

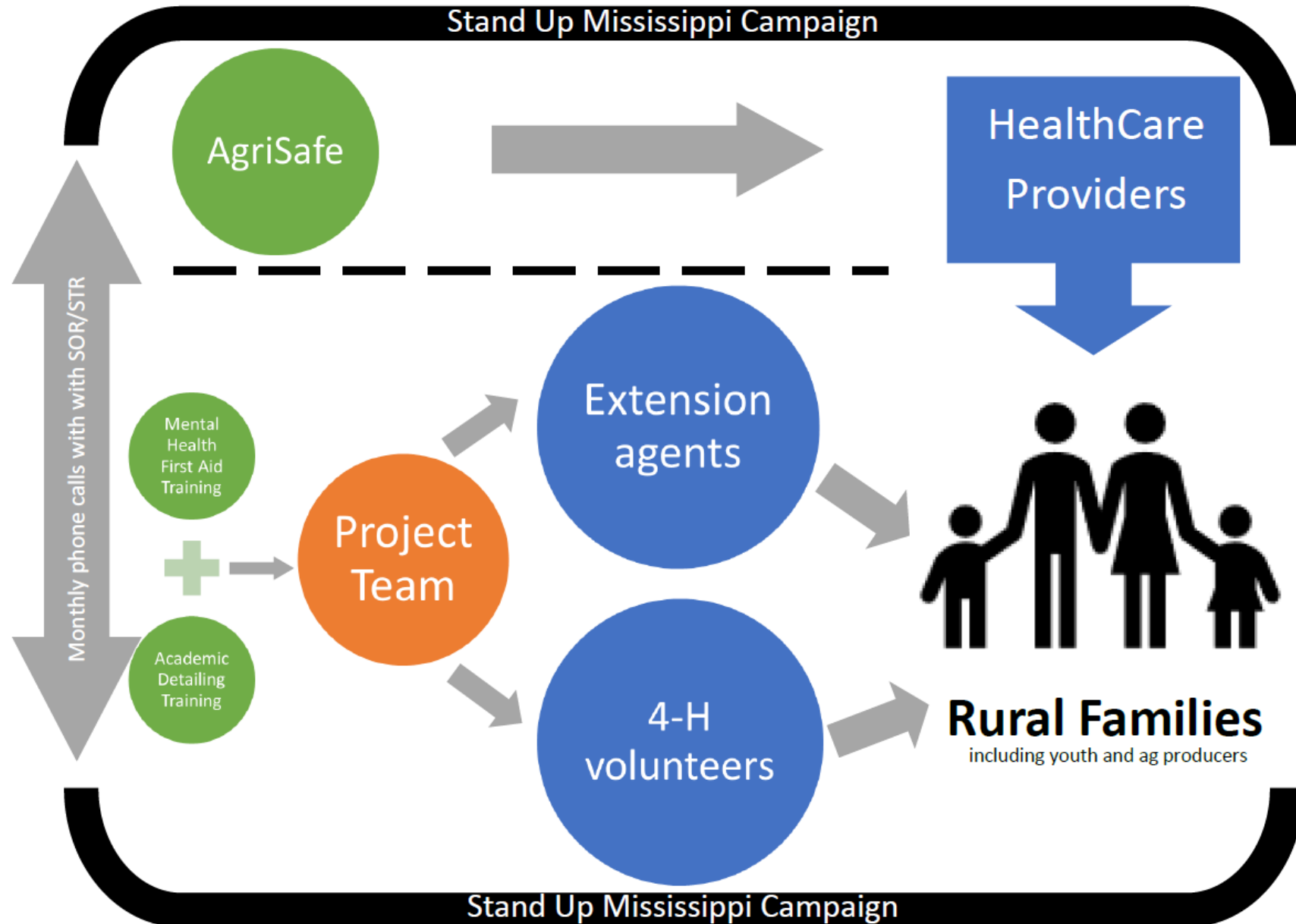
Safety Sensitivity of Opioid Use in High Hazardous Industries Such as Agriculture

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Natalie Roy, MPH
Executive Director
AgriSafe Network
nroy@agrisafe.org



PROMISE 2.0 Framework



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United States
Department of
Agriculture

National Institute
of Food and
Agriculture

SAMHSA

Substance Abuse and Mental Health
Services Administration

Protecting the People who Feed the World®



How we Protect:

1. Ongoing needs assessment of Ag producer needs (following Total Farmer Health)
2. Train rural health professionals across the nation
3. Establish partnerships with NIOSH Ag Centers, rural research centers, and other NPOs
4. Maintain a culture of readiness and organizational expectation to protect and respond

Where to
Start

Preventing Opioid Overdoses and Related Harms



Source: Confronting Opioids; CDC

Objectives

Identify what classifies as a safety-sensitive occupation and why.

Describe the dangers involved with prescription opioid use and safety-sensitive occupations.

Identify best practices for naloxone prescribing and use in a rural or agricultural setting

Discuss implications of medication assisted therapies for Opioid Use Disorder in safety-sensitive occupations

Identify best practices for opioid prescribing and use in a rural or agricultural setting

Understand how best to discuss with famers alternatives to prescription opioids.

Terminology

Term	Definition
Abuse	Use of a prescription drug for nontherapeutic purposes
Addiction	Chronic, compulsive substance use that occurs despite personal harm or negative consequences Physical dependence on a substance
Misuse	Use of a prescription drug without a prescription Use of a prescription drug in a manner other than as directed
Opioid use disorder	Problematic pattern of opioid use that is based on unsuccessful efforts to cut down, failure to fulfill obligations related to work, school, family, etc.
Physical dependence	Adaptation to a drug that produces symptoms of withdrawal when the drug is stopped
Tolerance	Reduced response to a drug with repeated use

Background on Opioids

- National Institute on Drug Abuse
 - Opioids are a class of drugs that include the illegal drug **heroin**, synthetic opioids such as **fentanyl**, and pain relievers available legally by prescription, such as **oxycodone** (OxyContin[®]), **hydrocodone** (Vicodin[®]), codeine, morphine, etc.
 - Mostly prescribed to treat moderate to severe pain
- Opioid effects
 - Can cause slowed breathing (hypoxia)
 - Dangerous when combined with benzodiazepines
 - Can lead to coma, permanent brain damage, death

Opioid-induced side effects:

Main Central Effects

Nausea and vomiting

Respiratory depression

Sedative/hypnotic effect

Hypotension

Miosis

Antitussive effect

Opioid-induced side effects:

Main Peripheral Effects

Constipation

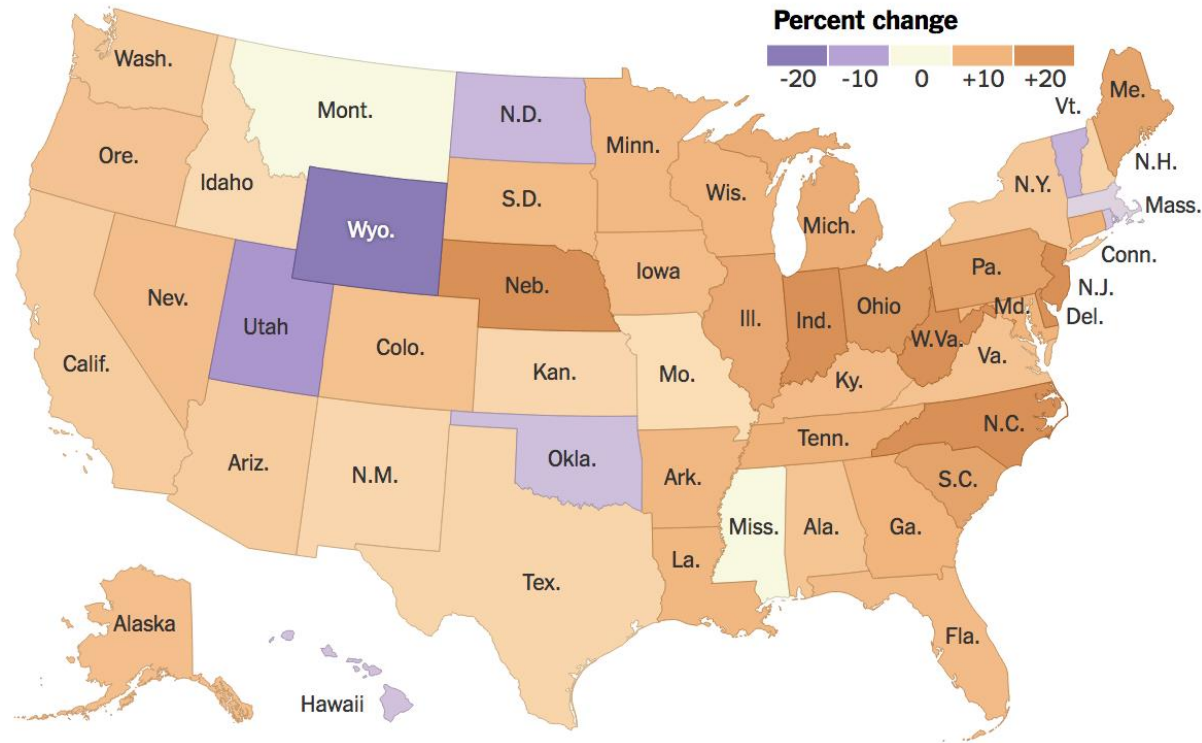
Cholestasis and micturition disorders

Abnormal sensitivity to pain

Urticaria or pruritis

Bronchospasms

Mid-Atlantic remains bleak.

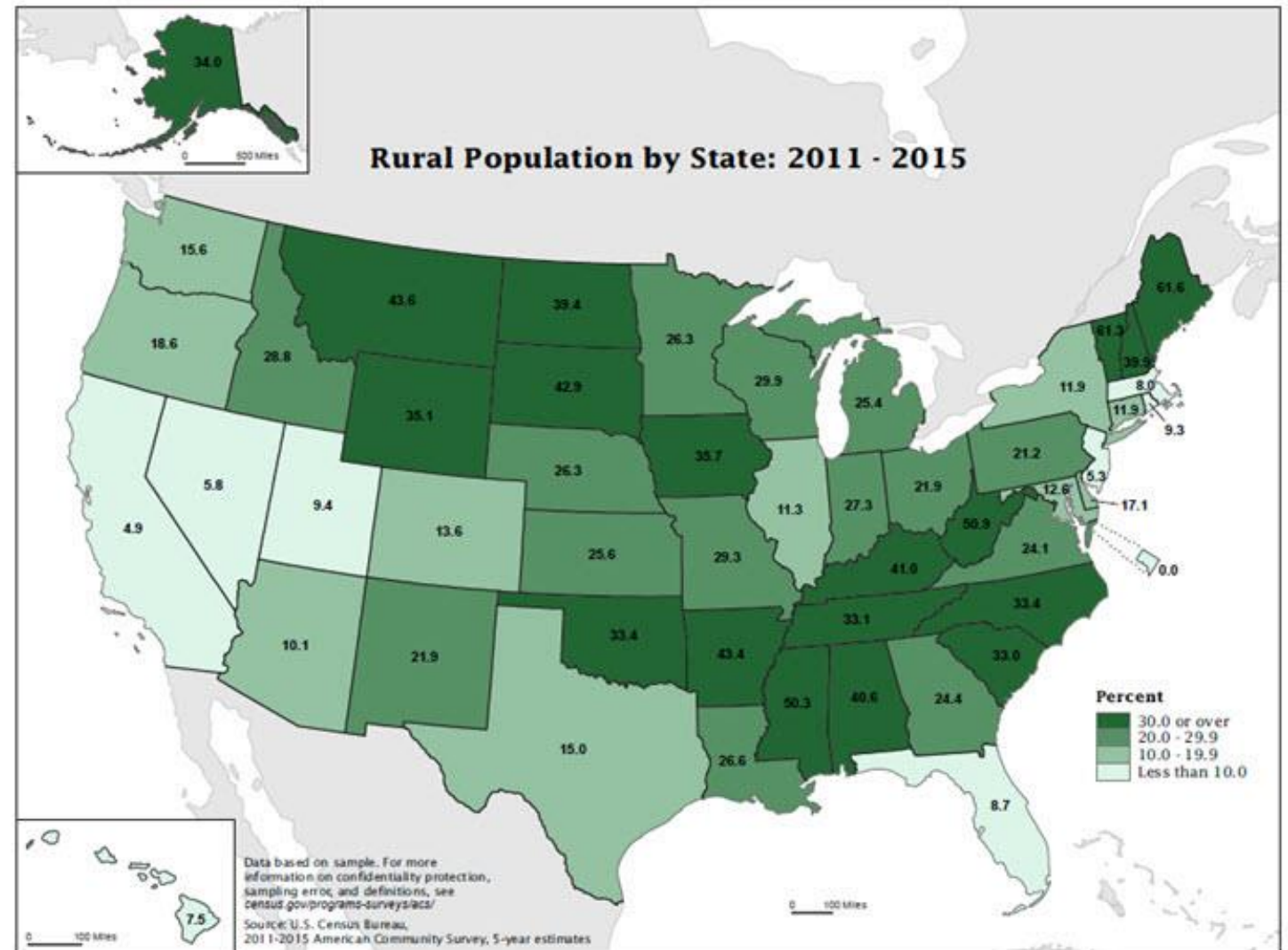


Opioid Statistics

- **2.5 million** suffer from prescription opioid addiction
 - Nearly 500,000 are addicted to heroin
- **80%** of those who are currently addicted to opioids are estimated to have started their addiction with prescription opioids (NRHA 2017)
- Roughly **21-29% of patients** prescribed opioids for chronic pain misuse them (NIDA 2018)
- The amount of opioids prescribed per patient was **3x higher** in 2015 than 1999 CDC, Vital Signs 2017
- Opioids killed more than **42,000 people** in 2016, including prescription opioids, heroin, and fentanyl) CDC, NIOSH 2018
- Preliminary estimates from the CDC: **72,000 overdose deaths** in 2017 (CDC, Vital Statistics Rapid Release 2018)

Rural United States

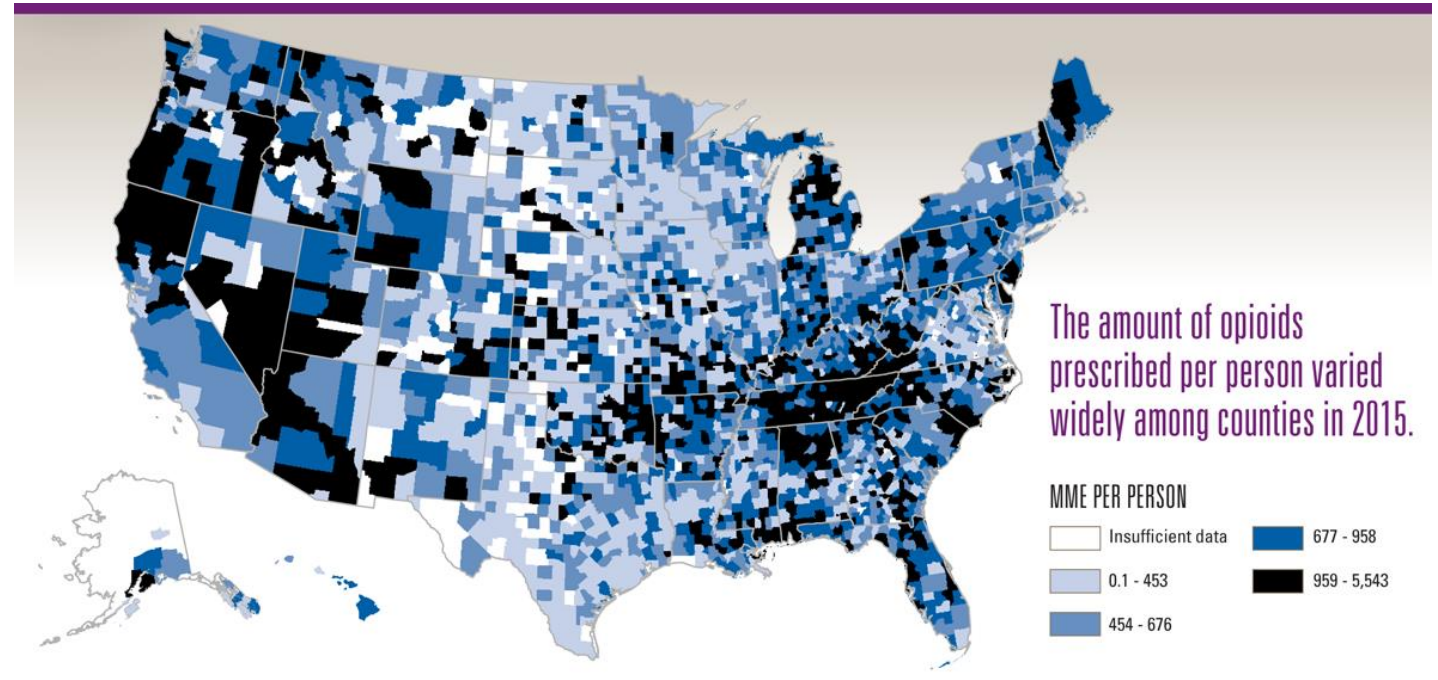
- Per the *2011-2015 American Community Survey*, about **19%** of the U.S. population lives in rural areas
 - **64.4%** of the total rural population lives east of the Mississippi River
 - **46.7%** of all people living in rural areas are located in the Southeastern United States



Source: Life Off the Highway: A Snapshot of Rural America; United States Census Bureau

Characteristics associated with higher opioid prescribing

- **Small cities or large towns**
- Higher percent of white residents
- **More dentist and primary care physicians**
- More people who are **uninsured** or unemployed
- More people who have diabetes, arthritis, or disability



Source: CDC Vital Signs, July 2017

Risk Factors for Rural Opioid Use

1

High rates of poverty and unemployment

2

Low educational attainment

3

Geographic isolation yields limited resources

4

Increased availability of prescription opioids

- Rural community networks

5

Stigma and beliefs about addictions

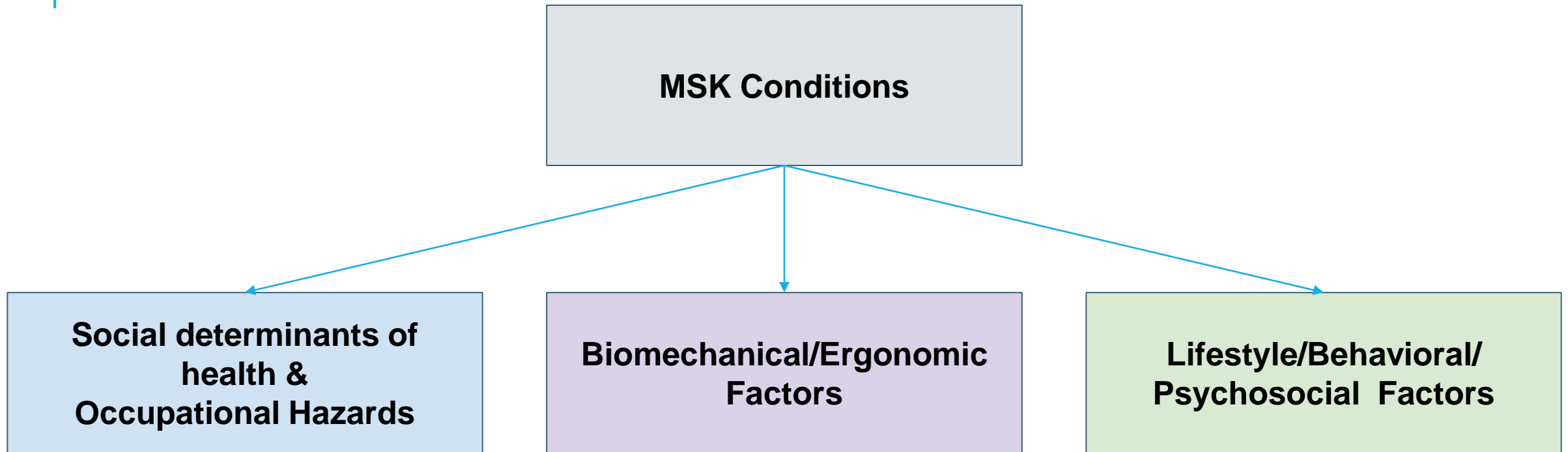
- Lack of anonymity



Farming Population and Injury

- As of 2012 Census data, there are **3.2 million** farmers working in the U.S. with 2.1 million being the principal operators
 - 2012 Ag Census
- The agricultural sector continues to rank among one of the most hazardous industries
 - Every day, about **100** agricultural workers suffer a lost-work-time injury.
 - NIOSH Agricultural Safety

CONTRIBUTING RISK FACTORS FOR PAIN



Farmer Pain

- Musculoskeletal Disorders (MSD); NIOSH Musculoskeletal Health Program
 - Injury to soft-tissues caused by sudden/sustained exposure to repetitive motion, force, vibration, and awkward positions

Study	Findings
Kolstrup CL. Work-related musculoskeletal discomfort of dairy farmers and employed workers. <i>J Occup Med Toxicol.</i> 2012.	Most frequently reported MSD: lower back (50%, 43%) and shoulders (47%, 43%) Female farmers and farm workers reported higher frequencies of MSD in neck, hands/wrists, and upper and lower back
Osborne A, Blake C, McNamara J, Meredith D, Phelan J, Cunningham C. Musculoskeletal disorders among Irish farmers. <i>Occup Med (Chic Ill).</i> 2010.	Of 600 surveyed farmers, 56% had experienced a MSD in the last year Most common MSD were back pain (37%) and neck/shoulder pain (25%)
Nonnenmann MW, Anton D, Gerr F, Merlino L, Donham K. Musculoskeletal symptoms of the neck and upper extremities among Iowa dairy farmers. <i>Am J Ind Med.</i> 2008.	75% of respondents reported pain at any site with shoulder pain being the most frequently reported (54%), followed by neck pain (43%)
Walker-Bone K, Palmer KT. Musculoskeletal disorders in farmers and farm workers. <i>Occup Med (Chic Ill).</i> 2002.	Increased risk of hip osteoarthritis, simple lower back pain (special association with tractor driving), some evidence for neck and upper limb pain

Risk Factors for Rural Agricultural Opioid Use

1

Nature of work

2

Occupational
injuries

3

Age

- Chronic pain
- Comorbidities

4

Prescribing patterns

5

Stigma and
stereotypes

Scope of the Opioid Crisis



74% of farmers & farmworkers say they have been directly impacted by the opioid epidemic.

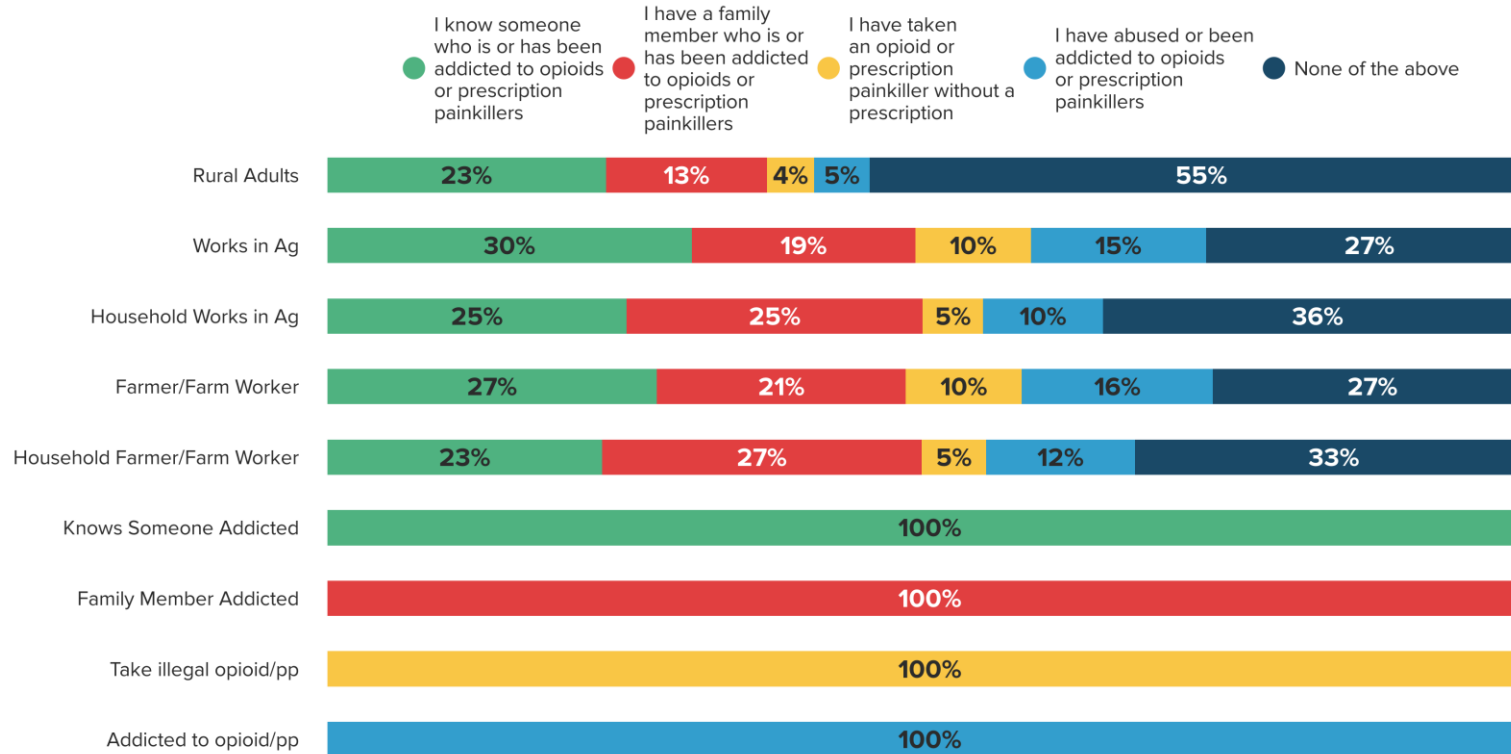


3 in 4 farmers say it is easy to access large amounts of opioids without a prescription.



Only 1 in 3 rural adults say it would be easy to access addiction treatment.

Which of the following best applies to you?



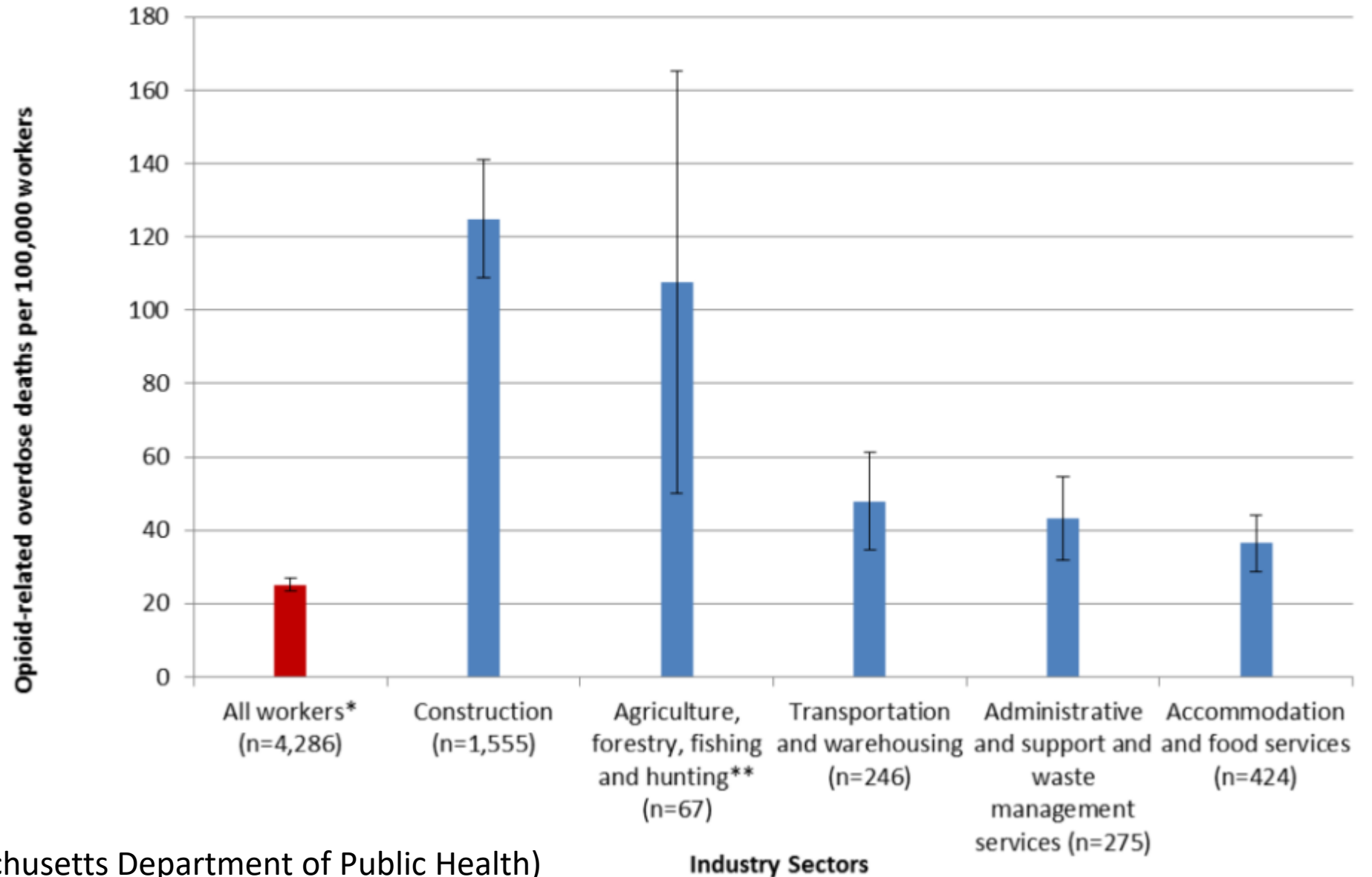
- **45%** of rural adults report that they have been impacted by opioid abuse
- **74%** of **agricultural workers** report that they have been impacted

Morning Consult Survey Results

www.farmtownstrong.org

Figure 1. Industry sectors with opioid-related overdose death rates significantly higher than the average rate for all workers, Massachusetts workers, 2011-2015, n=4,302

Workers in the building trades and mining made up 24 percent of all opioid overdose deaths among Massachusetts workers between 2011 and 2015. Farming, forestry and hunting, along with fishing, is the second most dangerous industry sector for men.



(Courtesy of the Massachusetts Department of Public Health)

ACOEM Practice Guidelines Opioids and Safety-Sensitive Work

Four population-based studies showed increased risks of crash associated with opioid use.

One case-crossover study found increased risk with acute opioid misuse and continued increased risk throughout the opioid treatment period.

One study suggested increased risks could not be clearly defined based on illicit or licit opioid use.

The USA's Fatality Analysis Reporting System of 75,026 drivers reported an elevated risk of fatal crash associated with opioids.

Acute or chronic opioid use is not recommended for patients who perform safety-sensitive jobs.

American College of Occupational and Environmental Medicine: Practice Guidelines: Opioids for Treatment of Acute, Subacute, Chronic, and Postoperative Pain 2014

Comprehensive
evaluation and
documentation
to include:

Patient history, prior treatment
Career, activities, hobbies, etc.
Current functional level
Medical history, family history, social history
Review of laboratory testing, imaging

Acute Pain
(up to 4
weeks)

Routine use of opioids for acute pain treatment is strongly
not recommended

Postoperative
Pain
(up to 4
weeks)

Opioids as adjunctive medications

Chronic
Noncancer
Pain
(>3 months)

Use of an opioid trial

CDC Guideline for Prescribing Opioids for *Chronic Pain*

Initiation

Opioid therapy should only be considered if expected benefits for both **pain** and **function** are likely to outweigh patient risks.

Realistic goals for treatment should be established before beginning opioid therapy.

Before and **during** opioid therapy, risks and realistic benefits should be discussed as well as patient and clinician responsibilities.

Evaluate risk factors for **opioid-related harms**.

Review patient's history of prescriptions using state **prescription drug monitoring program**.

CDC Guideline for Prescribing Opioids for *Chronic Pain*

Practice

Immediate-release opioids vs. ER/LA opioids

Prescribe **lowest effective dosage** and only what is needed to treat pain.

Evaluate benefits and harms within **1-4 weeks** after beginning opioid therapy or dose escalation.

Urine drug tests should be administered before and during opioid therapy.

4. Employ strategies to **mitigate risk**.

Naloxone Co-Prescribing

Surgeon General's Advisory on Naloxone and Opioid Overdose:

- April 2018 –

>13 million **opioid** prescriptions / month dispensed in US

Yet...

< 1% of patients whom clinicians should consider co-prescribing actually receive a **naloxone** prescription

Naloxone

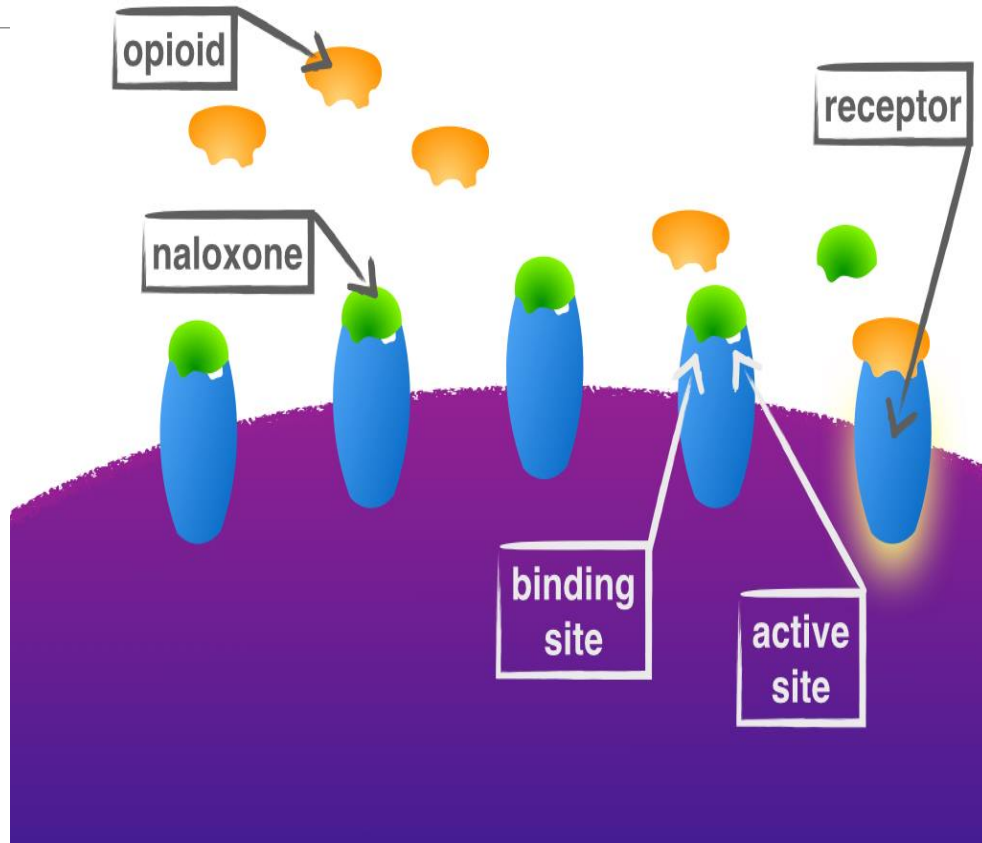
Mechanism of action

- Opioid antagonists that competes and displaces opioid medications at opioid receptor sites

Adverse effects

- Well-tolerated overall
- Change in blood pressure, tachycardia, restlessness, hot flash, nausea, vomiting, agitation from opioid withdrawal

What is naloxone?



Naloxone ≠ Naltrexone

Works in <3 minutes

Can bring on withdrawal symptoms (vomiting, discomfort, irritability, etc.)

Shorter acting than opioids

Medication Assisted Treatment (MAT)



Methadone
Dolophine, Methadose

Methadone (Full Agonist); Activates opioid receptors in the brain, fully replacing the effect of whichever opioid the person is addicted to



Buprenorphine
Suboxone, Subutex, Probuphine

Buprenorphine (Partial Agonist): Activates opioid receptors in the brain, partially replacing the effect of whichever opioid the person is addicted to



Naltrexone
Vivitrol

Naltrexone (Antagonist): Binds to the opioid receptors in the brain, blocking the effects of opioids.

Prescribing MAT

Buprenorphine (Butrans[®], Buprenex[®]) and Buprenorphine/Naloxone (Suboxone[®], Zubsolv[®])

- Physician waiver application
- Training (8 hours)
- Special identification number assigned from DEA

Methadone

- Must receive under supervision of a physician for opioid addiction
- Dispensed through an opioid treatment program (OTP) certified by SAMSHA

Naltrexone (Vivitrol[®], ReVia[®])

- Can be prescribed by any provider licensed to prescribe medications
- Extended-release injectable naltrexone
 - REMS program

SAMSHA, 2015

MAT and Safety-Sensitive Occupations

Side Effects:

Similar to Opioids -

- Buprenorphine: N/V, fatigue, sedation, headache
- Methadone: N/V, confusion, sedation, constipation

Opioid Antagonist -

- Naltrexone: Syncope, N/V, headache

Why check the PDMP?

An electronic database that tracks controlled substance prescriptions in a state

Provide health authorities timely information about prescribing and patient behaviors that contribute to the epidemic and facilitate a nimble and targeted response

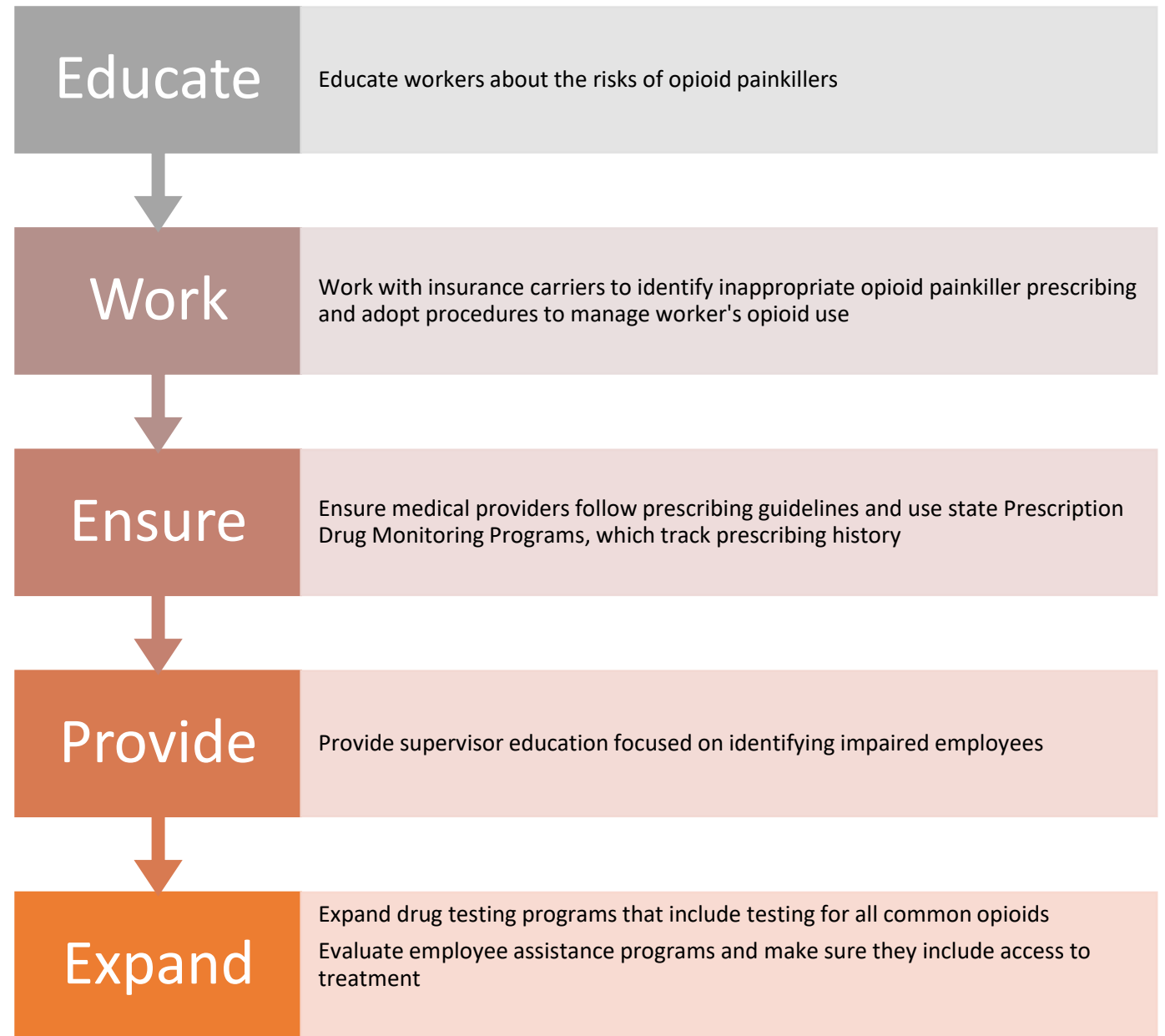


CDC, 2017.

Ideal Features of a PDMP



To help protect injured workers and mitigate liability, the National Safety Council recommends employers:



Free National Safety Council Employer Kit

- A guide "The Proactive Role Employers Can Take: Opioids in the Workplace"
- Tools to examine and update your drug free workplace and employee benefit programs
- Fact sheets and handouts with helpful information to educate your employees
- 5-minute safety talks
- Poster series focused on home safety and disposal
- <http://safety.nsc.org/rxemployerkit>



OPIOID TREATMENT AGREEMENT

Source: Hegmann KT, et al., eds. "Opioids Guideline." Occupational Medicine Practice Guidelines: Evaluation and Management of Common Health Problems and Functional Recovery in Workers. Reed Group, 2017. MDGuidelines®. Reed Group, Ltd. www.mdguidelines.com. Reprinted with permission from Reed Group, Ltd.

Patient Name (Print):

Prescriber Name (Print):

Medical Condition requiring Opioid:

Planned Opioid Medication:

(patient) understand the following (initial each):

- I understand this agreement applies to opioid medications. Some of the common examples include but are not limited to oxycodone (e.g., Percocet), hydrocodone (e.g., Vicodin, Lortab), Hydromorphone (Dilaudid), morphine, fentanyl (e.g., Actiq), codeine (e.g., Tylenol with codeine), methadone, tramadol (e.g., Ultram), and buprenorphine (Suboxone or Subutex).
- I understand that opioids are prescribed to see if they increase my function including my ability to work, perform household chores, or otherwise regain activities.
- I understand that opioids are only one part of my treatment program.
- I understand that opioids may slightly reduce pain levels. Most studies report this as approximately 1/10, or in other words, from a pain level of "6 out of 10" to "5 out of 10." Opioids will NOT eliminate chronic pain and are unlikely to produce major improvements in pain.
- I understand that opioid medications have all of the following reported adverse effects (see Table 1a). Many, but not all of these risks increase with higher doses.
- I have had an opportunity to discuss these risks with my prescriber. I accept these risks.



0-10 SCALE OF PAIN SEVERITY

Severity	Description of Experience
10 Unable to Move	I am in bed and can't move due to my pain. I need someone to take me to the emergency room to get help for my pain.
9 Severe	My pain is all that I can think about. I can barely talk or move because of the pain.
8 Intense	My pain is so severe that it is hard to think of anything else. Talking and listening are difficult.
7 Unmanageable	I am in pain all the time. It keeps me from doing most activities.
6 Distressing	I think about my pain all of the time. I give up many activities because of my pain.
5 Distracting	I think about my pain most of the time. I cannot do some of the activities I need to do each day because of the pain.
4 Moderate	I am constantly aware of my pain but I can continue most activities.
3 Uncomfortable	My pain bothers me but I can ignore it most of the time.
2 Mild	I have a low level of pain. I am aware of my pain only when I pay attention to it.
1 Minimal	My pain is hardly noticeable.
0 No Pain	I have no pain.



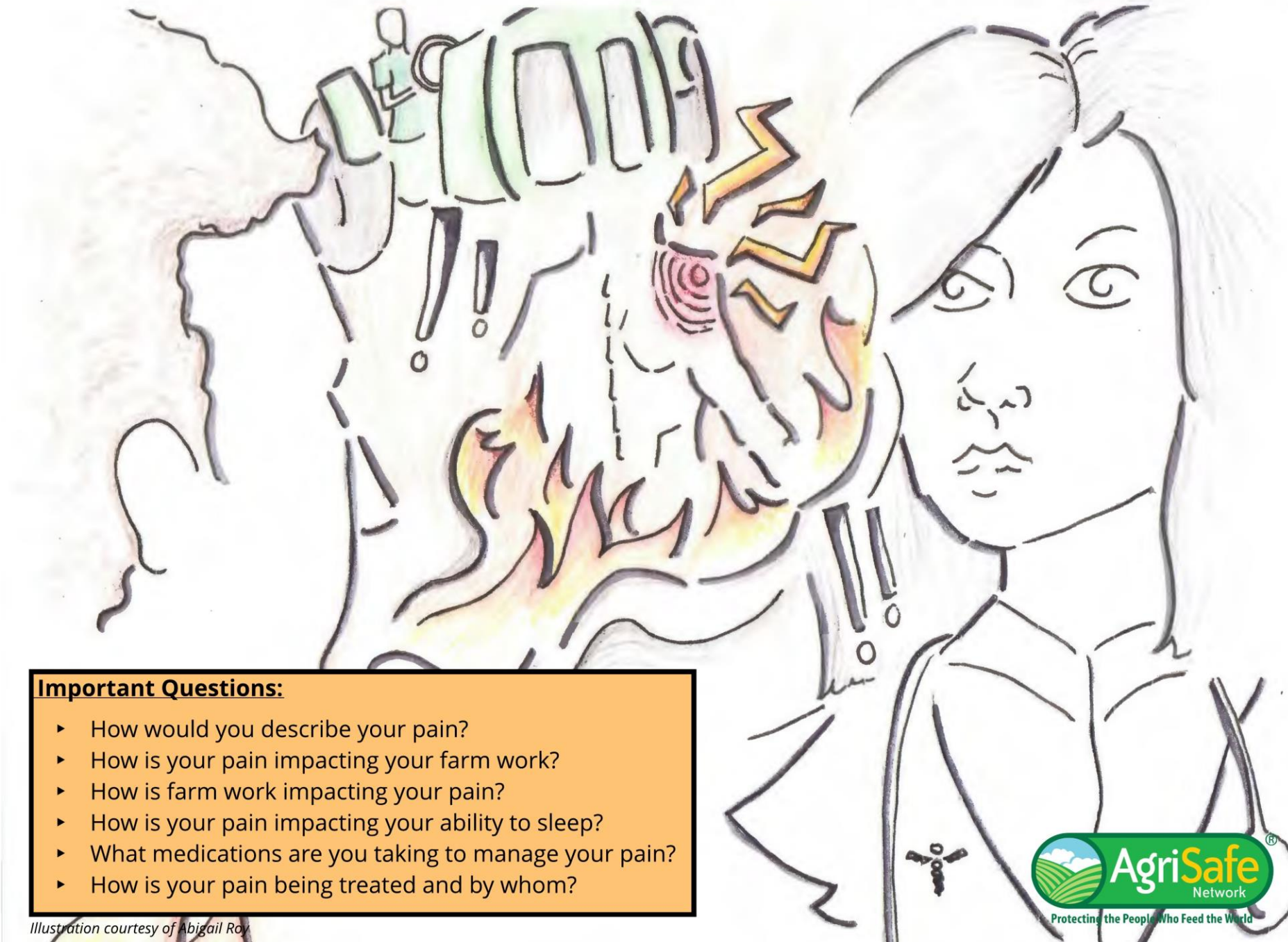
PAIN SCALES

REGROUP & REFOCUS

- Pain in farmers and others is a **complex** phenomenon, with contribution from **MULTIPLE** factors, including...
 - ↖ Biomechanical
 - ↖ Interpersonal
 - ↖ Psychosocial
 - ↖ Environmental
 - ↖ Contextual
 - ↖ Modifiable lifestyle related
- Our role
 - ↖ Guide *understanding* of the complex nature of pain, contributing mechanical AND non-mechanical factors
 - ↖ Address fear & maladaptive beliefs
 - ↖ Provide education and resources regarding potential factors involved, and spread the good news of the **many ways we can positively influence pain**, including a plethora of conservative measures.

It all starts with a **conversation...**

Talk to Farmers About Their Pain



Important Questions:

- ▶ How would you describe your pain?
- ▶ How is your pain impacting your farm work?
- ▶ How is farm work impacting your pain?
- ▶ How is your pain impacting your ability to sleep?
- ▶ What medications are you taking to manage your pain?
- ▶ How is your pain being treated and by whom?

Illustration courtesy of Abigail Roy



Transform the Conversation

- Use descriptive language or past experience
- When does your pain affect you the most?
- Focus on function, more so than feeling
- Describe history of the pain
- Share previous treatments
- **Control vs. elimination**

Source: Patti Neighmond, Words Matter When Talking About Pain With Your Doctor, NPR



TALKING TO FARMERS ABOUT THEIR PAIN

- ***Conversations with farmers regarding pain- STARTING POINT.***
- *Talking to farmers about options, strategies, solutions, recommendations.*
- *Having the resources available to equip the individual with what they need, when they need it.*
 - ↖ *“In house”*
 - ↖ *Independent*
 - ↖ *Refer out*

TALKING TO FARMERS ABOUT THEIR PAIN

WHAT DO WE ASK?

- Ask about the specific demands of their job, how these demands influence their symptoms, **and** how these symptoms are influencing their ability to complete these demands.
 - ↪ “Tell me about your day-to-day, I really want to understand what you do on a daily basis and how your symptoms are impacting it.”
 - ↪ “What types of activities, positions, postures aggravate your symptoms during your workday?”
 - ↪ “How long can you perform that activity before it gets how bad?”
 - ↪ “What can you do to ease your symptoms, and how long do you have to do that before it comes back down to baseline?”
 - ↪ “What kinds of things are your symptoms limiting your ability to do on a day-to-day basis?”

TALKING TO FARMERS ABOUT THEIR PAIN

WHAT DO WE ASK?

- Ask about their beliefs.
 - ↪ “What do *you* think is going on?”
 - ↪ “How do you think I can best help you?”
 - ↪ “What do you believe is going to help most?”
- Ask about lifestyle behaviors that we know are linked to pain.
 - ↪ Movement practice *outside* of occupational responsibilities, acute:chronic workload ratio
 - ↪ Sleep habits
 - ↪ Nutrition habits
 - ↪ Stress management/coping
 - ↪ Social connectedness vs. isolation

EFFICIENCY- SCREENING RESOURCES (SEE HANDOUT)

- STarT Back Screening Tool
- Fear Avoidance Belief Questionnaire
- Pain Catastrophizing Scale
- MYBACK-LBP Clinician Screening and Prognosis Tool
- PICKUP
- Lifestyle Behavior Questionnaires

STEP 2: TALKING ABOUT OPTIONS, STRATEGIES, SOLUTIONS, RECOMMENDATIONS

- Reduce fear (again...)
- Present information about strategies, solutions, recommendations in light of what we know to be true about complex nature, influencing factors, beliefs/expectations, etc.
- Give honest evaluation of what current best evidence says about potential treatment strategies, particularly ones that are inappropriate given their conditions.
 - ↪ Opioids- lack of long term effectiveness, opioid related hyperalgesia
 - ↪ MRI/advanced imaging- when it is not indicated (**Choosing Wisely**)
 - ↪ Surgical interventions for various MSK conditions
 - ↪ Conservative care measures
- Empower
- Avoid perpetuating STIGMA! HUGE stigma on the topic of pain, opioids, etc.

WHAT DOES THIS MEAN FOR ME?

- HEALTH CARE PROVIDERS

- ↩ Examine our beliefs and conversations around pain and proposed solutions
- ↩ Build our network of resources to get people what they need, when they need it

- PARTNERS/SUPPORTERS

- ↩ Examine the pathways surrounding the pain experience for farmers.
 - ↓ Where do they go?
 - ↓ Who do they see? What are their beliefs/outcomes?
 - ↓ What are the barriers to accessing what they need? How do we overcome these barriers?

BRINGING IT ALL TOGETHER...

- Farmers are at an increased risk for MSK related pain conditions.
- Current approaches to pain management in this population not successful at scale, new approaches needed.
- Improving our explanations and conversations around pain can be of HUGE benefit alone.
- When we combine improving our language around pain with having the resources available to help individuals navigate their pain experience, we can make a significant impact on that person's health and life trajectory.

Thank you.

Any questions?

