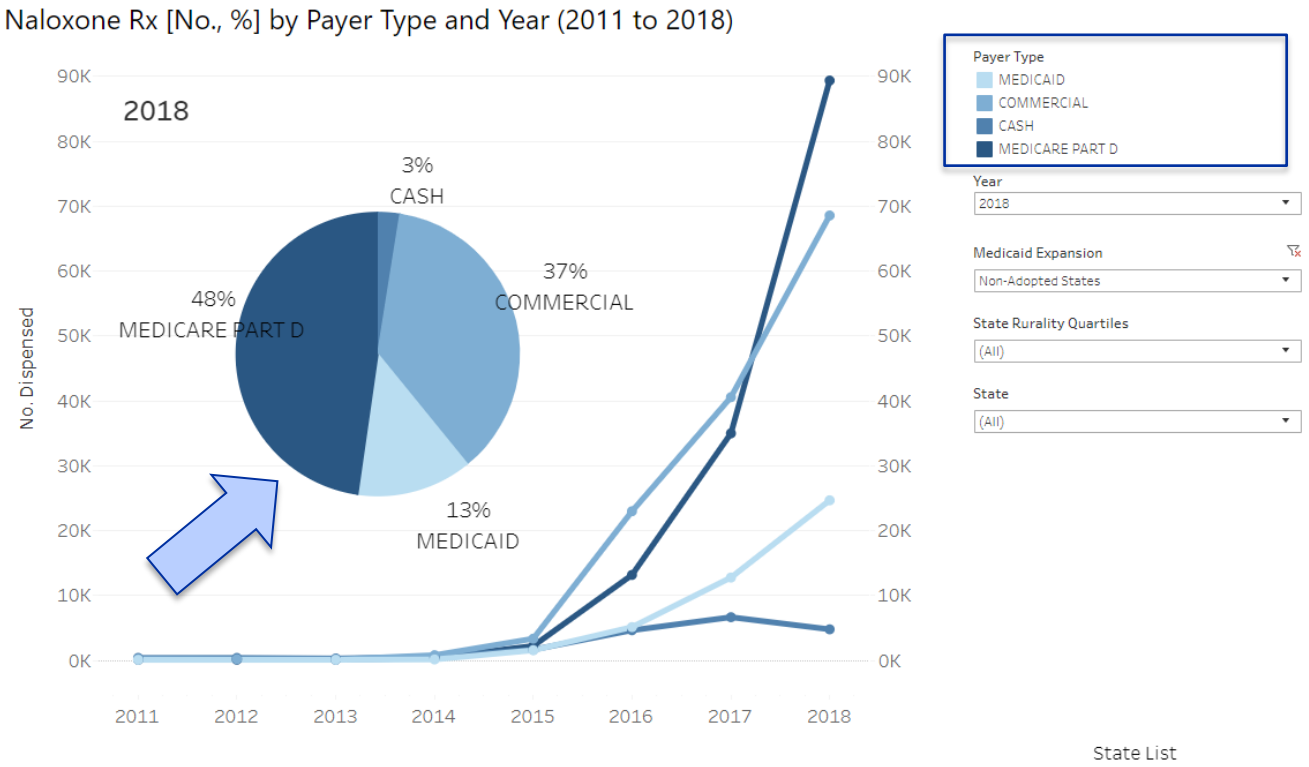
- Nationally representative all-payer prescription naloxone transactions in retail pharmacies from 2011 to 2019 per *3-digit zip code* per quarter year are provided by IQVIA National Prescription Audit (NPA).
  - Dispensing rates per 100,000 population Census pop.
  - Rate/% naloxone paid for by Medicaid

Rural & Underserved Health Research Center

Medicaid expansion (2014)



Not Expanded by 2014



- In states that expanded Medicaid, the % of Naloxone paid for by Medicaid is higher.
- In states that had not yet expanded, Medicare Part D share approaches 50%.

Rural & Underserved Health Research Center

https://ruhrc.uky.edu

Results: More rural states

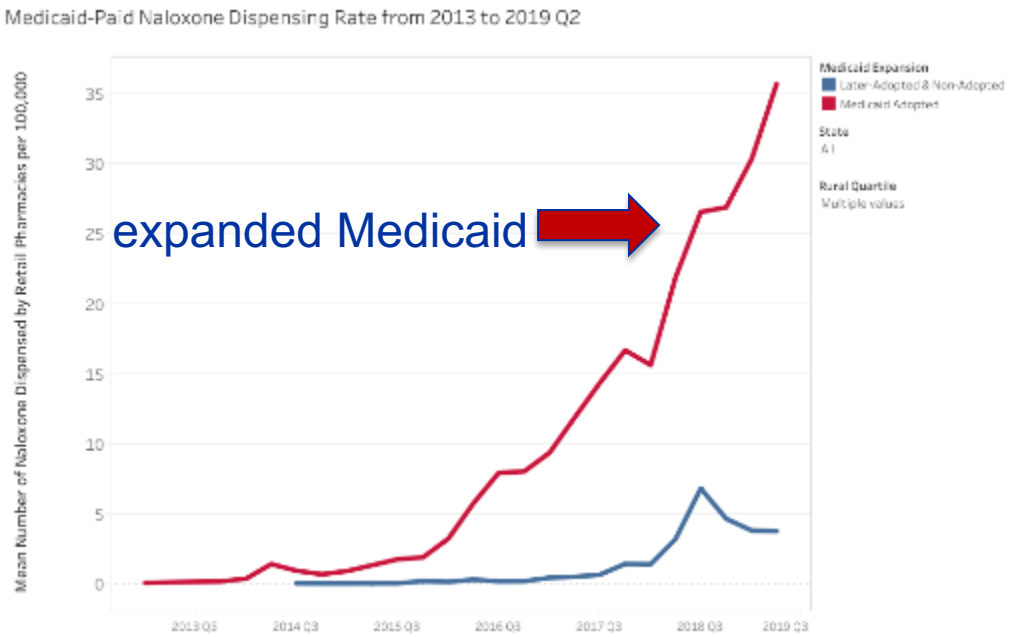
Rurality Stratification and Medicaid Expansion Status by states

Rurality quartiles	% of rural population	States (# of states have Medicaid expansion/# of states without Medicaid expansion)
Q1	0-12.13	AZ, CA, CT, DC, FL*, HI, IL, MA, NJ, NV, RI, UT*, NY (11/2)
Q2	12.14-25.62	CO, DE, GA*, MD, MI, NM, OH, OR, PA, TX*, VA*, WA (9/3)
Q3	25.63-34.61	AK, ID*, IN, KS*, LA, MN, MO*, NC*, NE*, OK*, SC*, TN*, WI* (4/9)
Q4	34.62-61.34	AL*, AR, IA, KY, ME*, MS*, MT, ND, NH, SD*, VT, WV, WY* (8/5)

Rural & Underserved Health Research Center

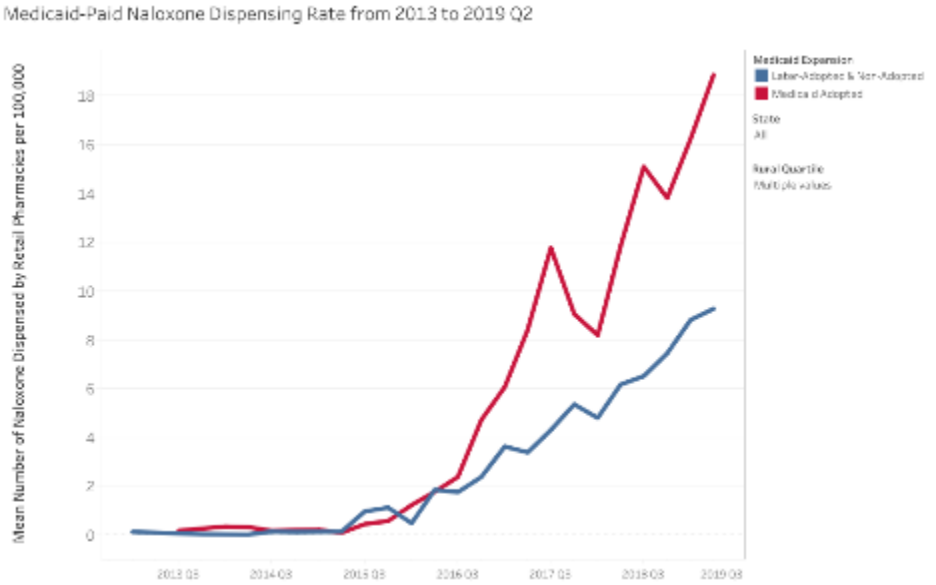
Results: Medicaid-paid naloxone accelerates in urban and rural states (even in those *not* expanding Medicaid)

More urban states



38% of retail Naloxone paid by Medicaid

More rural states

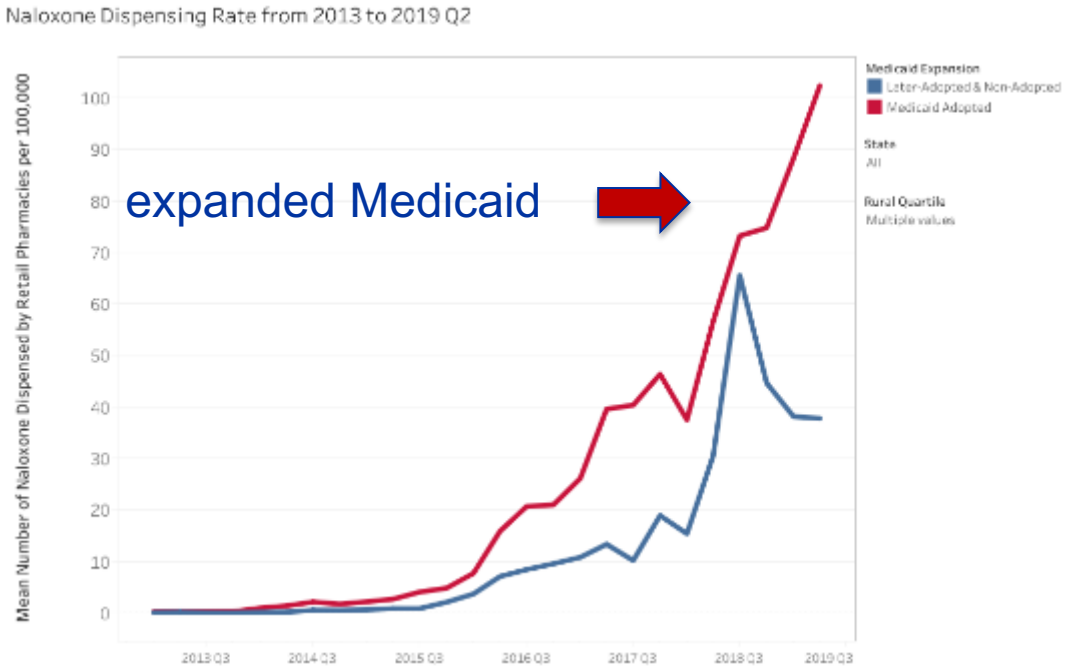


30% of retail Naloxone paid by Medicaid

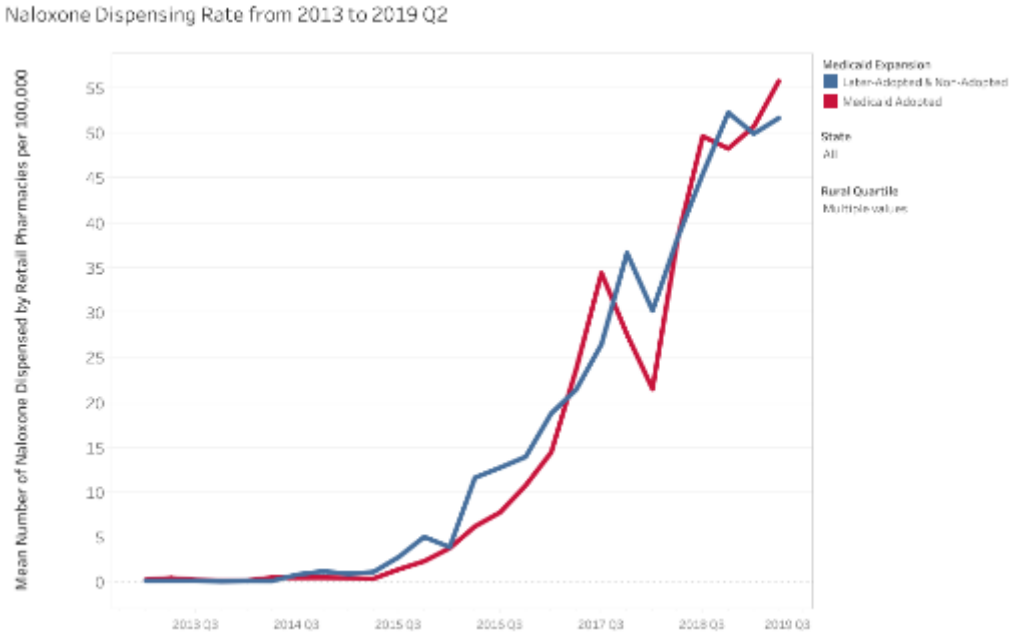
Rural & Underserved Health Research Center

Results: More naloxone dispensed in urban states that expanded Medicaid

More urban states

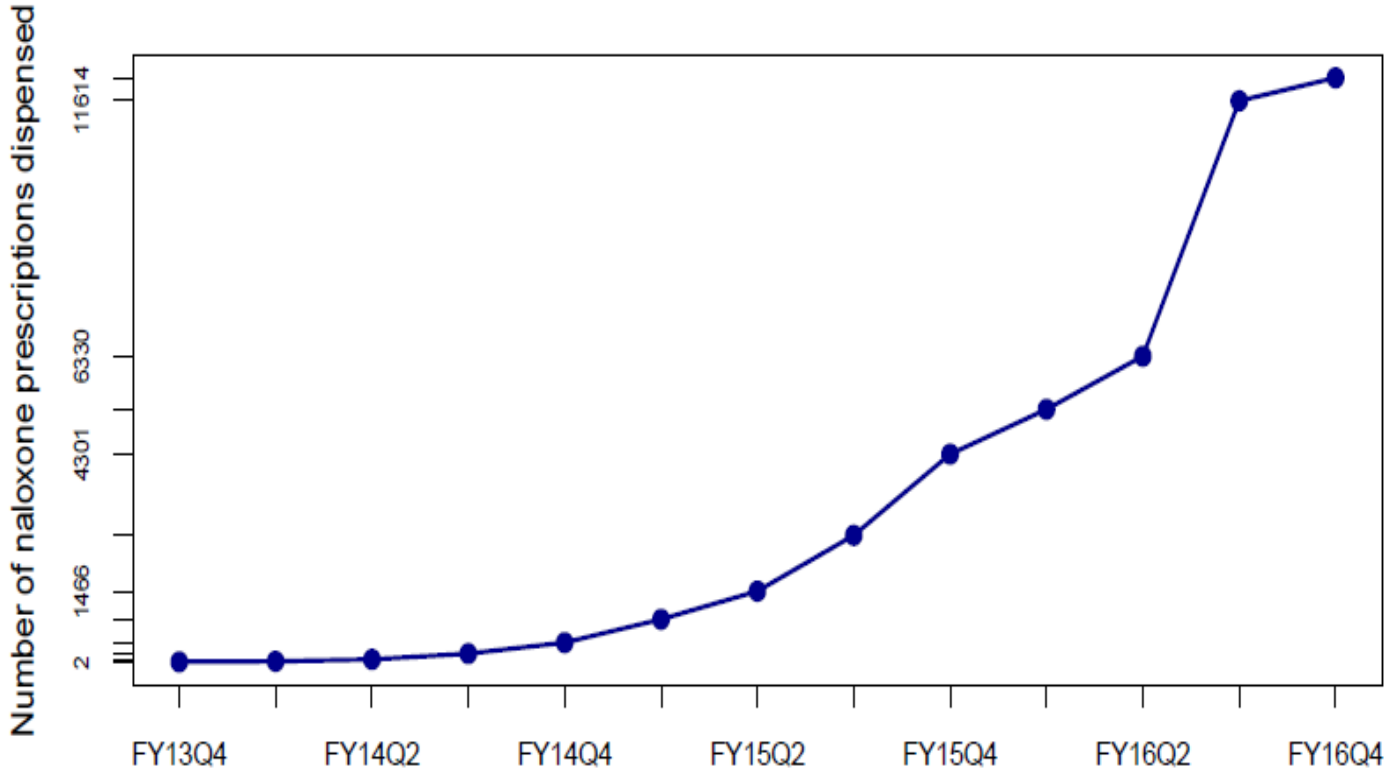


More rural states



Rural & Underserved Health Research Center

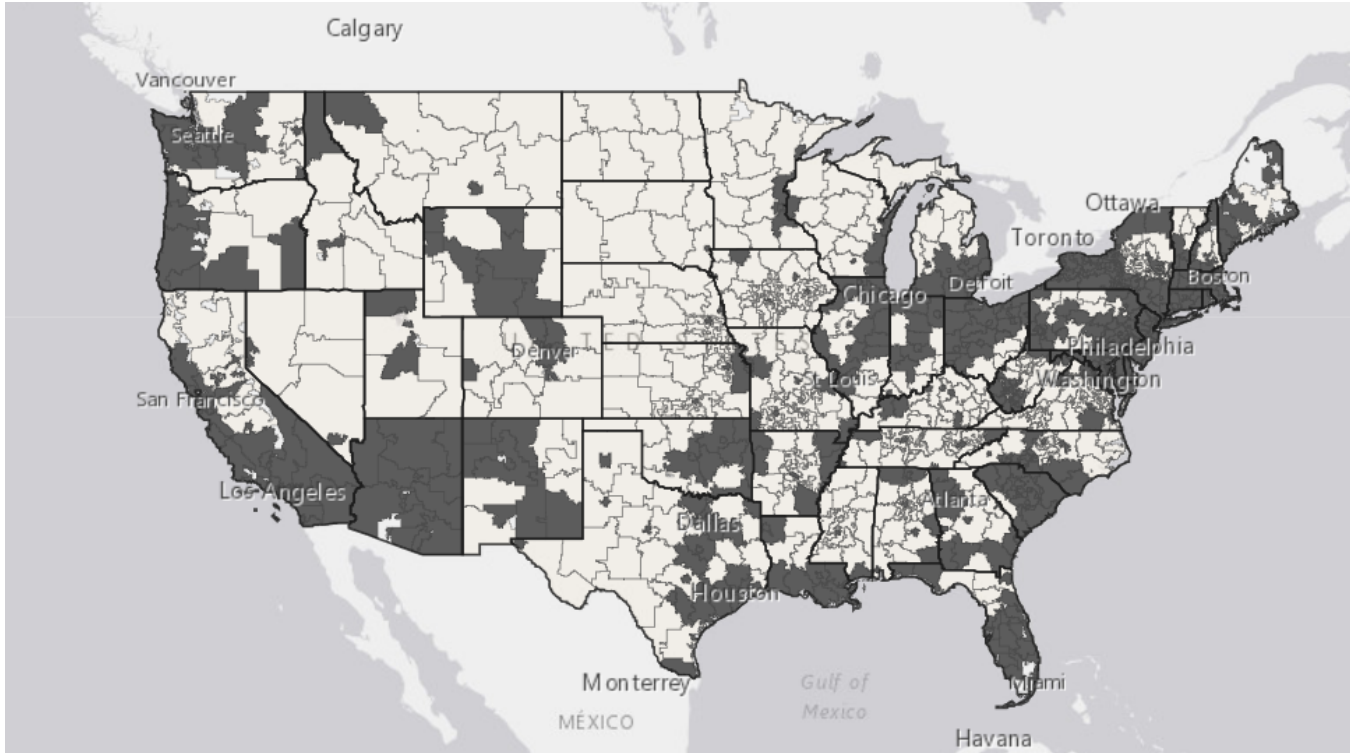
Limitations: Other Sources of Naloxone (VA)



Oliva, E.M., et al., 2017. Opioid overdose education and naloxone distribution: Development of the Veterans Health Administration's national program. Journal of the American Pharmacists Association 57, S168-S179.e4. https://doi.org/10.1016/j.japh.2017.01.022

Rural & Underserved Health Research Center

Future Directions: Defining rurality at 3-digit level



Rurality	N	%
Urban	539	62%
Rural	338	39%

Q1: 0.0094% - 3.12%, N=84
Q2: 3.12% - 8.23%, N=85
Q3: 8.23% - 17.76%, N=84
Q4: 17.76% - 100%, N=85

Future Directions: Other naloxone policies

- Urban/rural impacts of other naloxone policies
  - In April 2019, the Centers for Medicare and Medicaid Services encouraged Medicare Part D plan sponsors to lower cost-sharing for naloxone.
  - Evaluating “direct-to-patient” and “third-party” laws
  - Co-prescribing laws for states for recent implementation (unintended consequences*)

*Abouk R, Pacula RL, Powell D. Association Between State Laws Facilitating Pharmacy Distribution of Naloxone and Risk of Fatal Overdose. JAMA Intern Med. 2019 Jun 1;179(6):805–11.

Rural Health Research Gateway

Gateway provides easy and timely access to research conducted by the Rural Health Research Centers

ruralhealthresearch.org

This free online resource connects you to:

- Research and Policy Centers
- Products & Journal Publications
- Fact Sheets
- Policy Briefs
- Research Projects
- Email Alerts
- Experts
- Dissemination Toolkit

Connect with us

info@ruralhealthresearch.org
facebook.com/RHRGateway
twitter.com/rhrgateway

Funded by the Federal Office of Rural Health Policy, Health Resources and Services Administration.

Rural & Underserved Health Research Center

https://ruhrc.uky.edu