

State Policy Options to Address the Opioid Crisis

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Agenda

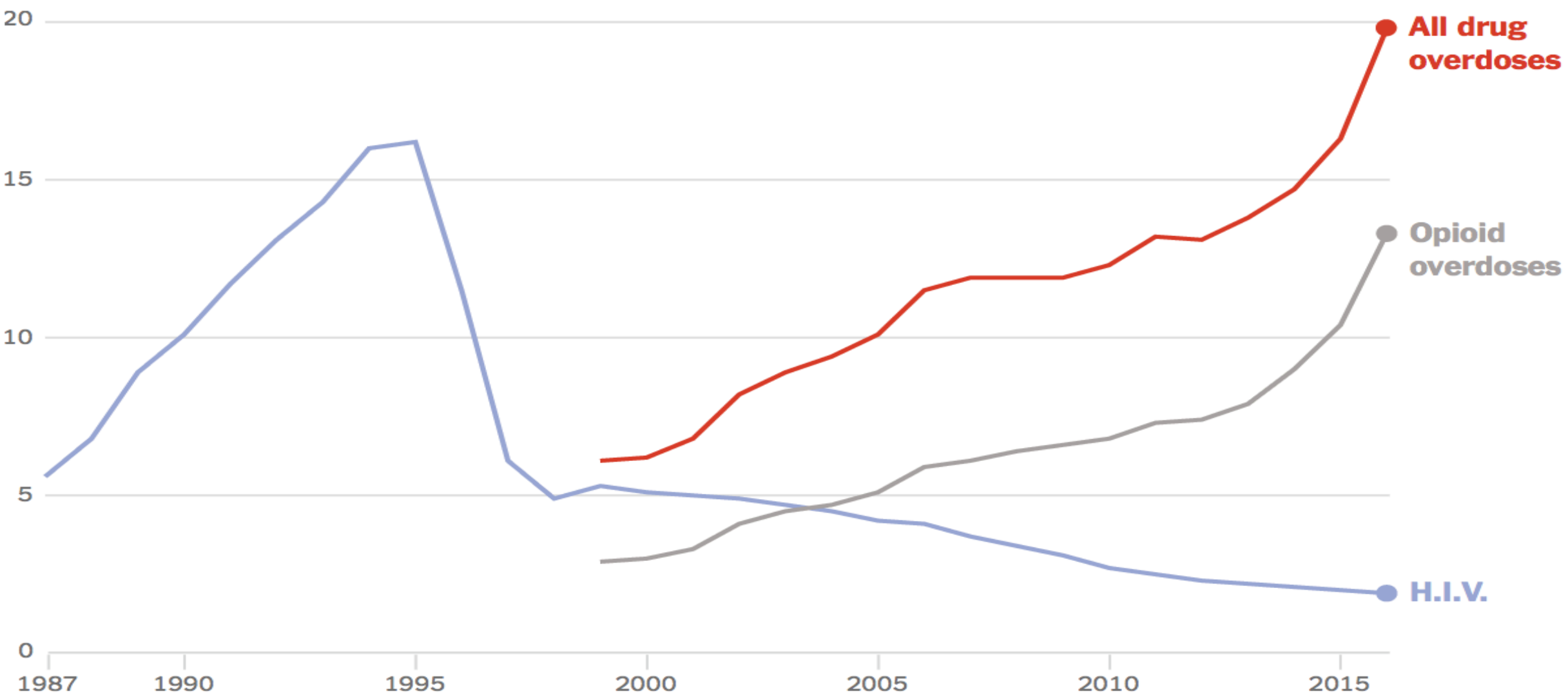
- Background
- Current problem
- Consequences
- Solutions: supply vs demand
- Outcomes

Background

Background

- Current opioid crisis is the deadliest drug epidemic in American history
- Opioid overdoses killed more than 45,000 people in the last 12 months
- Epidemic now responsible for nearly as many US deaths per year as AIDS epidemic at peak

Deaths in the U.S. per 100,000 people



Note: Drug overdose data available since 1999. Source: Centers for Disease Control and Prevention | By The New York Times

What are Opioids?

- Class of drugs naturally found in the opium poppy plant
 - Some made from the plant, others in labs using similar chemical structure
- Opioids relax the body and relieve pain
 - Can also make people feel very relaxed and high
 - Opioids highly addictive, overdose and death are common



Morphine

- German scientist Friedrich Serturmer extracted substance from poppy and created morphine
- Used extensively in the Civil War but led to addiction 'Army Disease'



Heroin

- Heinrich Dreser at Bayer developed a drug that promised to reduce the addictive component of morphine
- Bayer began marketing the drug in 1898 as a cough suppressant, also used to treat pneumonia, tuberculosis, and pain

BAYER
PHARMACEUTICAL
PRODUCTS.

Send for samples
and Literature to

ASPIRIN
*The substitute for
the salicylates*

PROTARGOL
The anti-gonorrhoeic

PIPERAZINE
The antiarthritic

QUINALGEN
The anti-malaric

GUAIACOL CARB
(GUAIAC)
*The anti-tuberculous
alterative*

EUROPHEN
*The odorless iodiform
substitute*

HEROIN
*The sedative for
coughs*

LYCETOL
The uric acid solvent

HEROIN-HYDROCHL.
The sedative for coughs

FERRO-SOMATOSE
The ferruginous nutrient

SULFONAL
The reliable hypnotic

SOMATOSE
The most assimilable nutrient

HEMICRANIN
The specific for headaches

IODOTHYRINE
*The active principle
of the thyroid*

SYBOSE
The substitute for cane sugar

PHENACETIN
The safest antipyretic

TRIONAL
The safest hypnotic

SALOPHEN
*The antirheumatic and
antineuralgic*

FARBENFABRIKEN OF
ELBERFELD CO.

40 STONE STREET,
NEW YORK.

Regulation

- Heroin proved to be more potent than morphine leading to addiction and misuse
- Harrison Narcotics Tax Act of 1914 regulated and taxed products from opium plants, requiring prescriptions for narcotics
- Federal Food, Drug, and Cosmetic (FDC) Act of 1938
 - Required new drugs to be shown safe before marketing

Prescription Opioids

- Morphine (MS Contin, Kadian)
- Hydromorphone (Dilaudid)
- Oxycodone (Roxicodone, Percocet, others)
- Oxymorphone (Opana)
- Hydrocodone (Lortab, Vicodin, others)
- Codeine
- Methadone
- Fentanyl



Current Problem

Epidemic started in 1990s

- Joint Commission issues guidelines for pain to be considered the '5th vital sign'
- OxyContin (oxycodone controlled-release) approved; dosing every 12 hours instead of every 4 (1995)
- Purdue pharma markets safety of OxyContin citing (incorrectly) New England Journal of Medicine note that opioids had less than one percent addiction risk

Defining a Substance Use Disorder

- Pathological pattern of behaviors noted as it relates to the use of a substance
 - Impaired control
 - Larger amounts over a longer period of time; unsuccessful attempts to quit/cut down; spends a large amount of time obtaining substance; cravings
 - Social impairment
 - Failure to fulfill work, school, or home obligations; use despite interpersonal problems; giving up other activities
 - Risky use
 - Use in hazardous situations; use despite persistent psychological or physical harm
 - Pharmacological criteria
 - Presence of tolerance and withdrawal

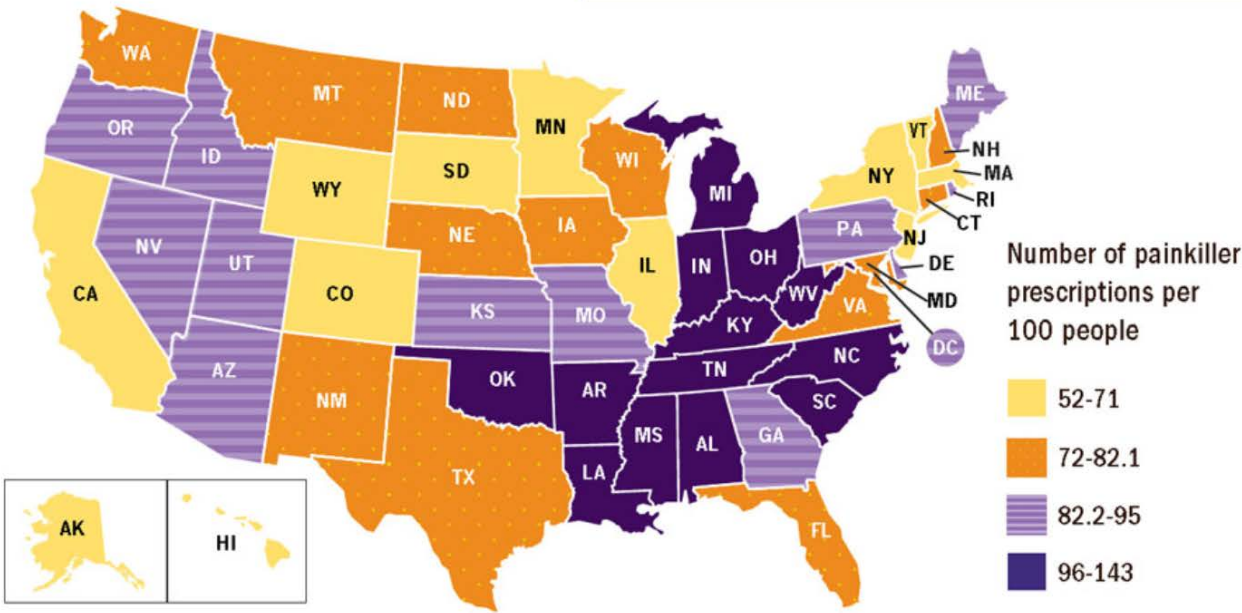
*APA Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, 2013

Opioid Use Disorder (OUD)

- 1.9 million had a substance use disorder involving prescription pain relievers
- 586,000 had a substance use disorder involving heroin
- 23% of individuals who try heroin develop opioid addiction
- 259 million prescriptions were written for opioids
- Four in five new heroin users started out misusing prescription painkillers

It Matters Where You Live

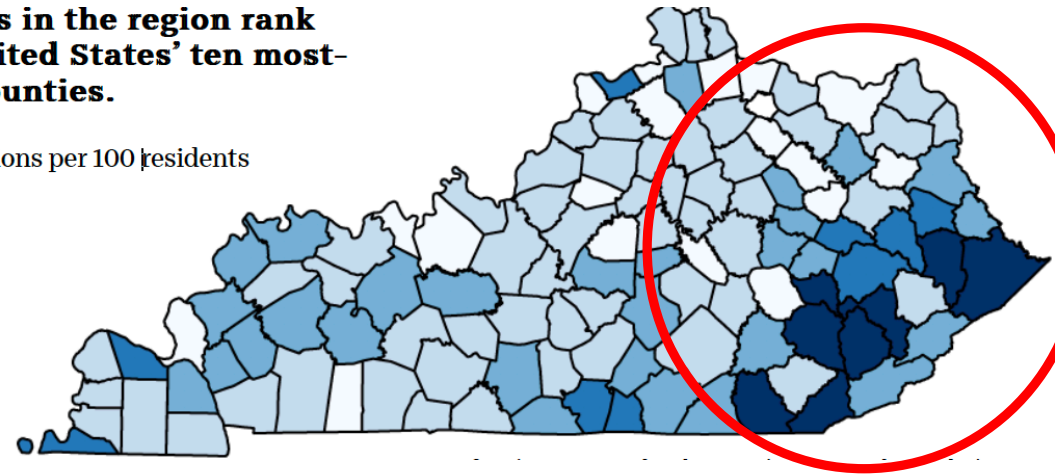
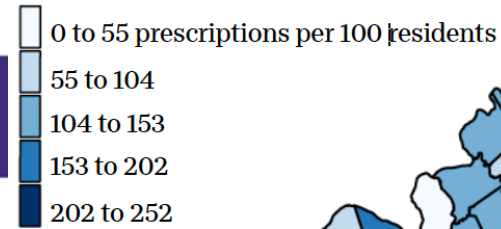
Some states have more painkiller prescriptions per person than others.



SOURCE: IMS, National Prescription Audit (NPA™), 2012.

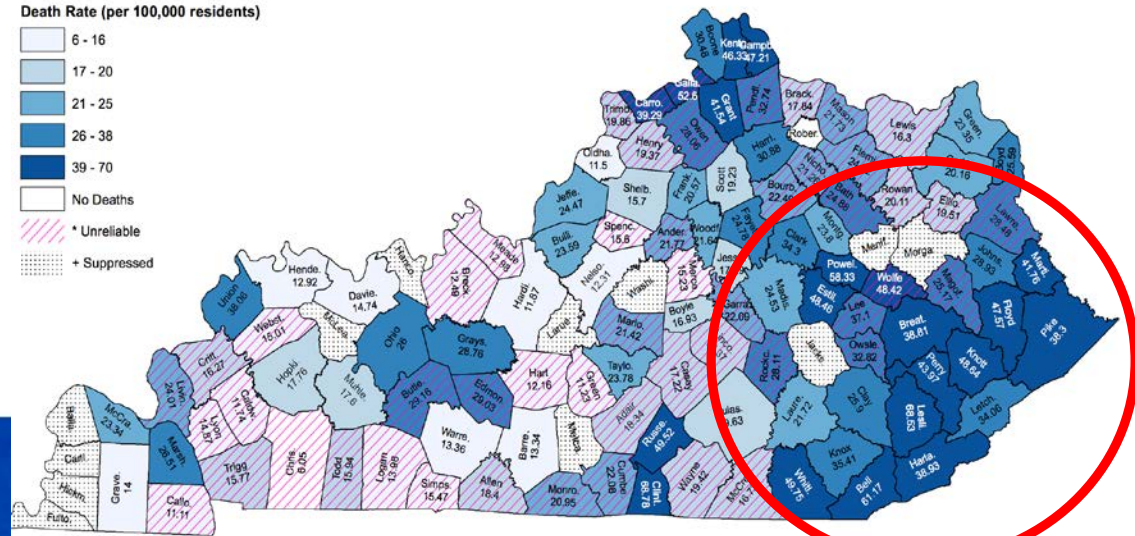
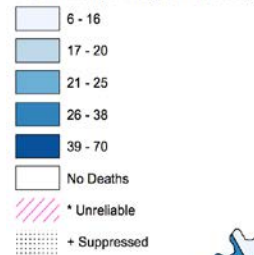
Opioid Prescribing Rates

Three counties in the region rank among the United States' ten most-prescribing counties.



Overdose Death Rates

Death Rate (per 100,000 residents)



Consequences

Medical Consequences of OUDs

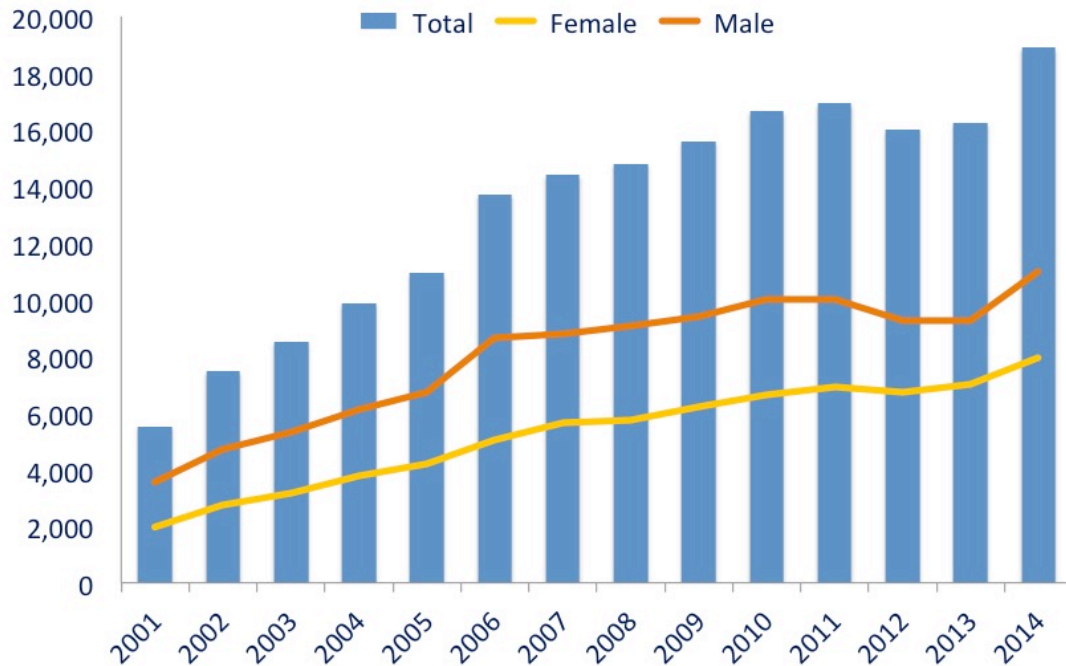
- Individual with SUD
 - Overdose
 - Respiratory depression and death
 - Infectious diseases associated with drug injection
 - HIV/AIDs
 - Hepatitis C
 - Bacterial endocarditis
 - Mental disorders
- Others
 - Neonatal abstinence syndrome, NOWS
 - Spread of infectious diseases

Opioid Overdose Deaths



National Overdose Deaths

Number of Deaths from Prescription Opioid Pain Relievers

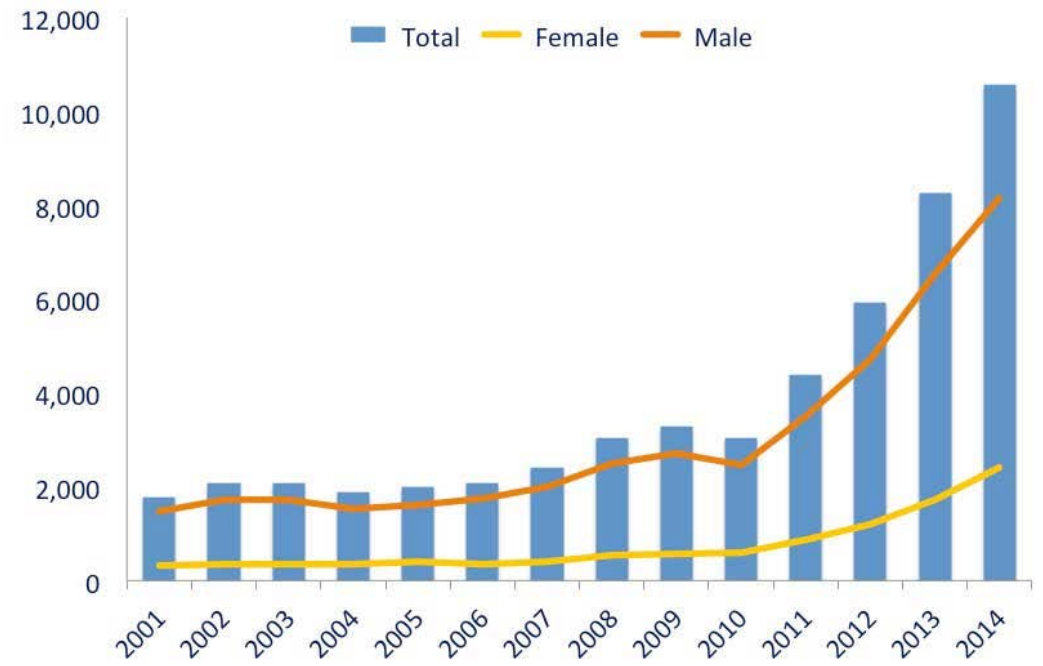


Source: National Center for Health Statistics, CDC Wonder



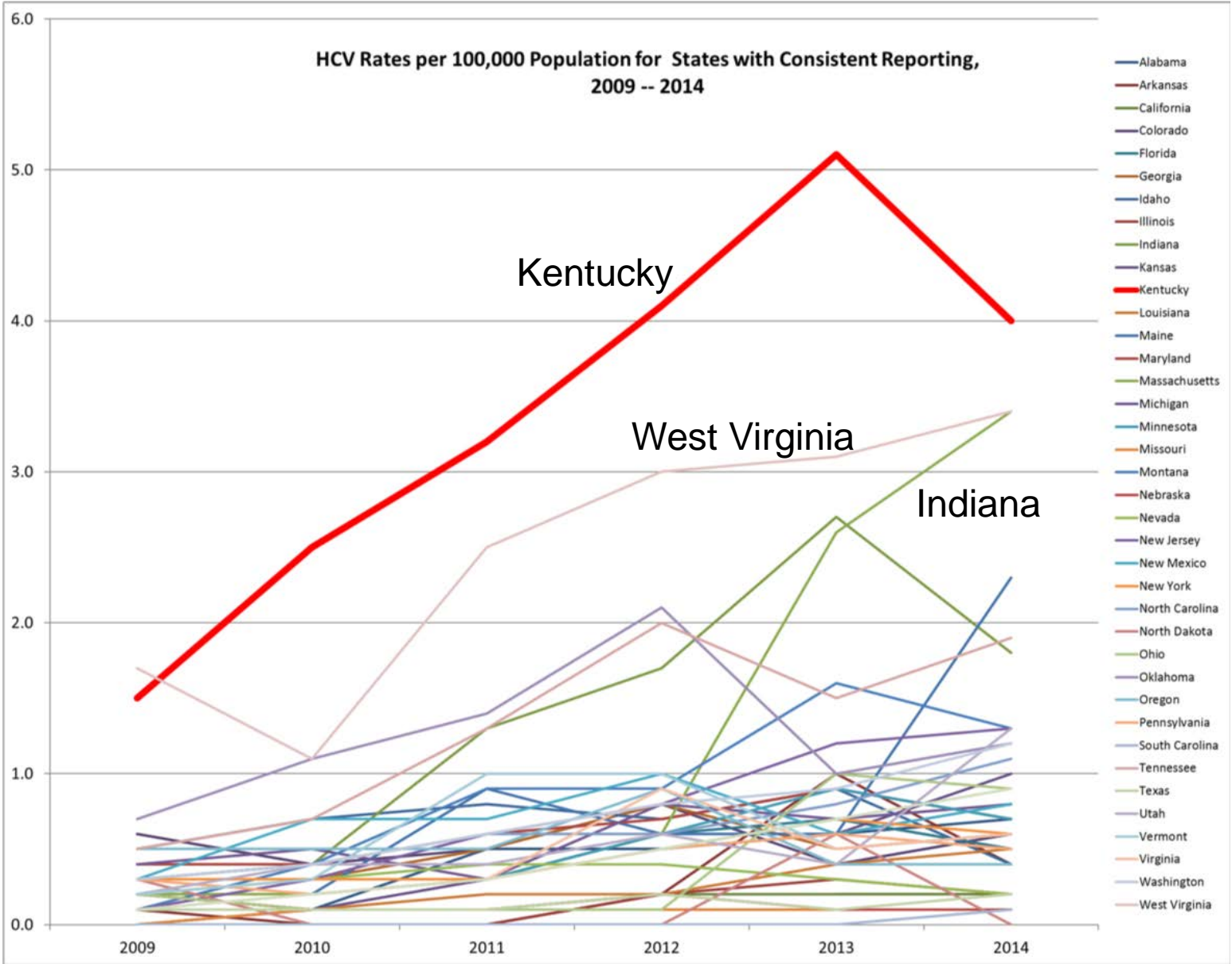
National Overdose Deaths

Number of Deaths from Heroin



Source: National Center for Health Statistics, CDC Wonder

Trends in Acute HCV Infection Rates, 2009-2014

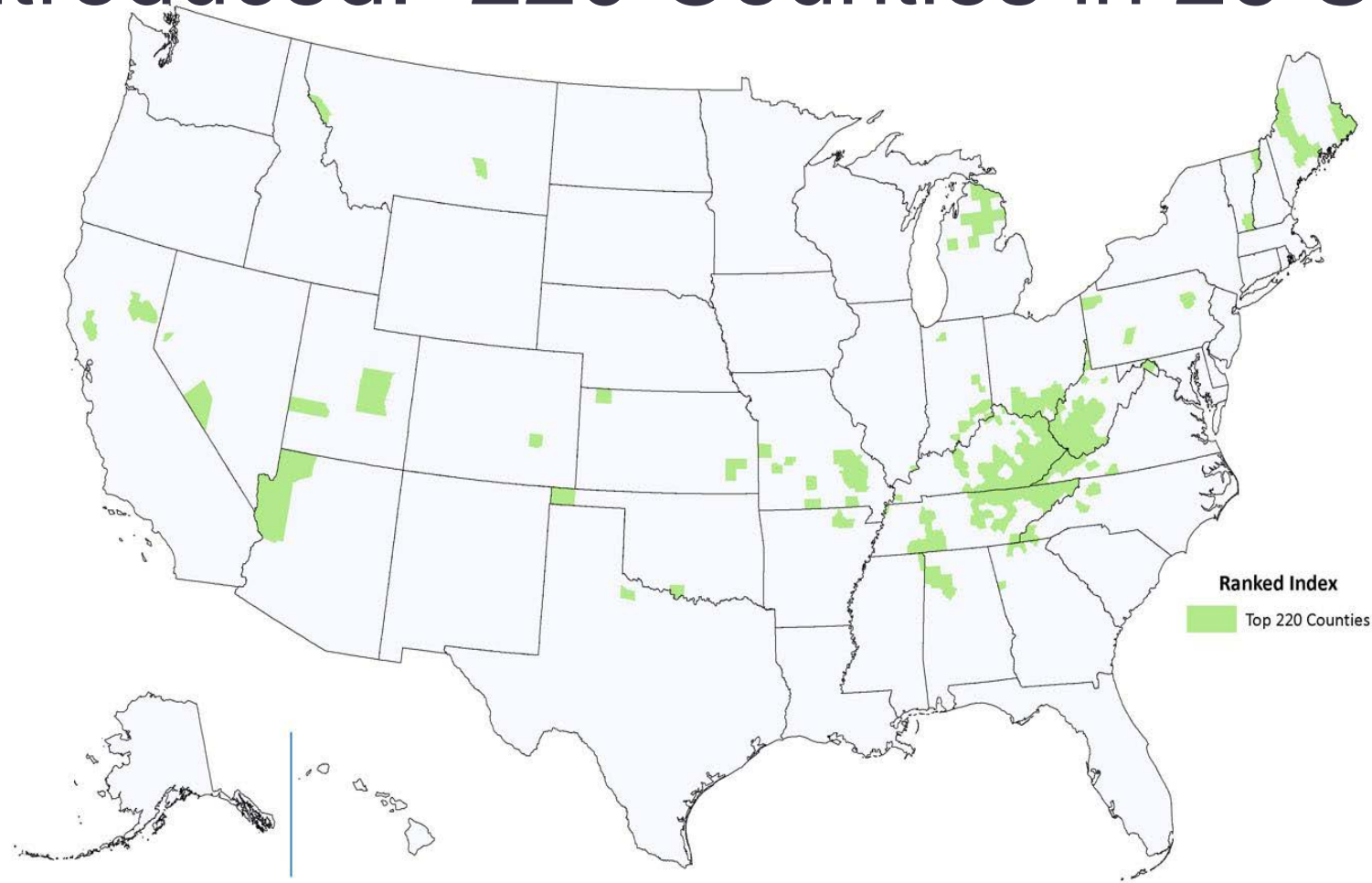


Hepatitis C epidemic in Appalachia raises fears of HIV

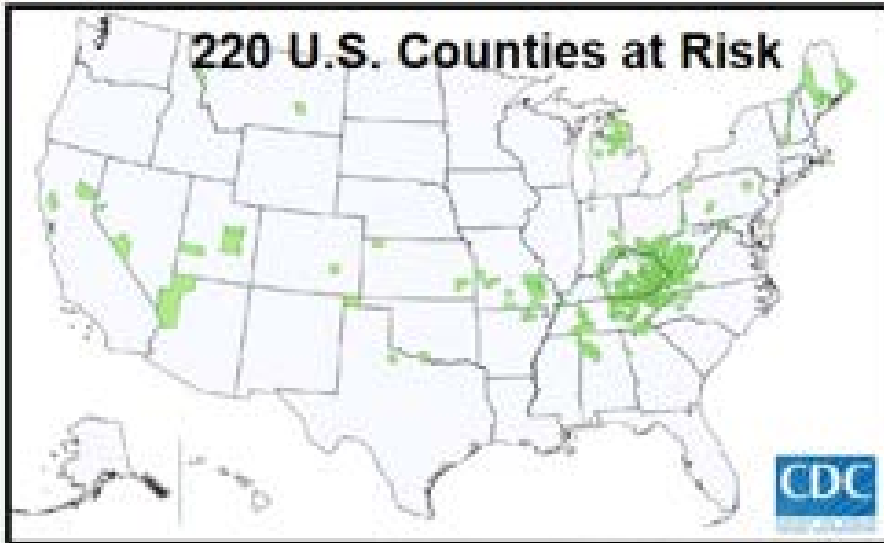


In this May 26, 2015, photo, recovering injection drug users Justin Kennedy, left, and Patton Couch, who says he was diagnosed with Hepatitis C, hang out at Patton's home where he lives with his parents in Hazard, Ky. Public health officials warn that if the region doesn't get the IV drug abuse problem under control, it's likely to see a Hepatitis C or HIV outbreak. / **AP PHOTO/DAVID STEPHENSON**

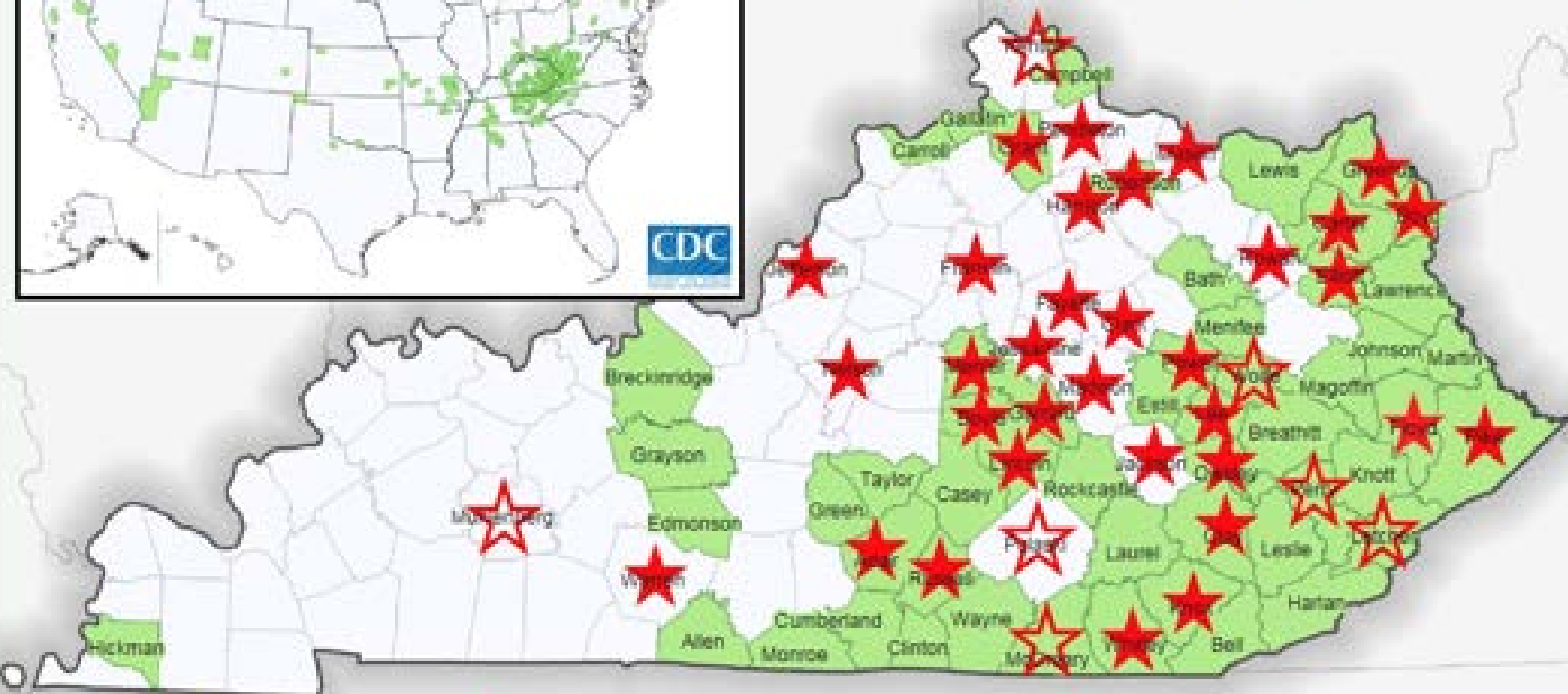
Counties Most Vulnerable to Rapid HIV Spread if HIV Introduced: 220 Counties in 26 States




54 Kentucky Counties with Increased Vulnerability to Rapid HIV Outbreak Among People who Inject Drugs, and Preventive Syringe Exchange Programs



and Preventive Syringe Exchange Programs



 Vulnerable Counties

 Operating Syringe Exchanges as of 10/05/2017

 Approved but not Operational yet

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

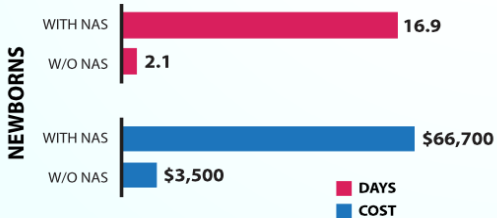
DRAMATIC INCREASES IN MATERNAL OPIOID USE AND NEONATAL ABSTINENCE SYNDROME

THE USE OF OPIOIDS DURING PREGNANCY CAN RESULT IN A DRUG WITHDRAWAL SYNDROME IN NEWBORNS CALLED **NEONATAL ABSTINENCE SYNDROME (NAS)**, WHICH CAUSES **LENGTHY AND COSTLY HOSPITAL STAYS**. ACCORDING TO A NEW STUDY, AN ESTIMATED **21,732 BABIES** WERE BORN WITH THIS SYNDROME IN THE UNITED STATES IN 2012, A **5-FOLD INCREASE** SINCE 2000.



EVERY 25 MINUTES, A BABY IS BORN SUFFERING FROM OPIOID WITHDRAWAL.

AVERAGE LENGTH OR COST OF HOSPITAL STAY



NAS AND MATERNAL OPIOID USE ON THE RISE

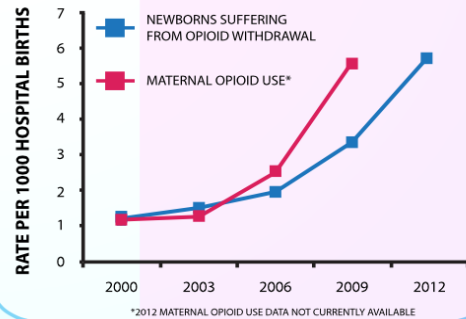
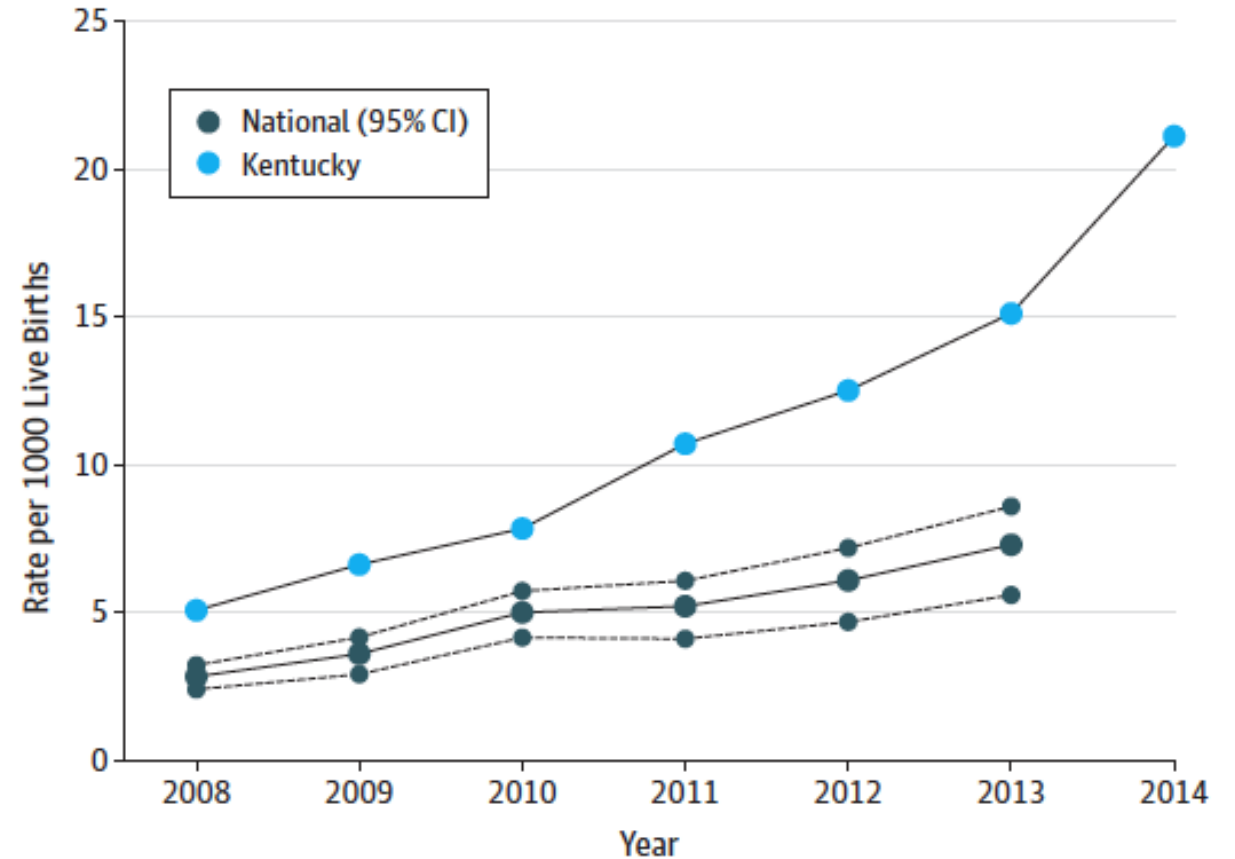


Figure. National (2008-2013) and Kentucky (2008-2014) Neonatal Abstinence Syndrome Trends



Solutions

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

Policy Solutions: Supply vs. Demand

Demand Side Interventions

- Prevention education programs
- Treatment (high quality)
 - Behavioral counseling, MAT
 - IMD waiver (1115)
- General harm reduction policies
 - Needle exchange, naloxone access



Supply Side Interventions

- Provider/pharmacist level
 - PDMPs, enhancements, prescribing guidelines, wholesaler quotas, pain clinic laws
- Payer level
 - Formulary product and quantity restrictions
- FDA/manufacturer level
 - REMS, abuse deterrent formulations



Kentucky Prescription OUD Strategies

- Prescription Drug Monitoring Program
 - KASPER, 1999
 - eKASPER, 2005
- Enhanced in 2012 (HB1)
 - **Mandated KASPER registration and query**
 - Require physician ownership of pain management facilities
 - Limit C-II prescriber dispensing to 48 hour supply, CME requirement
 - Increase public awareness
 - Increase drug disposal opportunities

Kentucky Prescription Opioid Use Disorder Strategies

- **2017 Policy changes**
 - C-II limit three day supply for acute pain
 - MME alert flag
- **Pending changes in 2018**
 - Provider report cards
 - Drug conviction data on KASPER report
 - Non-fatal OD toxicology results on KASPER report

Outcomes

Impact of PDMPs Varies by Features

Making a Difference: State Successes



2012 Action:

New York required prescribers to check the state's prescription drug monitoring program before prescribing painkillers.

2013 Result:

Saw a **75% drop in patients** who were seeing **multiple prescribers** to obtain the same drugs, which would put them at higher risk of overdose.



2010 Action:

Florida regulated pain clinics and stopped health care providers from dispensing prescription painkillers from their offices.

2012 Result:

Saw more than **50% decrease in overdose deaths** from oxycodone.



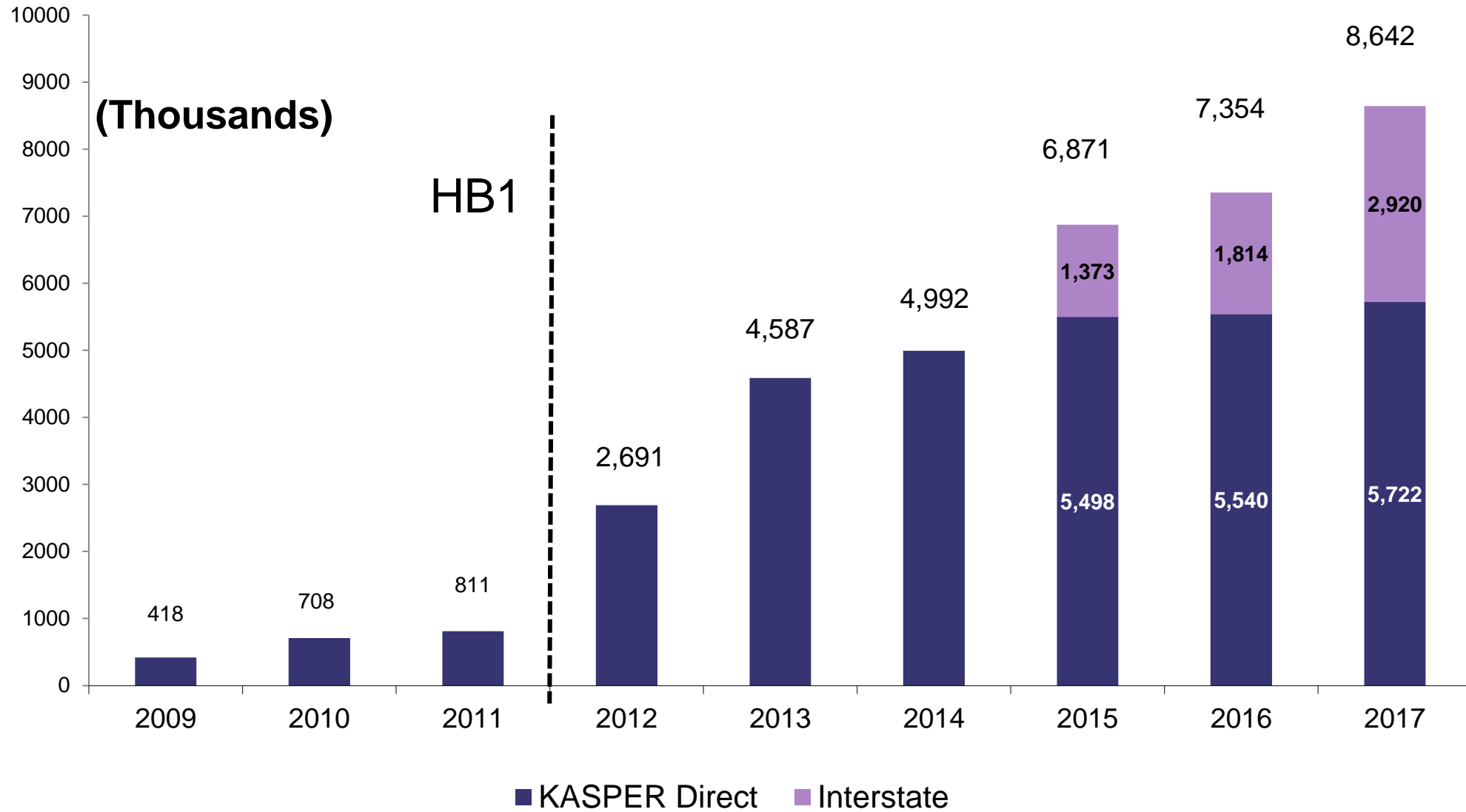
2012 Action:

Tennessee required prescribers to check the state's prescription drug monitoring program before prescribing painkillers.

2013 Result:

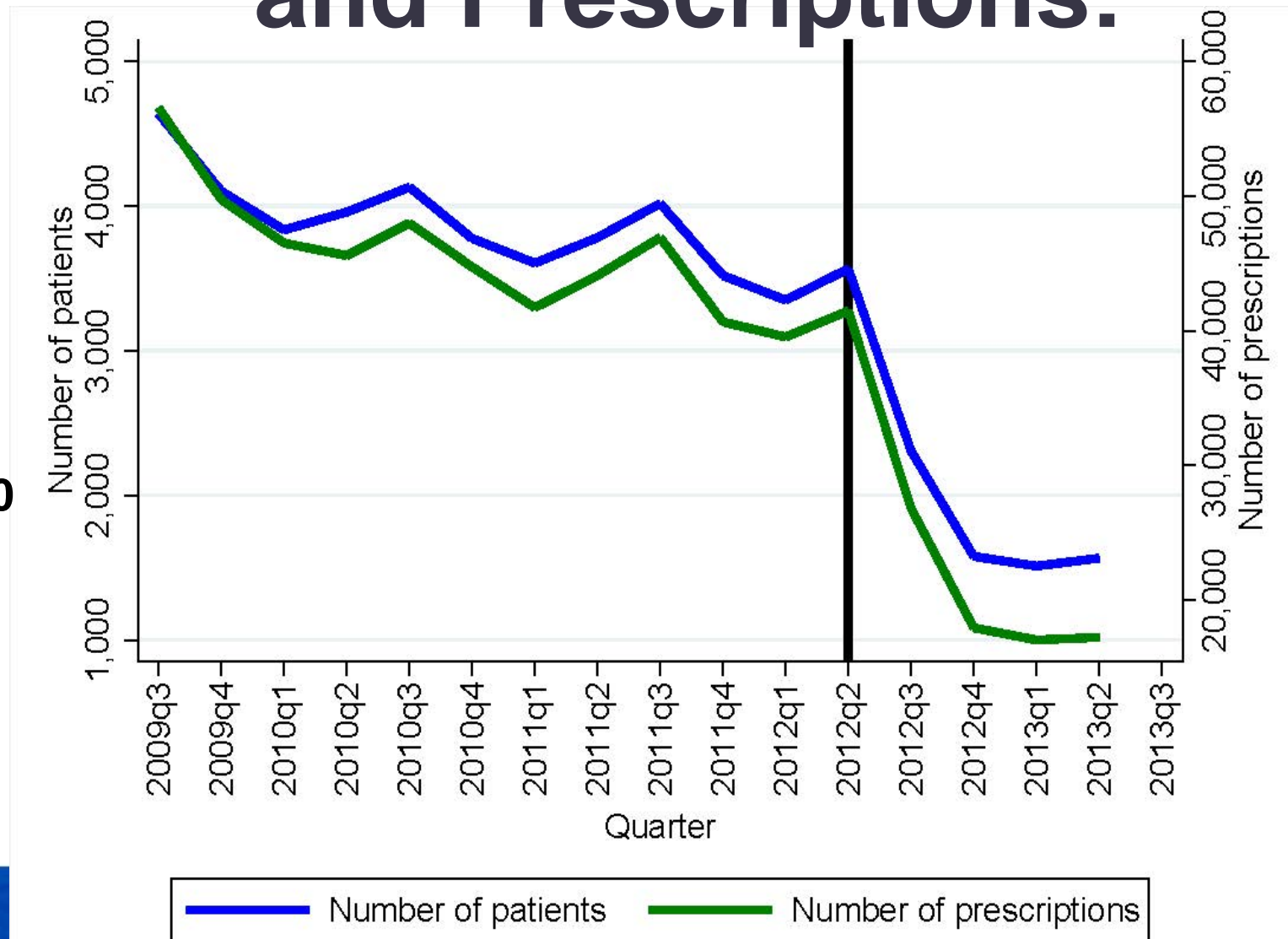
Saw a **36% drop in patients** who were seeing **multiple prescribers** to obtain the same drugs, which would put them at higher risk of overdose.

KY-KASPER Report Requests

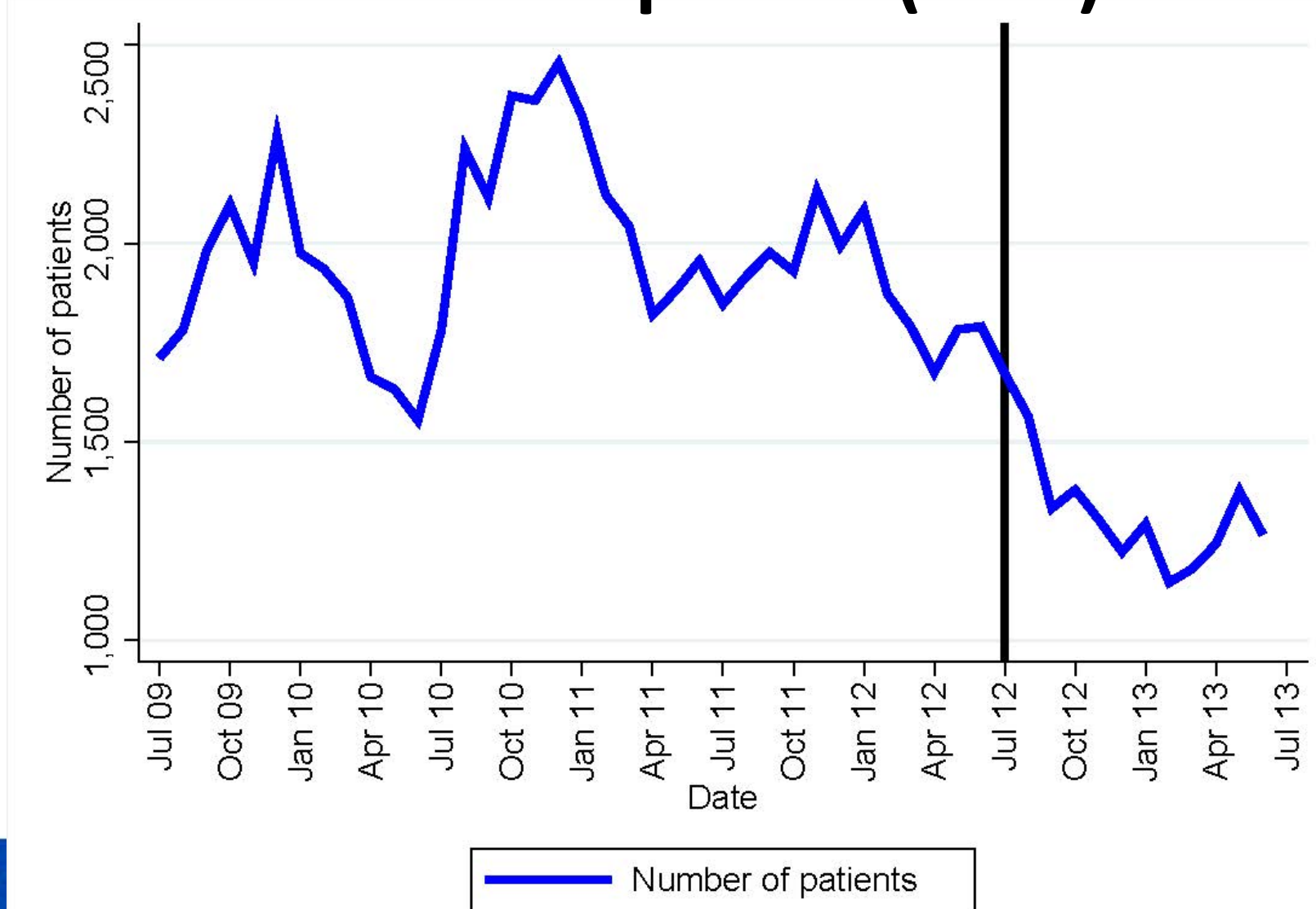


KY-Doctor Shopping, Number of Patients and Prescriptions:

Patients with prescriptions by four or more prescribers and four or more pharmacies in one 90-day period 2010 to 2013

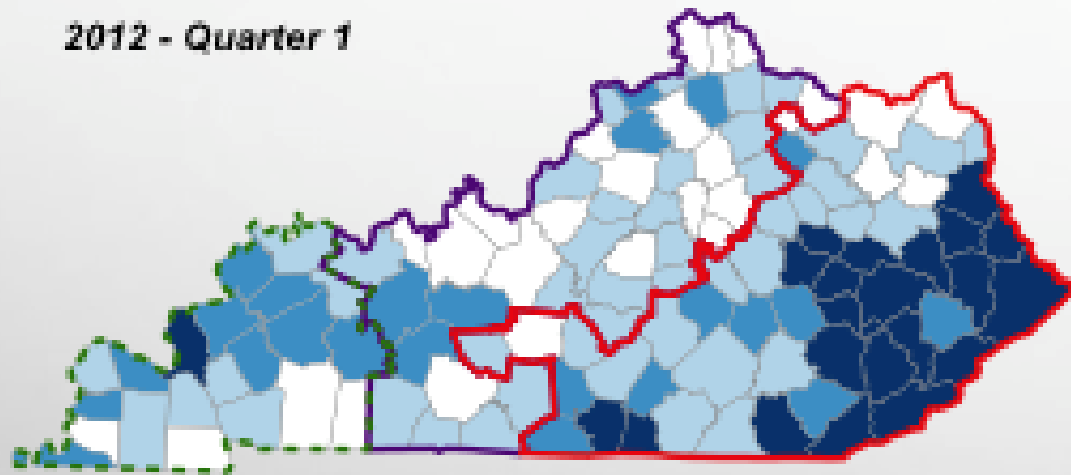


KY Concurrent Prescriptions of an Opioid, Alprazolam and Carisoprodol (OAC) in a Month



Unadjusted Rates of Residents With Dispensed OA Prescriptions by County, Kentucky 2012 and 2016

2012 - Quarter 1



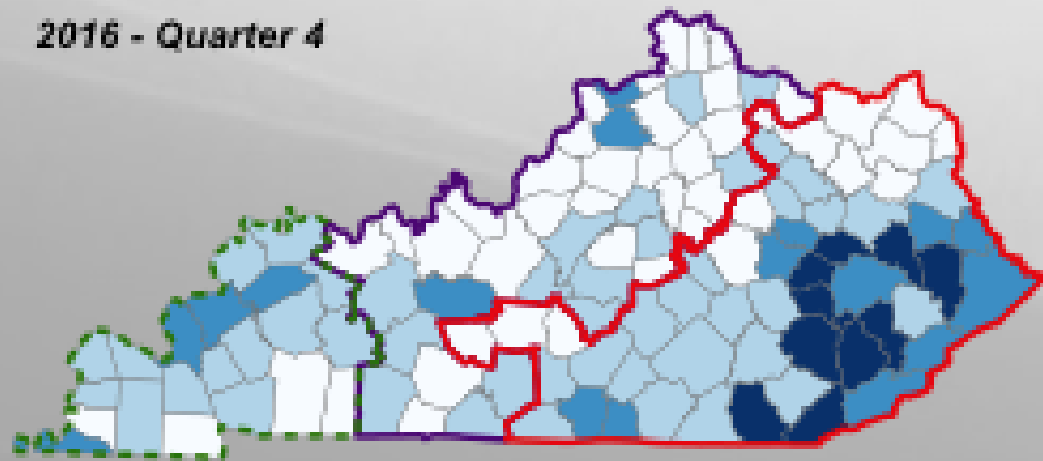
Rate per 1,000 residents



Kentucky regions



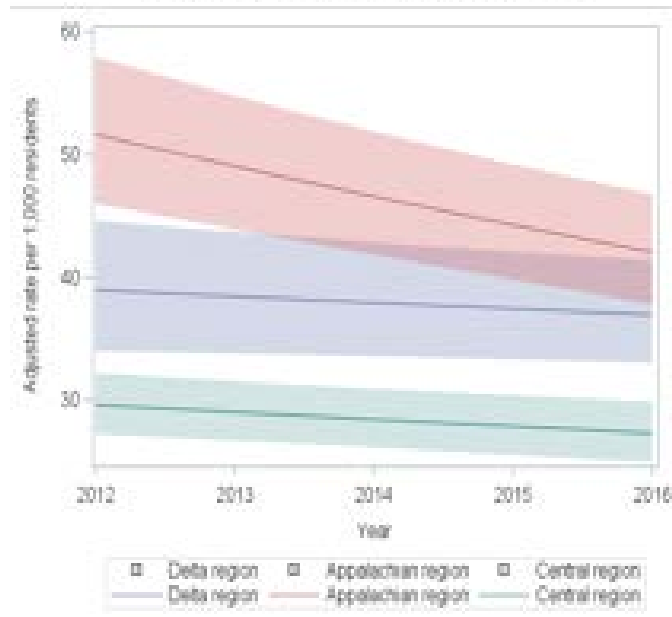
2016 - Quarter 4



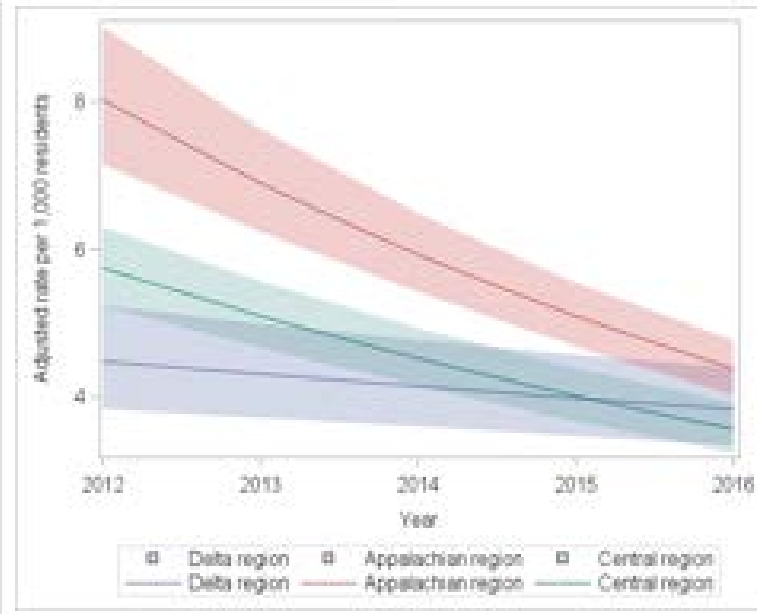
Note: The data include the Schedule II to IV opioid prescriptions, including methadone for pain treatment and excluding buprenorphine and buprenorphine/naloxone combinations

Annual Adjusted Rates of Residents with Long-term OA Prescribing, Kentucky 2012 – 2016

Long-Term Use of Any OA



Long-term Use of High-Dose OA



Region	ARR by year	% change for every year
Appalachian	0.95	-5%
Delta	0.99	-1%
Central	0.98	-2%

Region	ARR by year	% change for every year
Appalachian	0.86	-14%
Delta	0.96	-4%
Central	0.89	-11%

ARR by region	2012	2016
Appalachian vs. Central	1.74 (1.51; 2.02)	1.54 (1.34; 1.78)
Appalachian vs. Delta	1.33 (1.11; 1.59)	1.13 (0.97; 1.33)
Delta vs. Central	1.35 (1.13; 1.53)	1.35 (1.18; 1.55)

ARR by region	2012	2016
Appalachian vs. Central	1.40 (1.19; 1.64)	1.23 (1.08; 1.39)
Appalachian vs. Delta	1.79 (1.48; 2.17)	1.14 (0.97; 1.34)
Delta vs. Central	0.78 (0.65; 0.93)	1.08 (0.92; 1.26)

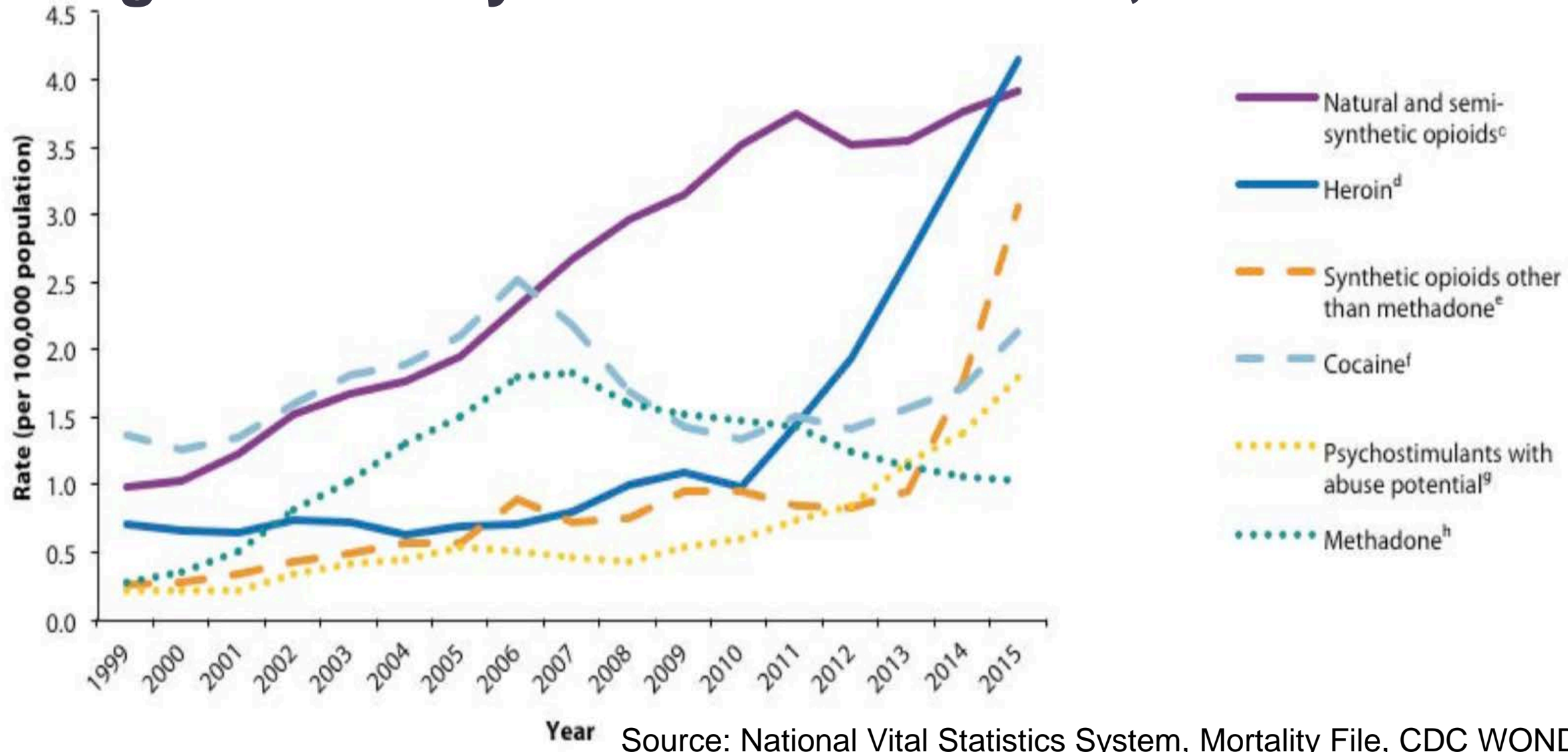
Note: Residents were identified with long-term OA prescribing if they received OAs for more than 90 consecutive days.

Residents with long-term high-dose OA prescribing were identified as those with dispensed OAs for more than 90 consecutive days with an average daily cumulative MME dose of 100 or greater.

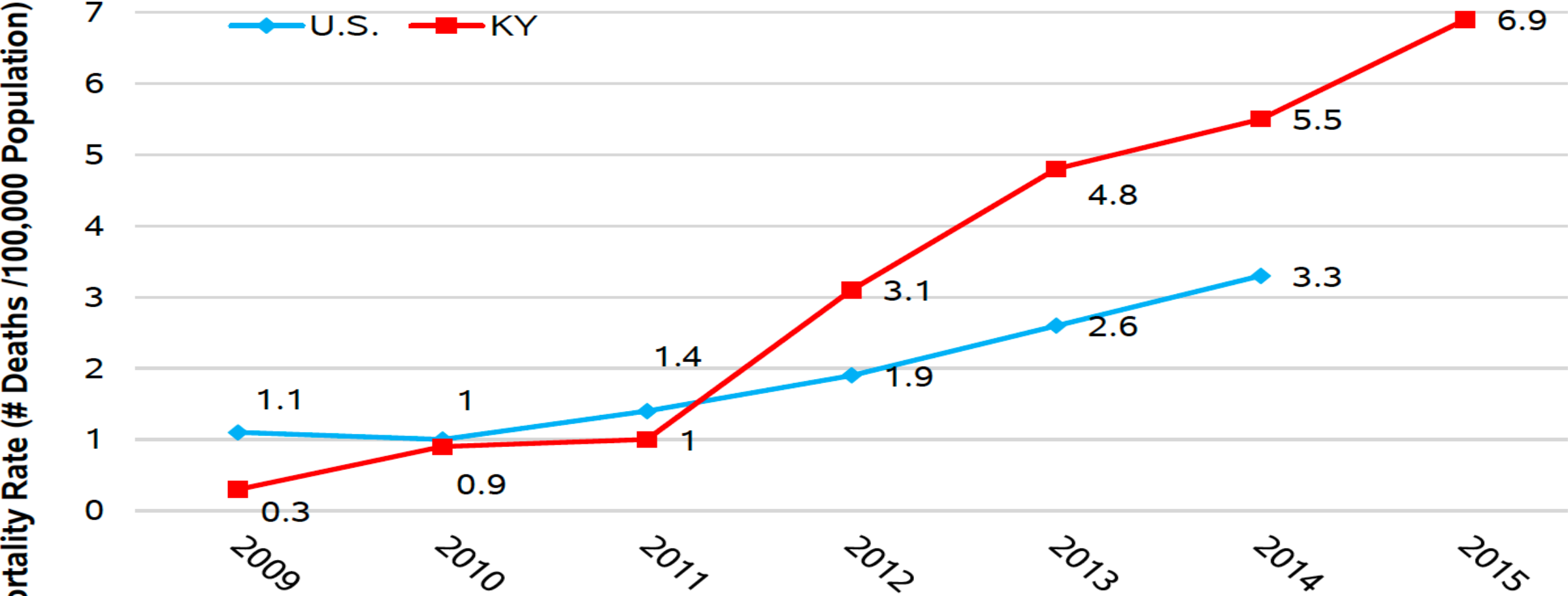
Summary of Impact in KY

- **Mandatory use of KASPER** resulted in: lower supply
 - Decreased prescribing of CS overall
 - Decreased inappropriate prescribing
 - Decreased doctor-shopping behavior
- **Supply side policies reduce prescriptions, but do not impact patients with OUD**

Age-adjusted rates of drug overdose deaths, by drug or drug class and year — United States, 1999–2015



Age-Adjusted Rates for Drug Overdose Deaths Involving Heroin



Produced by the Kentucky Injury Prevention and Research Center, July 2016. Data sources: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death 1999-2014 on CDC WONDER Online Database, released 2015 for the US data, Kentucky Death Certificates Database, Kentucky Office of Vital Statistics for the Kentucky data. Data were not available for 2015 for the U.S. at the time of creation. Data are

Demand-Related Policy Initiatives

CDC Issued Guidelines for Opioid Prescribing

DETERMINING WHEN TO INITIATE OR CONTINUE OPIOIDS FOR CHRONIC PAIN

- 1 OPIOIDS ARE NOT FIRST-LINE THERAPY**
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 ESTABLISH GOALS FOR PAIN AND FUNCTION**
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 DISCUSS RISKS AND BENEFITS**
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.

Nonpharmacologic therapies and nonopioid medications include:

- Nonopioid medications such as acetaminophen, ibuprofen, or certain medications that are also used for depression or seizures
- Physical treatments (eg, exercise therapy, weight loss)
- Behavioral treatment (eg, CBT)
- Interventional treatments (eg, injections)

ASSESSING RISK AND ADDRESSING HARMS

- 8 USE STRATEGIES TO MITIGATE RISK**
Before starting and periodically during continuation of opioid therapy, clinicians should evaluate risk factors for opioid-related harms. Clinicians should incorporate into the management plan strategies to mitigate risk, including considering offering naloxone when factors that increase risk for opioid overdose, such as history of overdose, history of substance use disorder, higher opioid dosages (≥ 50 MME/day), or concurrent benzodiazepine use, are present.
- 9 REVIEW PDMP DATA**
Clinicians should review the patient's history of controlled substance prescriptions using state prescription drug monitoring program (PDMP) data to determine whether the patient is receiving opioid dosages or dangerous combinations that put him or her at high risk for overdose. Clinicians should review PDMP data when starting opioid therapy for chronic pain and periodically during opioid therapy for chronic pain, ranging from every prescription to every 3 months.

Naloxone: a drug that can reverse the effects of opioid overdose

Benzodiazepine: sometimes called "benzo," is a sedative often used to treat anxiety, insomnia, and other conditions

PDMP: a prescription drug monitoring program is a statewide electronic database that tracks all controlled substance prescriptions

OPIOID SELECTION, DOSAGE, DURATION, FOLLOW-UP, AND DISCONTINUATION

- 4 USE IMMEDIATE-RELEASE OPIOIDS WHEN STARTING**
When starting opioid therapy for chronic pain, clinicians should prescribe immediate-release opioids instead of extended-release/long-acting (ER/LA) opioids.
- 5 USE THE LOWEST EFFECTIVE DOSE**
When opioids are started, clinicians should prescribe the lowest effective dosage. Clinicians should use caution when prescribing opioids at any dosage, should carefully reassess evidence of individual benefits and risks when considering increasing dosage to ≥ 50 morphine milligram equivalents (MME)/day, and should avoid increasing dosage to ≥ 90 MME/day or carefully justify a decision to titrate dosage to ≥ 90 MME/day.

Immediate-release opioids: faster acting medication with a shorter duration of pain-relieving action

Extended release opioids: slower acting medication with a longer duration of pain-relieving action

- 6 PRESCRIBE SHORT DURATIONS FOR ACUTE PAIN**
Long-term opioid use often begins with treatment of acute pain. When opioids are used for acute pain, clinicians should prescribe the lowest effective dose of immediate-release opioids and should prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids. Three days or less will often be sufficient; more than seven days will rarely be needed.

Morphine milligram equivalents (MME)/day: the amount of morphine an opioid dose is equal to when prescribed, often used as a gauge of the abuse and overdose potential of the amount of opioid that is being given at a particular time

- 10 USE URINE DRUG TESTING**
When prescribing opioids for chronic pain, clinicians should use urine drug testing before starting opioid therapy and consider urine drug testing at least annually to assess for prescribed medications as well as other controlled prescription drugs and illicit drugs.
- 11 AVOID CONCURRENT OPIOID AND BENZODIAZEPINE PRESCRIBING**
Clinicians should avoid prescribing opioid pain medication and benzodiazepines concurrently whenever possible.
- 12 OFFER TREATMENT FOR OPIOID USE DISORDER**
Clinicians should offer or arrange evidence-based treatment (usually medication-assisted treatment with buprenorphine or methadone in combination with behavioral therapies) for patients with opioid use disorder.

NEARLY
2M

Americans, aged 12 or older, either abused or were dependent on prescription opioids in 2014

Medication-assisted treatment: treatment for opioid use disorder including medications such as buprenorphine or methadone

Naltrexone

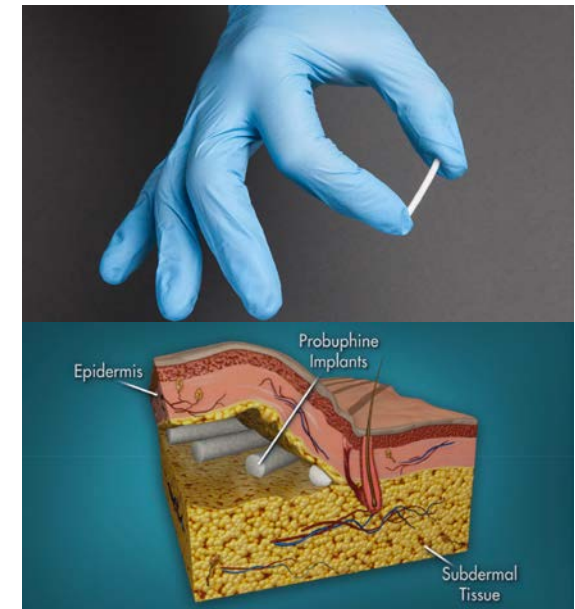
- **Mu-opioid competitive antagonist**
 - Essentially blocks effect of opioids
 - Does not reduce opioid withdrawal symptoms
- **Dosing**
 - **Oral 25mg daily x 1 day, then 50mg daily**
 - **Extended-release injection: 380mg IM every 30 days (Vivitrol)**
 - medical managed withdrawal (detoxification) from opioids be completed at least 7 to 10 days before extended-release injectable naltrexone is initiated or resumed.

Methadone

- Long-acting mu-opioid agonist
- Initial dose no greater than 30mg
 - Titrate cautiously due to potential for accumulation
- May only be dispensed by certified Opioid Treatment Program (OTP)
 - Patients must present to clinic for every dose
- Check QTc and LFTs at baseline and monitor as indicated

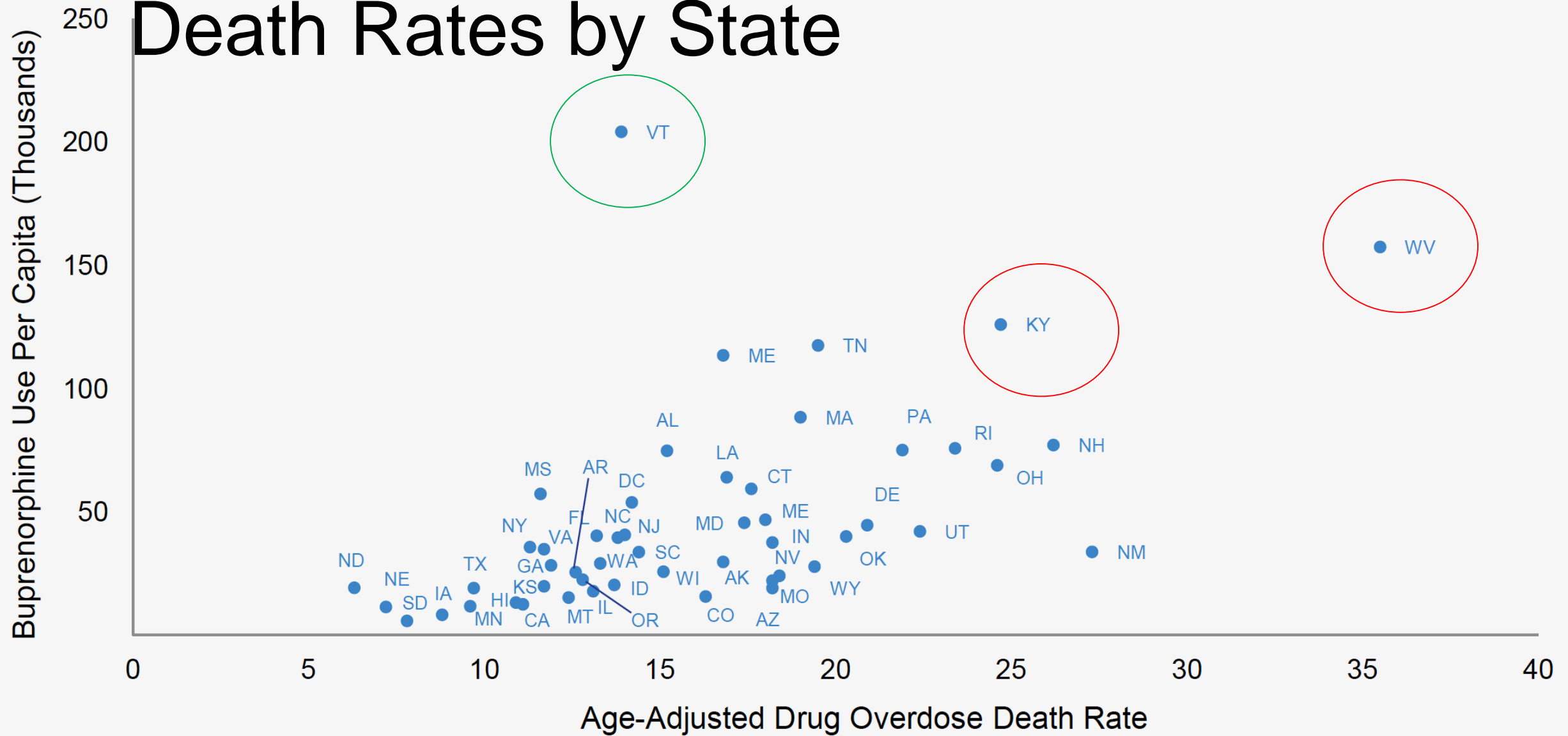
Buprenorphine/Naloxone (Suboxone)

- Buprenorphine: *partial* opioid agonist
 - Lower potential for abuse than other opioids, although abuse/diversion still a concern
- Naloxone: opioid antagonist
- Patients must be opioid-free prior to induction
 - May be experiencing withdrawal symptoms
- Available as sublingual tabs, strips, implants



Buprenorphine Use and Drug Overdose

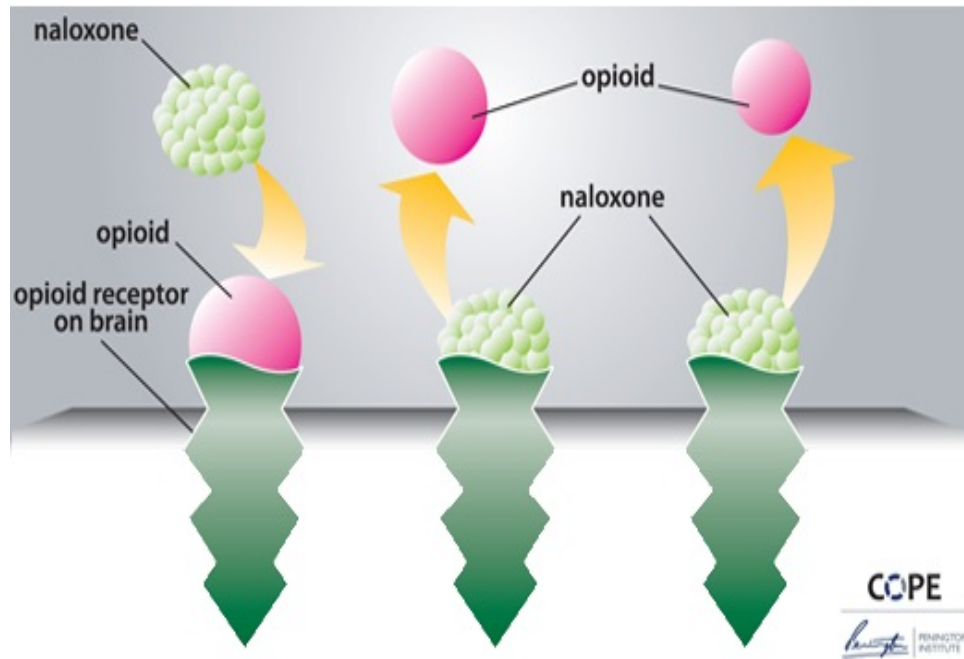
Death Rates by State



Naloxone



Naloxone Pharmacology



- Pure opioid antagonist
- Competes for mu, kappa, and sigma opiate receptor sites within the CNS
- Specific for opioids
 - Will not reverse effects of other CNS depressants
- When administered alone, has no pharmacological activity

Lessons Learned

- **Why so much effort on supply related policy solutions, but not so much on demand related policy solutions?**
 - Simple for legislators to understand the link between prescribing and overdose. Fits the law enforcement view of OUD/SUD
 - Access to MAT remains limited
 - Difficult to measure quality of MAT treatment. Most measures are process focused, not outcomes focused
 - MAT alone is not enough, quality counseling is needed to support pharmaceutical interventions



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