

Investigating Opioid and Alcohol Risk and Misuse Among Rural Agricultural Workers

Dr. Christine Tina Chasek, LIMHP, LADC
UNK Associate Professor
BHECN-Kearney Director

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Where I'm from!



What I do!

Behavioral Health Education Center of Nebraska

Legislative Report
FY 2016 & 2017



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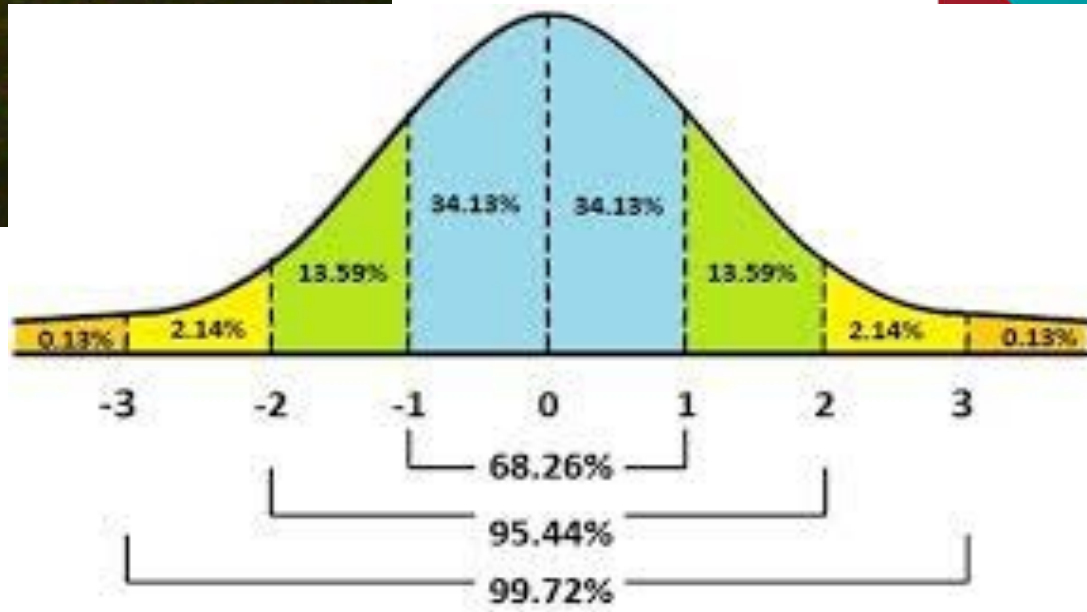


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SUD and MH Statistics

Scope of the problem
Rural Issues

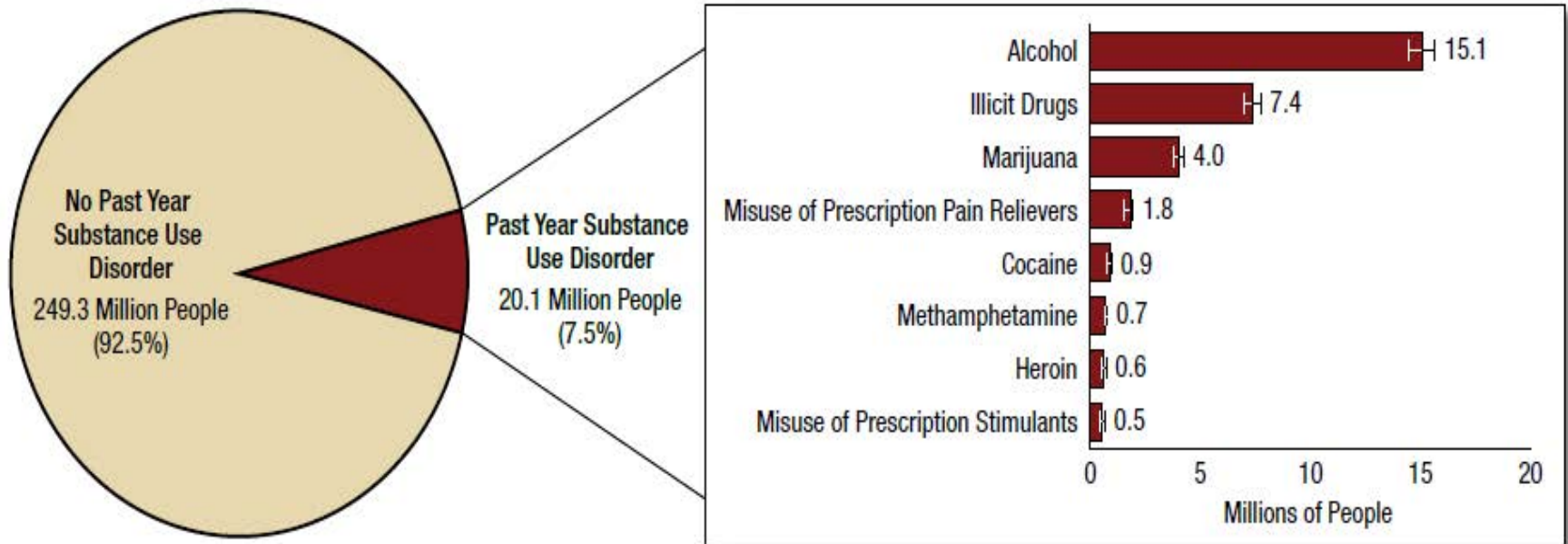
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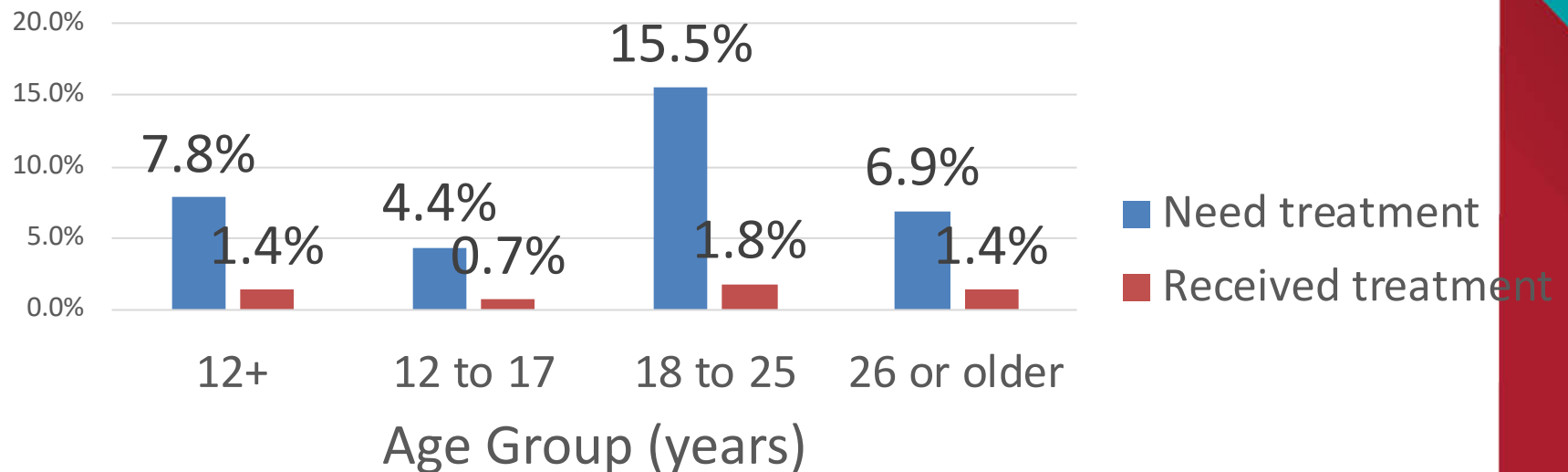
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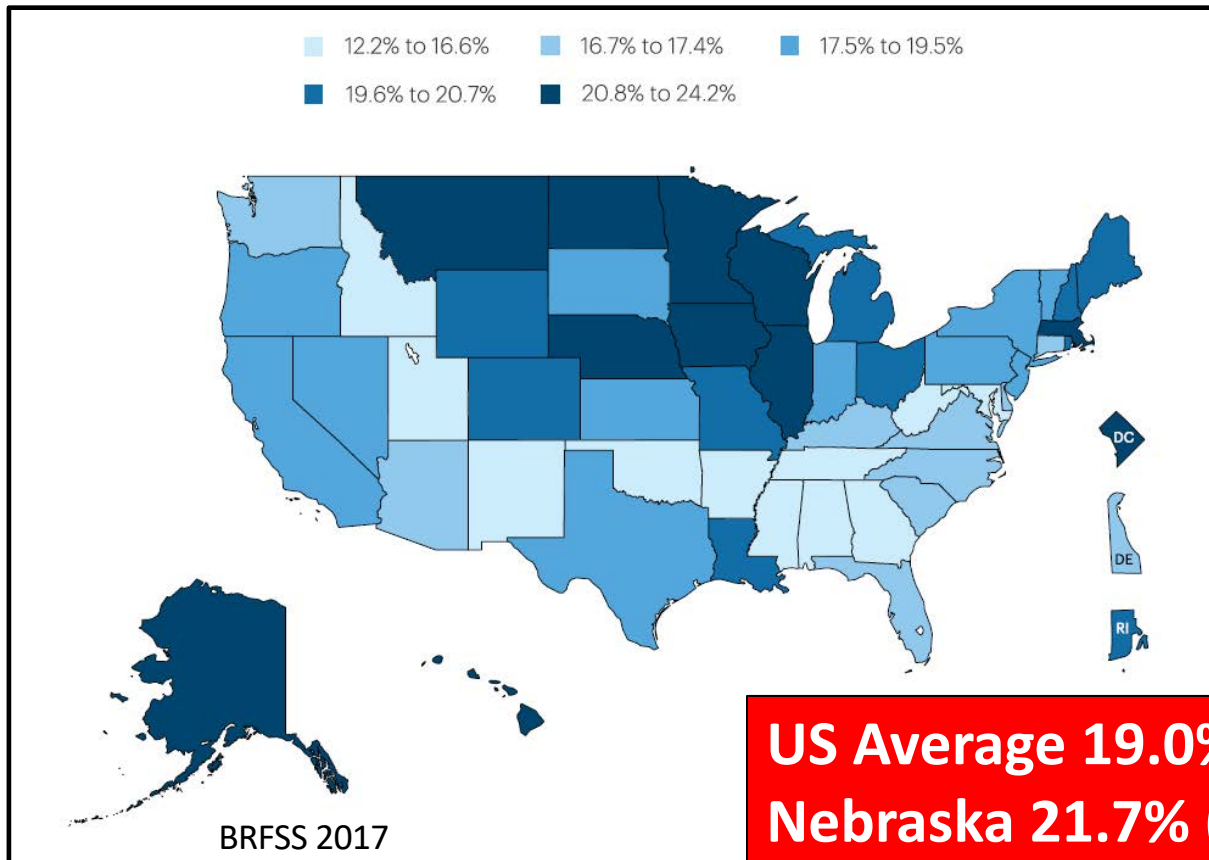
Number of People Aged 12 or Older with a Past Year Substance Use Disorder: 2016



Percentage of People Needing and Receiving Treatment for Substance Use Disorder: 2016

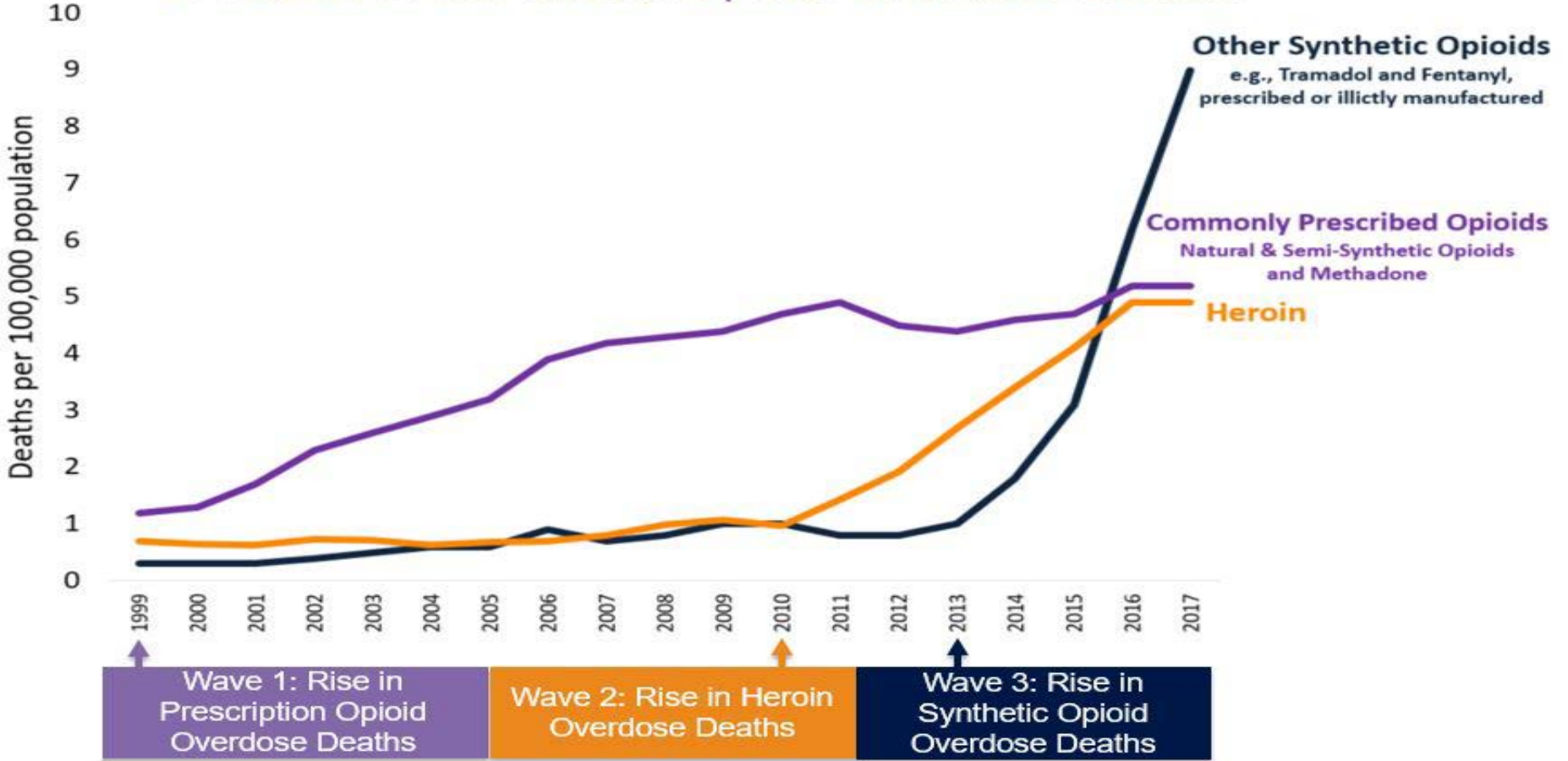


Excessive Drinking among Adults by State



EXCESSIVE DRINKING
Binge Drinking
≥4 drinks [women]
≥5 [men] in one occasion
or
Chronic Drinking
≥8 [women]
≥15 [men] in one week

3 Waves of the Rise in Opioid Overdose Deaths



SOURCE: National Vital Statistics System Mortality File.

Opioids in different forms



Prescription opioids

- Can be prescribed by doctors to treat moderate to severe pain
- oxycodone (OxyContin), hydrocodone (Vicodin), morphine, methadone



Fentanyl

- Synthetic opioid pain reliever
- More powerful than other opioids approved for severe pain
- Cancer patients
- Increase: Illegally made and distributed

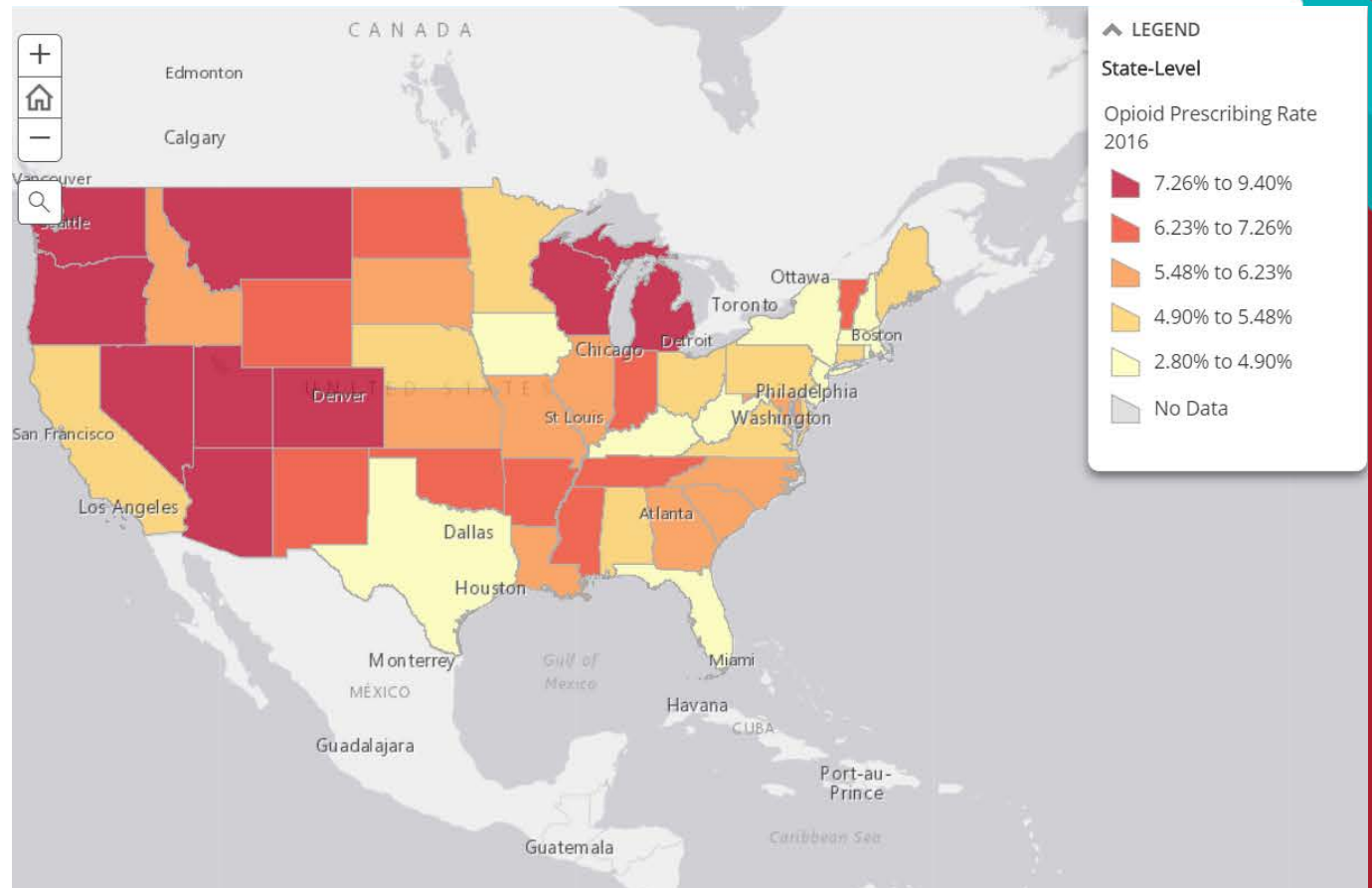


Heroin

- Illegal opioid
- Highly addictive

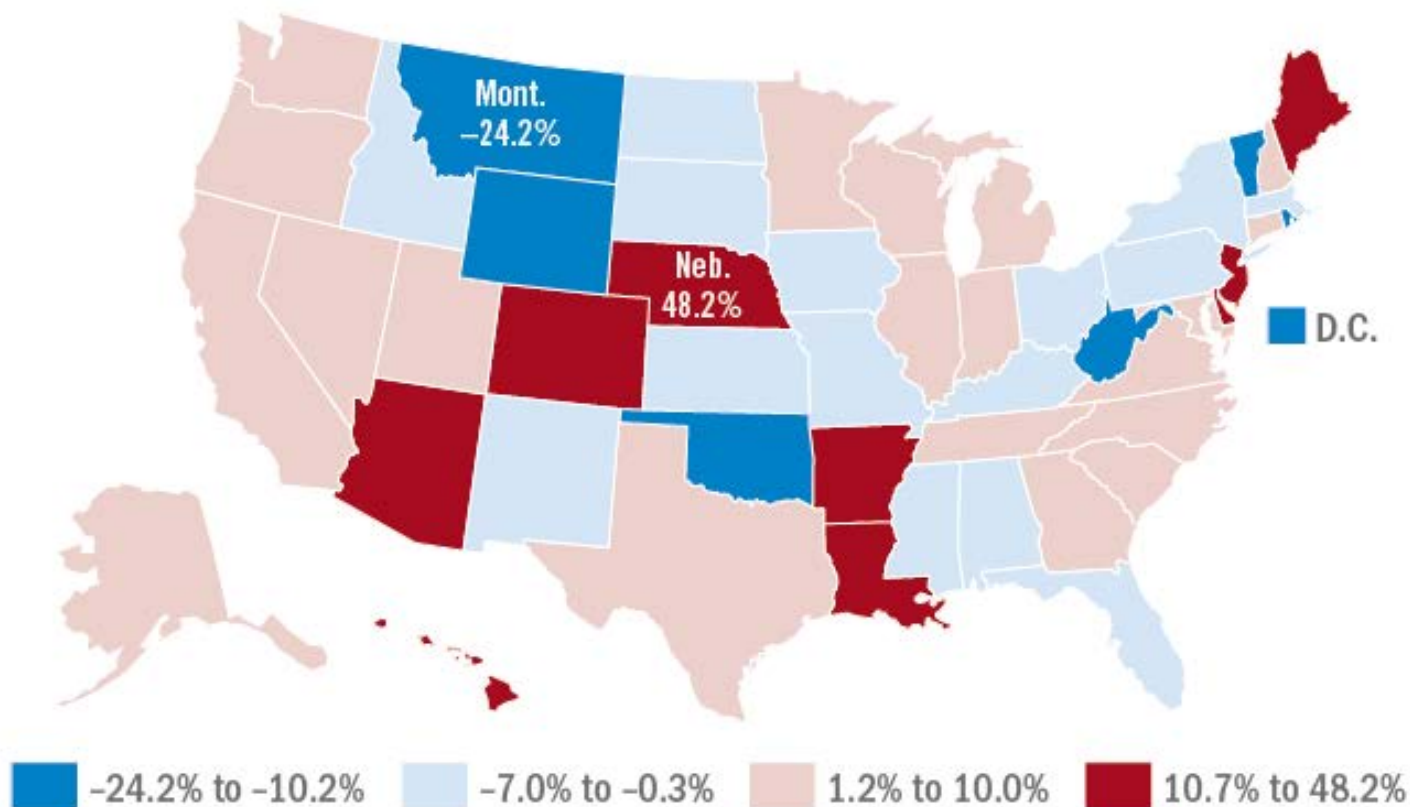
Opioid Prescription Rate among Medicaid Recipients by State 2018

US 5.40%
NE 5.43%



MARCH 2017 TO MARCH 2018

Change in drug overdose deaths for 12-month ending periods

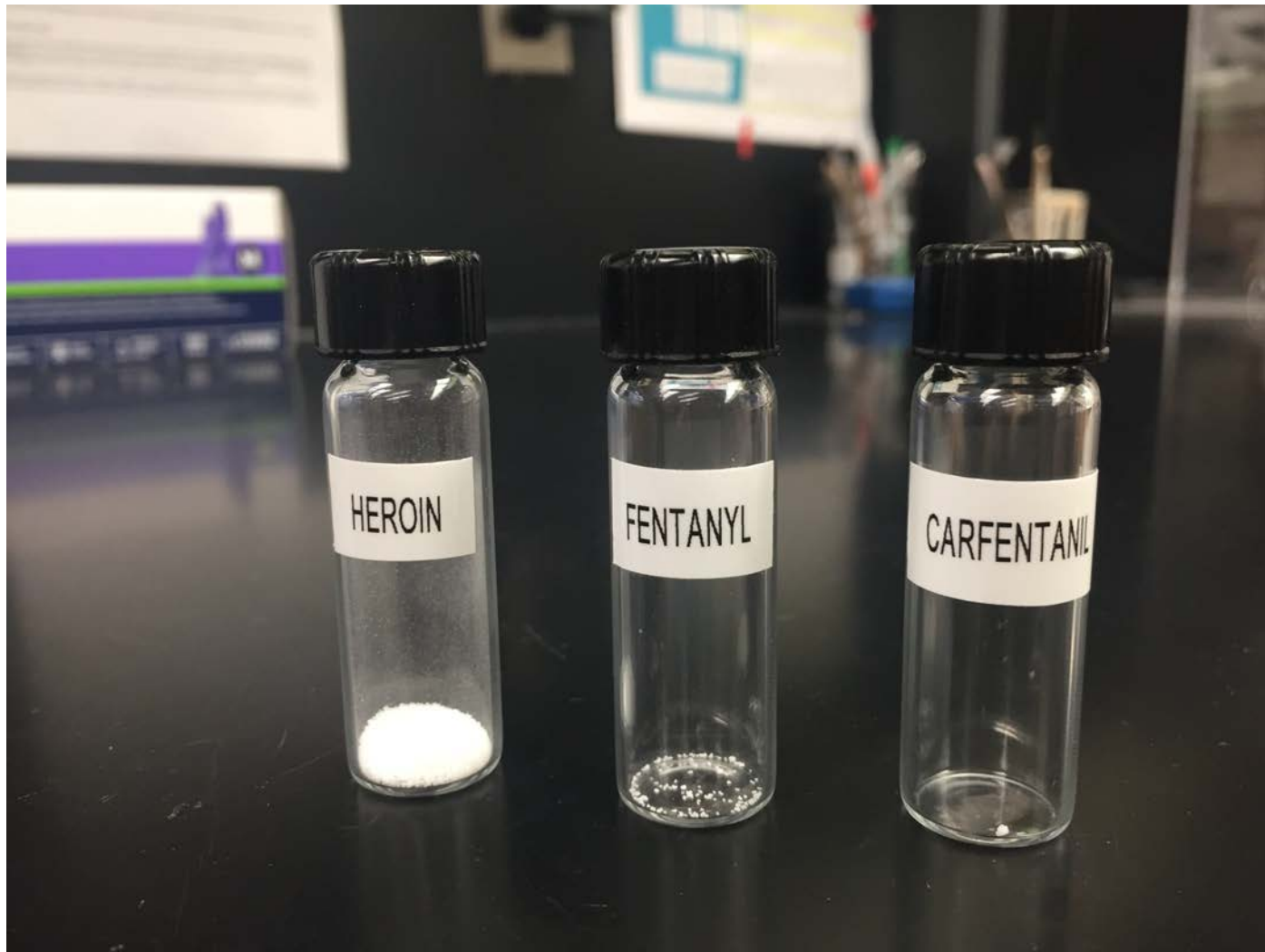


MDedge News

Notes: Based on provisional data from the National Vital Statistics System. "12-month ending periods" are defined as the 12-month periods ending in the months indicated.

Source: National Center for Health Statistics

Amounts of Substance to Overdose



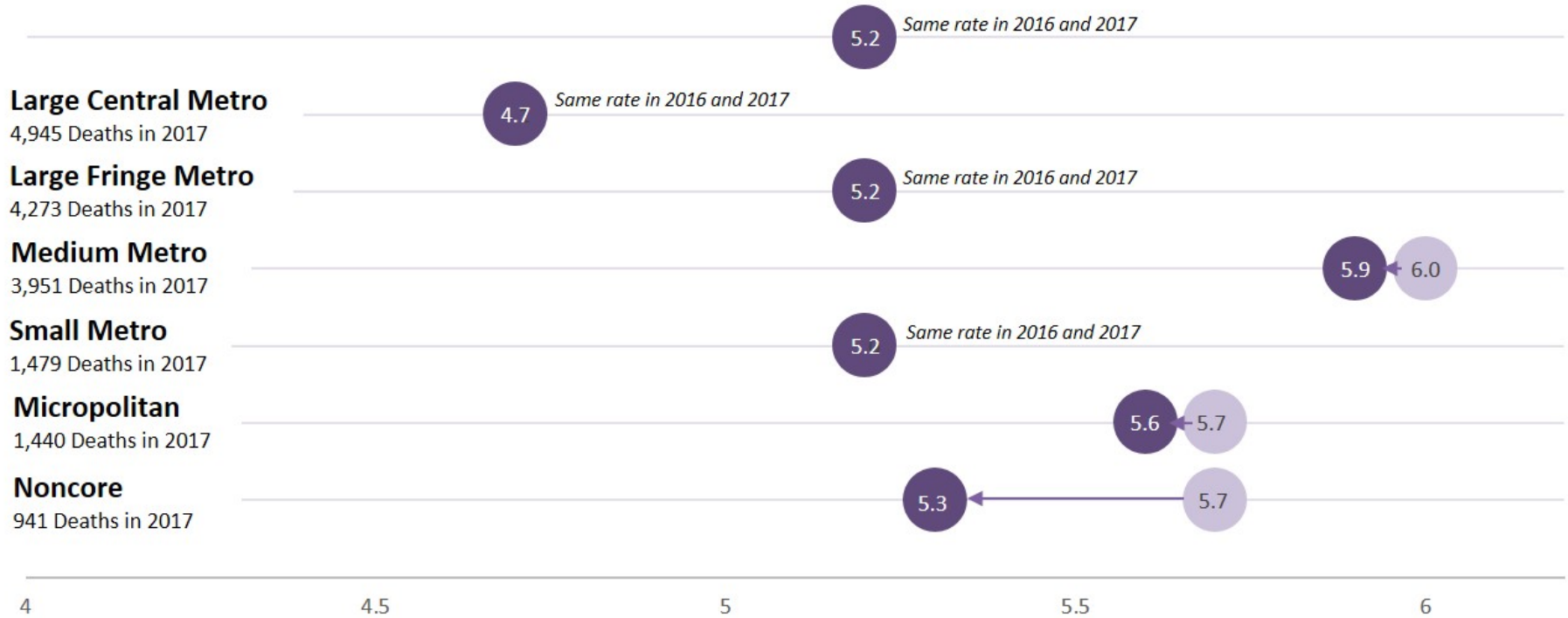
Rural and Urban Substance Use Comparison 2016 (Ages 12 and older, unless noted)

	Non-Metro	Small Metro	Large Metro
Alcohol use by youths aged 12-20	37.8%	35.3%	34.3%
Binge alcohol use by youths age 12 to 17 (in the past 12 month)	5.5%	4.9%	4.7%
Cigarette smoking	28.5%	24.1%	20.5%
Smokeless tobacco use	8.5%	5.0%	3.0%
Marijuana	11.2%	13.2%	15.0%
Illicit drug use	14.2%	17.3%	19.4%
Misuse of opioids	4.0%	4.4%	4.5%
Cocaine	1.1%	1.8%	2.1%
Crack	0.2%	0.2%	0.4%
Methamphetamine	0.7%	0.6%	0.4%

Source: Substance Abuse and Mental Health Services Administration (SAMHSA), [Results from the 2016 National Survey on Drug Use and Health: Detailed Tables](#).

Prescription Opioid* Overdose Death Rate

Age-adjusted deaths per 100,000 population
from 2016 to 2017, by county urbanization level



SOURCE: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2018. <https://wonder.cdc.gov/>.

* Prescription opioid is defined as natural and semi-synthetic opioids and methadone.

Agricultural and Rural Issues



A 2017 survey by the National Farmers Union and the American Farm Bureau revealed that as many as 74% of farmers have been directly impacted by the opioid crisis.

A Massachusetts study found that opioid-related deaths in farming, fishing, and forestry was 5 times higher than other workers

Rates of drug overdoses are rising in rural areas, surpassing rates in urban areas (CDC, 2017)

Farmers may be at higher risk for substance use disorders (SUDs) due to higher rates of injuries, stress, lack of awareness of danger of SUDs

Proposed Reasons

- Severe shortage of behavioral health specialists including licensed alcohol and drug counselors in rural areas
 - Nebraska: 88 of 93 counties are considered shortage areas for behavioral health providers
- Stigma surrounding behavioral health
 - Nebraska rural poll
 - Most rural Nebraskans agree that the following items bring shame to a person
 - Going to AA or alcohol treatment: 45%
 - Seeking Mental Health Care: 46%
 - Going to Drug treatment: 46%

Rural Health information Hub (2019)

Nebraska Rural Health Poll, UNL (2019)

BHECN, (2019)

Projects

SBIRT

Rural Clinics

Agricultural Settings

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SBIRT in Rural Clinics Study

Jason Dillard, PLMHP, PLADC Plum Creek Medical
Group

Shinobu Watanabe-Galloway, UNMC Epidemiology

Sarah Bradley, UNK Graduate Student

University of Nebraska at Kearney
Behavioral Health Education Center of Nebraska
University of Nebraska Medical Center
Plum Creek Medical Center

Funded by:
Nebraska Tobacco Settlement Biomedical Research
Development Fund (NTSBRDF)

Lexington SBIRT Part 1, IRB#533-18-EP

Substance Use Screenings Medical Clinic Lexington, Nebraska



Medical Provider
completes substance
use screenings as part
of routine care

Population: 10,230

Demographics

Caucasian-58%

African American: 10%

Hispanic of any race: 60%

Largest Employer: Agriculture and
Tyson Foods Inc.



Opioid and Alcohol Risk and Misuse Ag Workers Study



Shinobu Watanabe-Galloway, UNMC Epidemiology
Chandran Achutan, UNMC Public Health
Susan Broomfield-Harris, UNL Extension
Sarah Bradley, UNK Graduate Student

Funded by:

Central States Center for Agricultural Safety and Health,
NIOSH (U54 OH010162)

A Pilot Study Investigating Opioid and Alcohol Risk and Misuse Among Rural
Agricultural Workers, IRB#046-19-EP

Pilot Project

- Feasibility of conducting alcohol and SUD screening in non-clinical settings
- Prevalence estimates
- Eligibility: Adult agricultural workers in Nebraska, Iowa, and Missouri
- Data collection: Anonymous alcohol and substance use disorder screeners (paper & pencil / mobile)
- 10+ farm shows and educational events
- Target sample size: 300







- SBIRT is an evidenced-based practice used to identify, reduce, and prevent problematic use, abuse, and dependence on alcohol and illicit drugs.
- Easy to implement in medical settings
- Endorsements:
 - Institute of Medicine
 - SAMHSA-HRSA Center for Integrated Health Solutions
 - Medicare and Medicaid
 - American Medical Association

<https://www.integration.samhsa.gov/clinical-practice/sbirt>

Screening quickly assesses the severity of substance use and identifies the appropriate level of treatment.



Brief intervention focuses on increasing insight and awareness regarding substance use and motivation toward behavioral change.



Referral to treatment provides those identified as needing more extensive treatment with access to specialty care.

**SBIRT: Screening, Brief Intervention,
and Referral to Treatment**

Screening Tools ASSIST

12 fl oz of
regular beer

=

8–9 fl oz of
malt liquor
(shown in a
12 oz glass)

=

5 fl oz of
table wine

=

1.5 fl oz shot of
80-proof spirits
(whiskey, gin, rum,
vodka, tequila, etc.)



about 5%
alcohol



about 7%
alcohol



about 12%
alcohol



about 40%
alcohol

The percent of “pure” alcohol, expressed here as alcohol by volume (alc/vol), varies by beverage.



Scores

Low Risk: Positive Reinforcement

Moderate: Brief Intervention

High: Referral to Treatment





Preliminary Findings

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Description of Data Received:

Green = Denominator Data

Blue = Numerator Data

2018												2019							
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug

First Data Set
"Jason Report for Grant (De-identified)"

- BMI Data:** One record for every patient who had a BMI documented at least once in 2018
- Screening Data:** One record for every patient who had a PHQ or Annual Depression Screen administered at least once in 2018
- Jason Data:** One record for every patient who had a visit with Jason documented at least once in 2018
- SBIRT Data:** One record for every patient who had SBIRT completed at least once in 2018
- Comorbidities/Mental/Substance Data*:** One record for every patient who had a specific comorbidity listed at least once in 2018

Second Data Set
"Screened Patients 12-12 to 3-19_PCMG"

SBIRT Data: One record for every patient who had SBIRT completed at least once from 9/2018 – 3/2019(?)

Screening Data: One record for every patient who had a PHQ or Annual Depression Screen administered at least once from 9/2018 – 8/2019

Medical Setting Patient Sample Description

Total Seen in Clinic	4,674	Adults 18 years or older only	
Gender	Male 53%	Female 47%	
Race	Caucasian 87%	African 9%	Hispanic 39%
Marital Status	Married 55%	Single 33%	
Employment	Full time 58%	Unemployed 13%	
Insurance	Private 67%	Medicare 24%	Medicaid 5%
Screened Using a BH Screener	N=2,773 59%		
Screened using SBIRT-SUD Screener	N=65 1%	Saw BH Provider	N=48 1%

Screening Results

SBIRT (n = 65):

Alcohol	38%
Tobacco	37%
Stimulants	37%
Opioids	35%
Marijuana	29%

Agricultural Settings Pilot Project

4 Screening Events Held

Total N	45	Age Range	21-80	
Gender	20 Male	25 Female		
DAST Score	Low Risk	42	High Risk	3
AUDIT Score	Low Risk	43	Moderate Risk	2

For Consideration

- **Stigma**
- **Population**
- **Substance Use
Overestimation**

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Future Directions & Related Work

Agricultural Community Education Intervention (NU Collaborative Initiative – Funded)

Farming SUD Scoping Review (Manuscript) (Ongoing)

Screening, Brief Intervention, Referral and Treatment (SBIRT) pilot at rural clinic (NHI Grant-Pending)

Contact Information

Dr. Christine Tina Chasek

Office: UNK campus, Kearney, NE

chasekc1@unk.edu

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