

Drug Abuse Patterns/Trends: Now and Future Directions

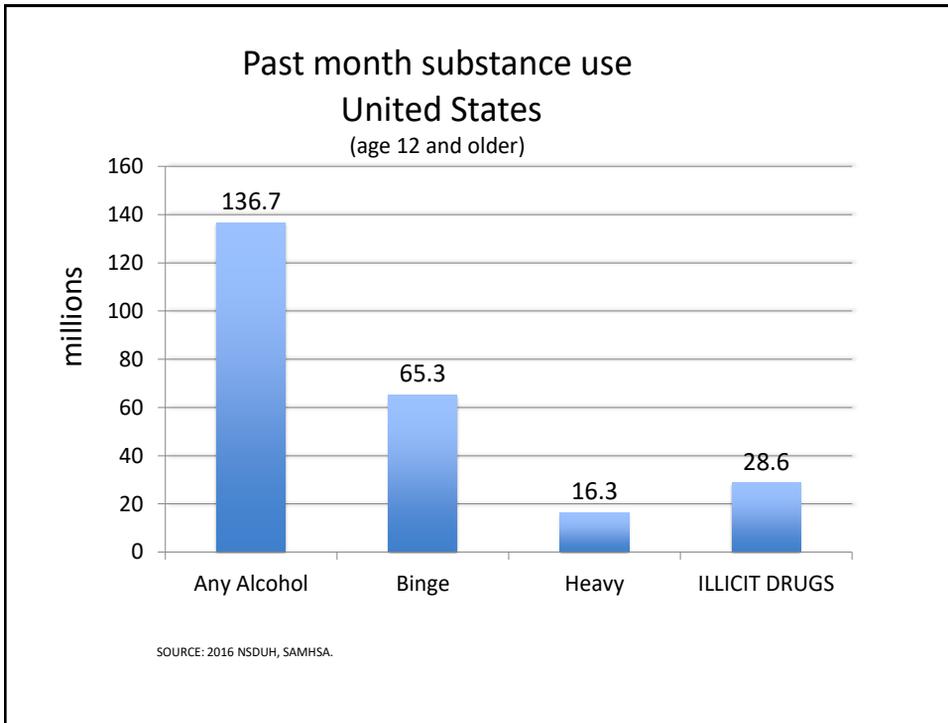
Minnesota TZD - Mankato
October 23, 2018

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CEO, Drug Abuse Dialogues
Author, *Dangerous Drugs*
St. Paul, Minnesota
www.drugabusedialogues.com

Why?

To feel good

To feel better



Marijuana



111 million Americans have used it

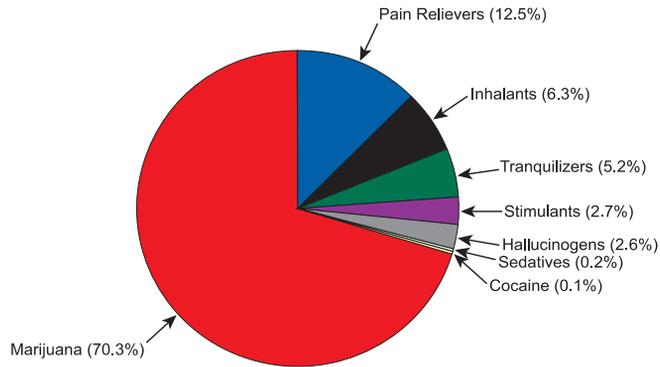
24 million current users (2016)

8.1 million daily users (2013)

7,000 new initiates/day (2016)

SOURCE: National Survey on Drug Use and Health, SAMHSA..

**First drug associated with
initiation of illicit drug use**
among past year illicit drug initiates (age 12 and older)



2.8 Million Initiates of Illicit Drugs

SOURCE: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, (September 4, 2014). *The NSDUH Report: Substance Use and Mental Health Estimates from the 2013 National Survey on Drug Use and Health: Overview of Findings*. Rockville, MD.

12th graders reporting lifetime use:



61.2% alcohol (46.3% drunk)



44.5% marijuana



18% any Rx drug

SOURCE: University of Michigan, Monitoring the Future Study, 2016.

Adverse Health Effects of Marijuana Use

Nora D. Volkow, M.D., Ruben D. Baler, Ph.D., Wilson M. Compton, M.D.,
and Susan R.B. Weiss, Ph.D.

N Engl J Med 2014;370:2219-27.

DOI: 10.1056/NEJMra1402309

Effects of short-term MJ use

- Impaired short-term memory
(making it difficult to learn and retain information)
- Impaired motor coordination (heightening risk of injury and accidents)
- Altered judgment
- In high doses, paranoia and psychosis

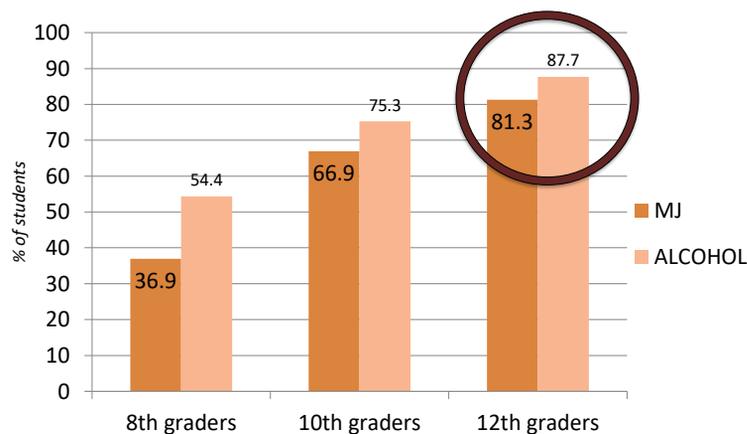
Effects of long-term or heavy MJ use

- Addiction*
- Altered brain development*
- Poor educational outcome* (increased drop-out risk)
- Cognitive impairment* (lower IQ function among frequent adolescent users)
- Diminished life satisfaction and achievement*
- Symptoms of chronic bronchitis
- Increased risk of chronic psychotic disorders (including schizophrenia) in predisposed individuals

* **the effect is strongly associated with initial MJ use in early adolescence**

Marijuana and alcohol availability

% saying it is "fairly easy" or "very easy" to get



Synthetic THC products a.k.a. synthetic cannabinoids

Man-made mood altering chemicals similar to those found in plant MJ. They are smoked as joints or oils using electronic cigarettes or vaping devices.

Often portrayed as a “safe” alternatives to plant-based MJ

Synthetic THC products

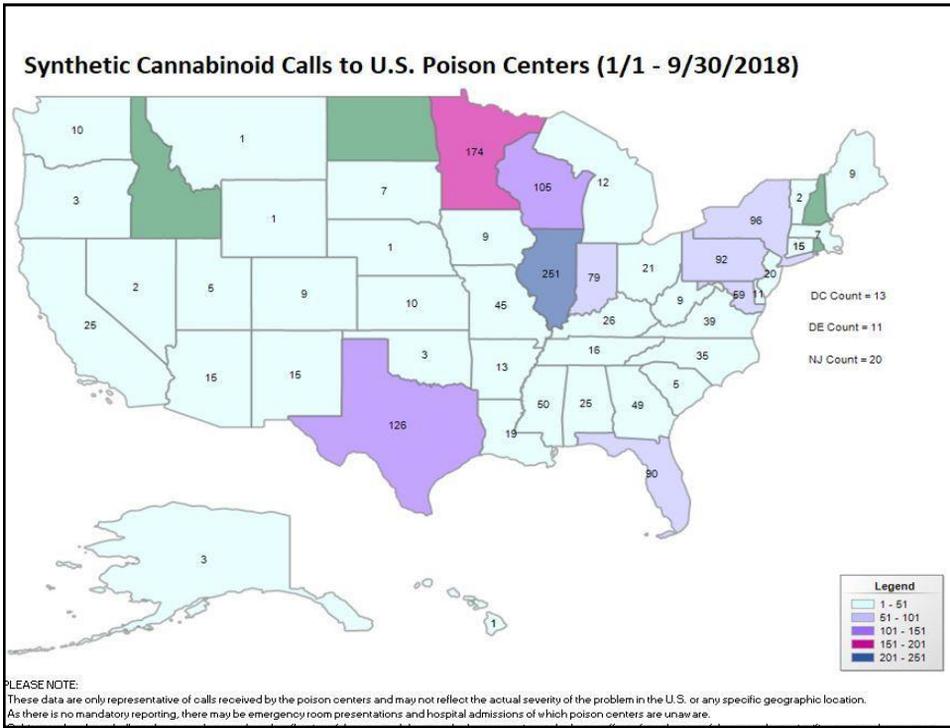
Anxiety attacks
Agitation
Elevated heart rates
Elevated blood pressure
Vomiting, paranoia
Hallucinations
Kidney failure
Hearts attacks
Breathing problems
Seizures



At least 60 overdosed on synthetic marijuana last week in Minneapolis

It's the biggest toll since 2015, said one official, and left users with hallucinations, violent behavior, or nearly comatose.

By Libor Jany, Star Tribune
 October 9, 2017
 Online at: <http://www.startribune.com/hcmc-at-least-60-overdoses-on-synthetic-marijuana-last-week/450132573/>



Marijuana Wax and Dab



Medical Marijuana

31 states and Washington D.C.



Clinical conditions with symptoms that may be relieved by MJ/cannabinoids:

- Epilepsy
- Glaucoma
- Nausea
- Multiple Sclerosis
- AIDS associated wasting syndrome
- Chronic pain
- Inflammation

Adverse Health Effects of Marijuana Use

Nora D. Volkow, M.D., Ruben D. Baler, Ph.D., Wilson M. Compton, M.D.,
and Susan R.B. Weiss, Ph.D.

MINNESOTA Med Cannabis

Qualifying conditions:

- Cancer associated with **severe/chronic pain**, **nausea** or severe vomiting
- **Glaucoma.**
- **HIV/AIDS**
- Tourette Syndrome
- Amyotrophic Lateral Sclerosis (ALS)
- Seizures, including those characteristic of **Epilepsy**
- Severe and persistent muscle spasms, **Multiple Sclerosis**
- Inflammatory bowel disease, CUC, Crohn's disease
- Terminal illness, life expectancy of less than one year*
- **Intractable Pain**
- Post-Traumatic Stress Disorder
- Autism
- **Obstructive Sleep Apnea**

MINNESOTA Med Marijuana

Qualifying conditions:

- [Intractable pain](#)

Type	Number in favor	Number opposed
Potential patients	205	0
All other commenters ¹	112	9
Caregivers, family and friends	58	0
Health care providers	8	6
Certified patient	5	0
Total	388	15
Percent	93.0	3.6

MINNESOTA Med Cannabis

Qualifying conditions:

- [Obstructive Sleep Apnea](#)

The American Academy of Sleep Medicine in April 2018 position statement:

“... **medical cannabis and/or its synthetic extracts should not be used for the treatment of OSA** due to unreliable delivery methods and insufficient evidence of effectiveness, tolerability, and safety.”

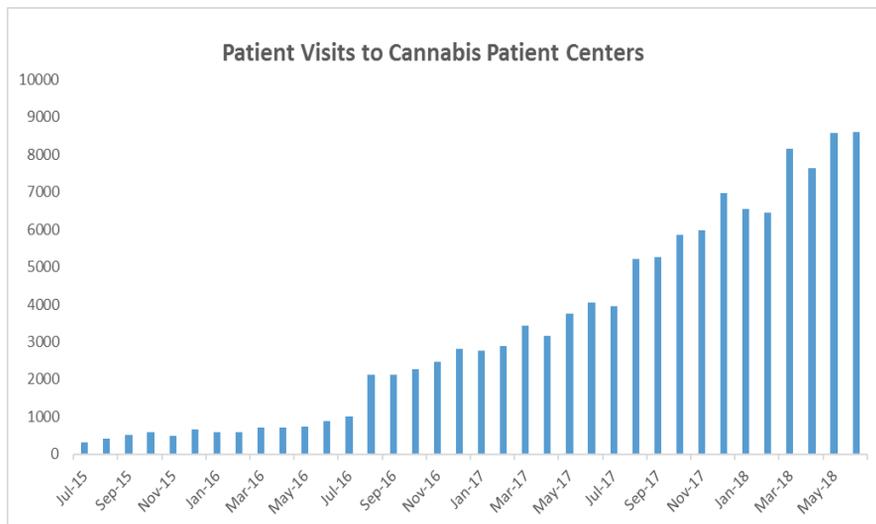
MINNESOTA Med Cannabis

Qualifying conditions

for discussion in October 2018

- Hepatitis C
- Juvenile rheumatoid arthritis
- Psoriasis
- Traumatic brain injury
- Alzheimer's disease
- Panic disorder
- **Opioid use disorder**

MINNESOTA



SOURCE: MN Dept of Health, 2018.

Marijuana

Legal recreational use:

Colorado

California

Washington

Massachusetts

Oregon

Nevada

Alaska

Vermont

Maine

Washington D.C.

Marijuana

Legal recreational use:

CANADA

Justin Trudeau @JustinTrudeau

It's been too easy for our kids to get marijuana - and for criminals to reap the profits. Today, we change that. Our plan to legalize & regulate marijuana just passed the Senate. [#PromiseKept](#)

[7:11 PM - Jun 19, 2018](#)

 [50.8K](#)

[16.2K people are talking about this](#)



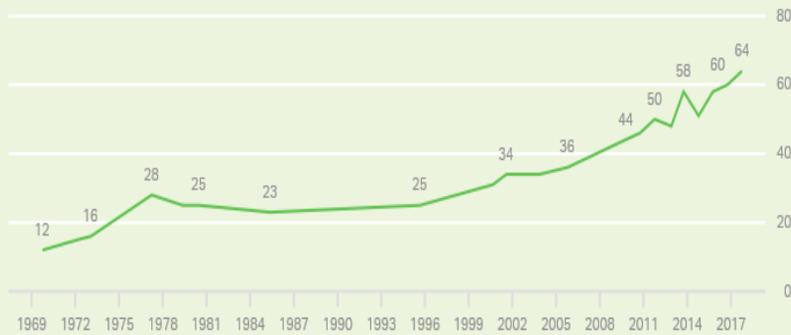
64% of Americans think MJ should be legalized

SOURCE: Gallup Poll, 2017.

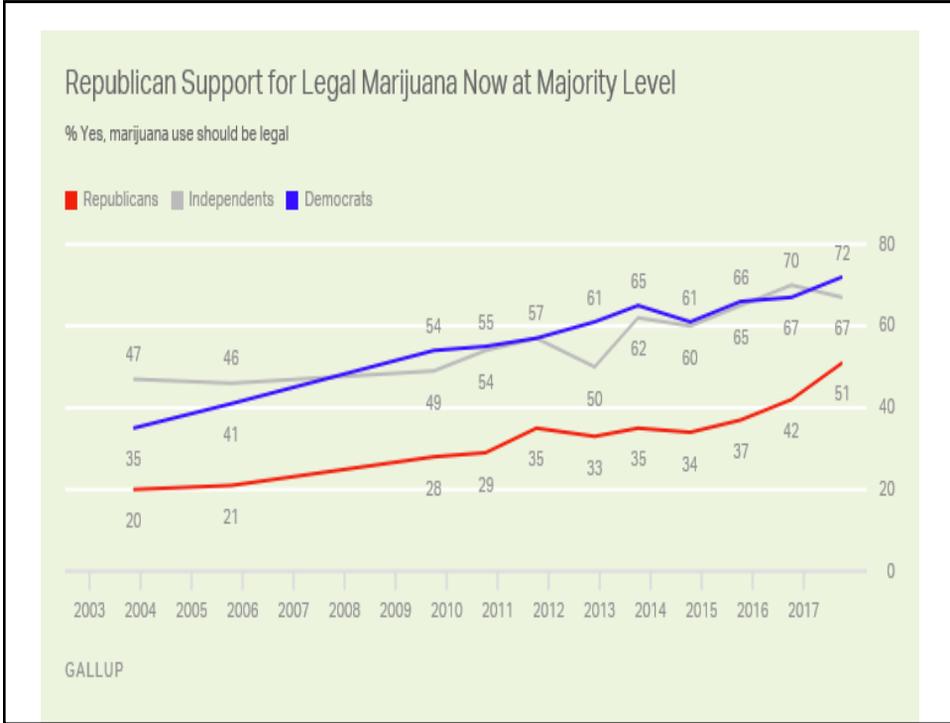
Americans' Support for Legalizing Marijuana Continues to Rise

Do you think the use of marijuana should be made legal, or not?

■ % Yes, legal



GALLUP

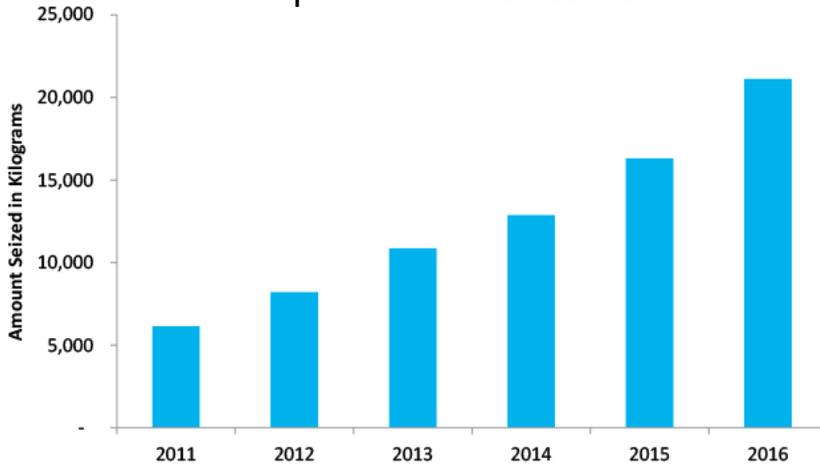


METHAMPHETAMINES

- Changes in brain function and structure
- Memory loss
- Mood swings
- Psychosis and paranoia
- Serious dental problems
- Extreme weight loss

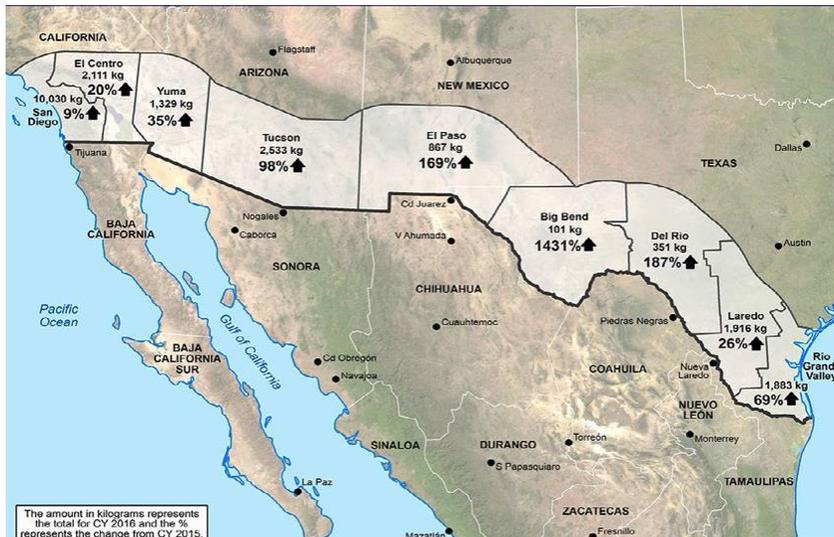


Southwest border seizures of methamphetamine: 2011 - 2016



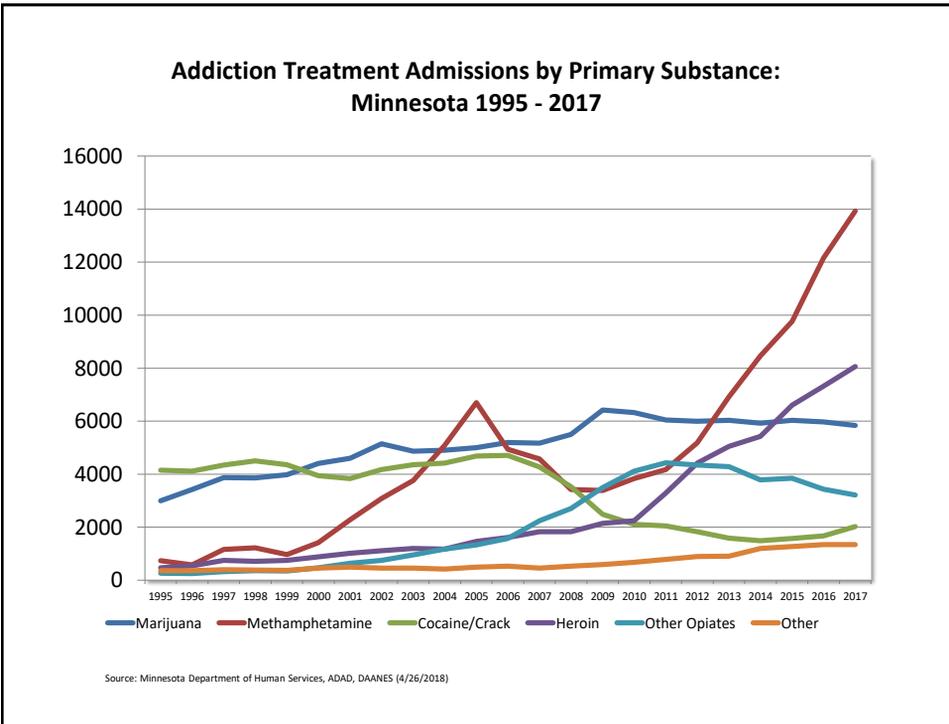
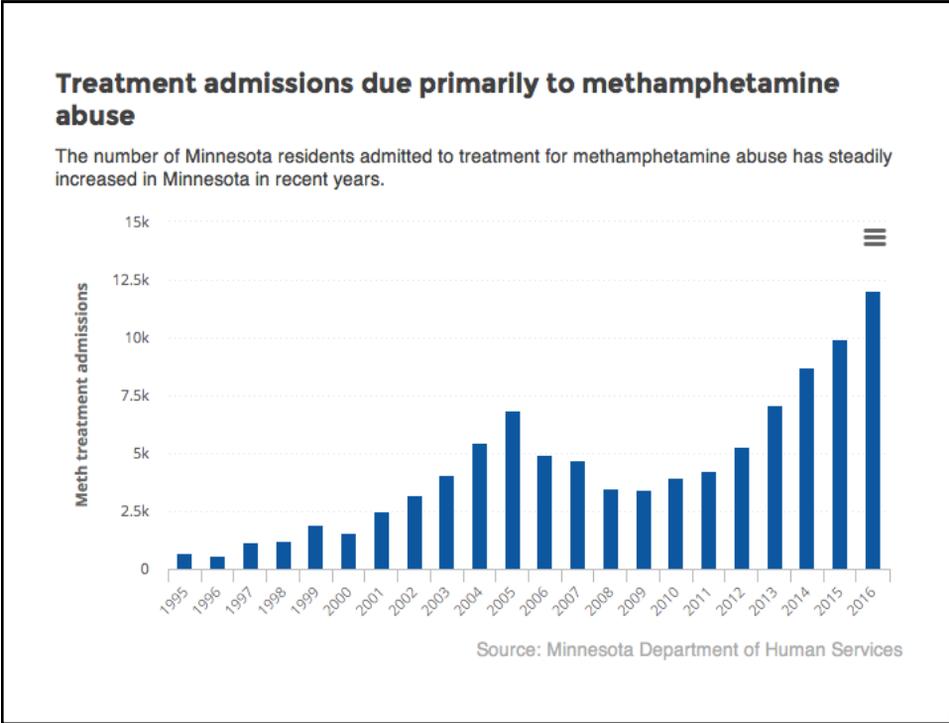
SOURCE: U.S. Customs and Border Protection, 2017 National Drug Threat Assessment, DEA, US Dept of Justice, October 2017.

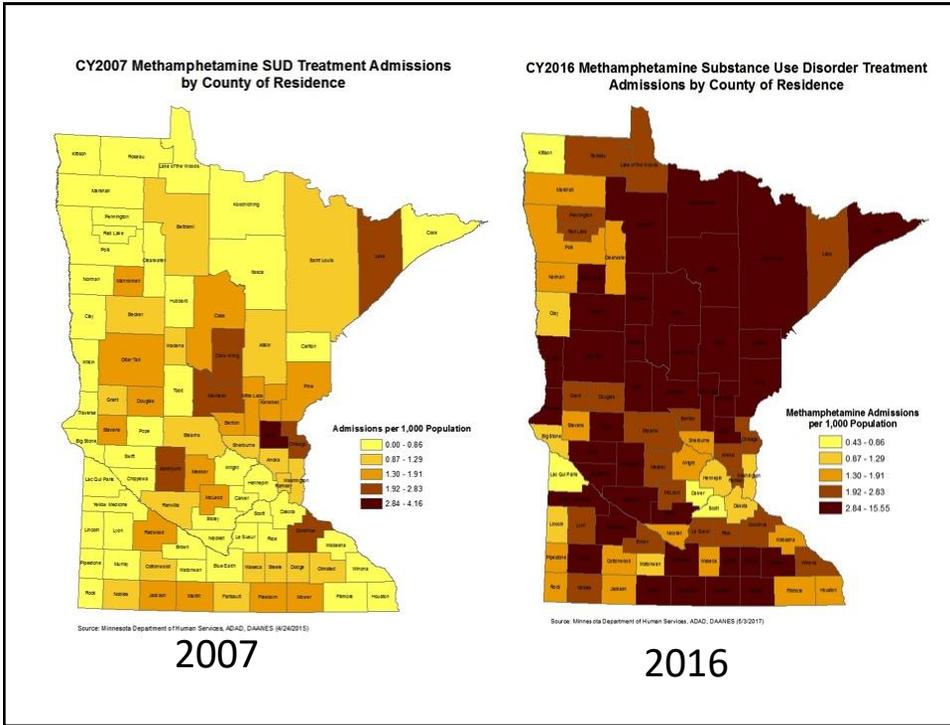
Methamphetamine seizures by southwest border corridor in 2016 with percent change from 2015



The amount in kilograms represents the total for CY 2016 and the % represents the change from CY 2015.

SOURCE: The 2017 National Drug Threat Assessment, DEA, US Dept of Justice, October 2017.

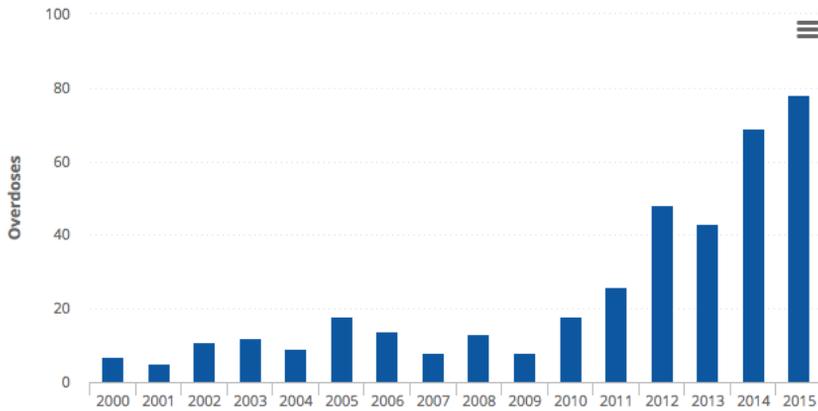




Minnesota:

Overdoses due to 'psychostimulants with abuse potential'

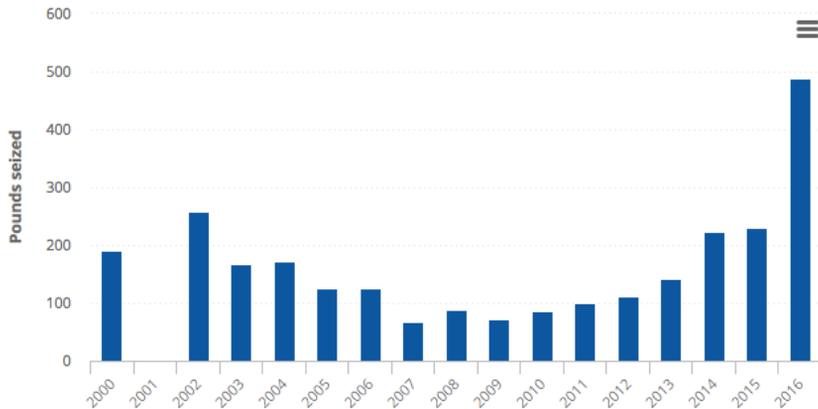
The number of overdoses due to psychostimulants with abuse potential, a class of drugs that includes methamphetamine, decreased after it became more difficult to obtain ingredients used to make meth. In recent years, they've increased dramatically.



Source: Minnesota Department of Health

Methamphetamine seizures in Minnesota

The amount of methamphetamine seized by Violent Crime Enforcement Teams in Minnesota dropped off after new laws made it more difficult to obtain materials to make the drug, but has increased in recent years. Meth seizures, in pounds, doubled between 2015 and 2016 and are on track to increase again in 2017. *Data are not available for 2001.*



Source: Minnesota Department of Public Safety

9 million children live in home where a parent or other adult uses illegal drugs

Children whose parents abuse alcohol and drugs are:

- *3 times more likely to be physically, verbally or sexually abused*
- *4 times more likely than other children to be neglected.*

SOURCES: Center for Addiction and Substance Abuse, CASA, Columbia University, 2005, and A Guide for Caring Adults Working with Young People Experiencing Addiction in the Family, Center for Substance Abuse Treatment, SAMHSA.

Children who experience child abuse and neglect are

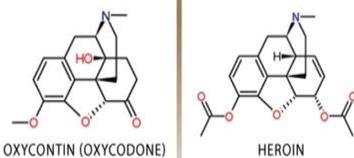
- *59% more likely to be arrested as a juvenile*
- *28% more likely to be arrested as an adult*
- *30% more likely to commit a violent crime*

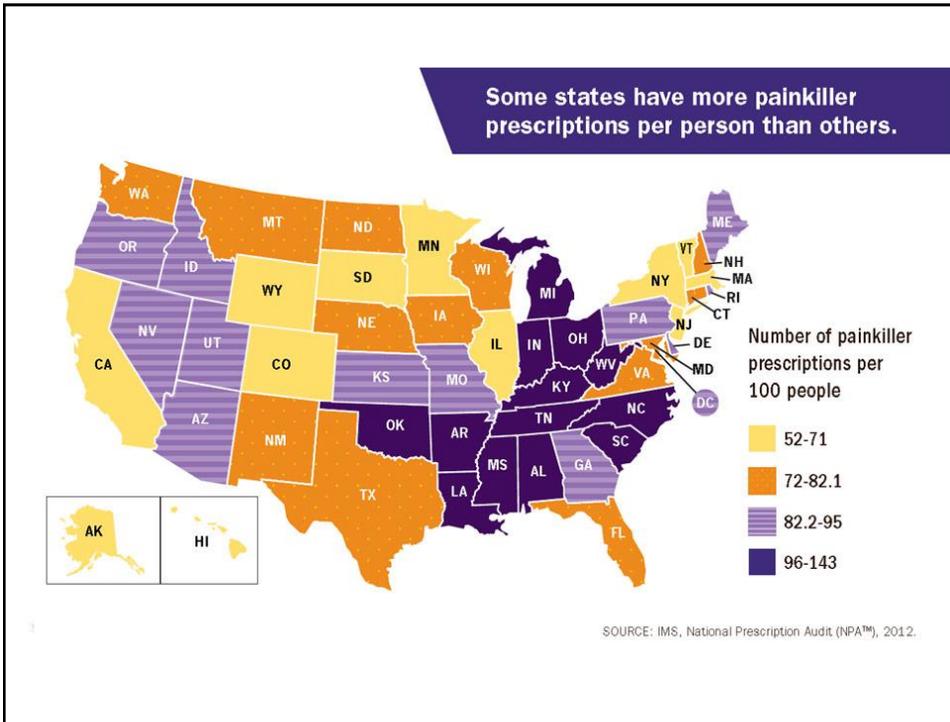
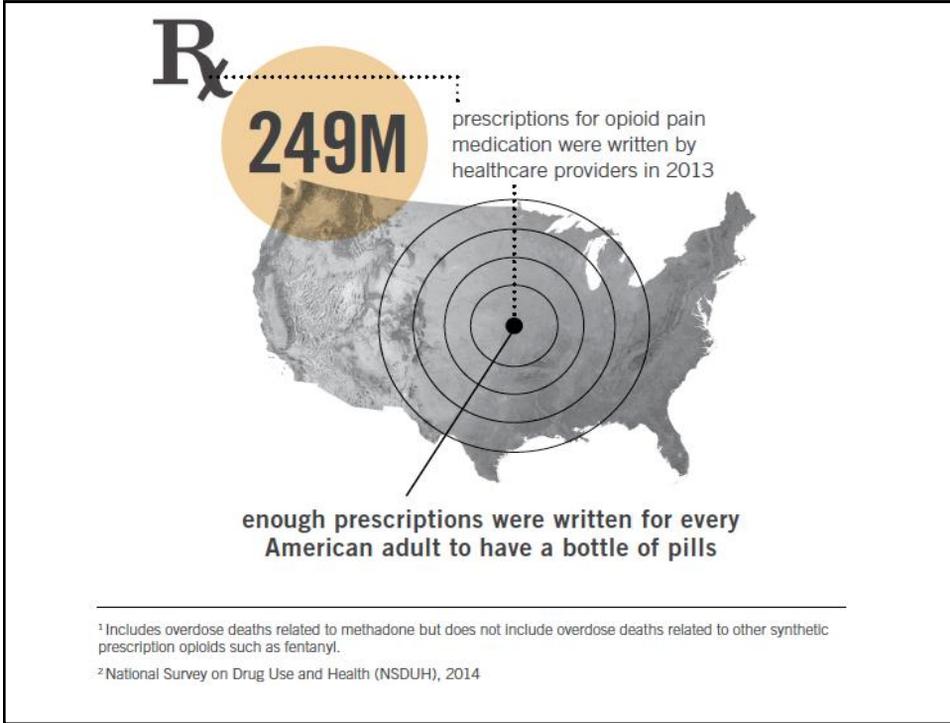
SOURCE: childhelp.org

- Opioids can depress breathing by changing neurochemical activity in the brain stem, where automatic body functions such as breathing and heart rate are controlled.
- Opioids can increase feelings of pleasure by altering activity in the limbic system, which controls emotions.
- Opioids can block pain messages transmitted through the spinal cord from the body.

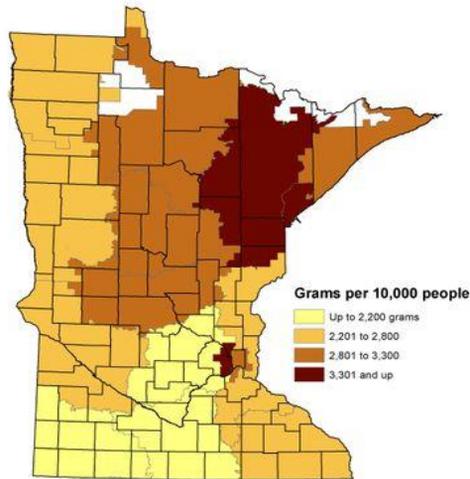
OPIOIDS:

- High abuse potential
- High addictive potential
- High overdose potential

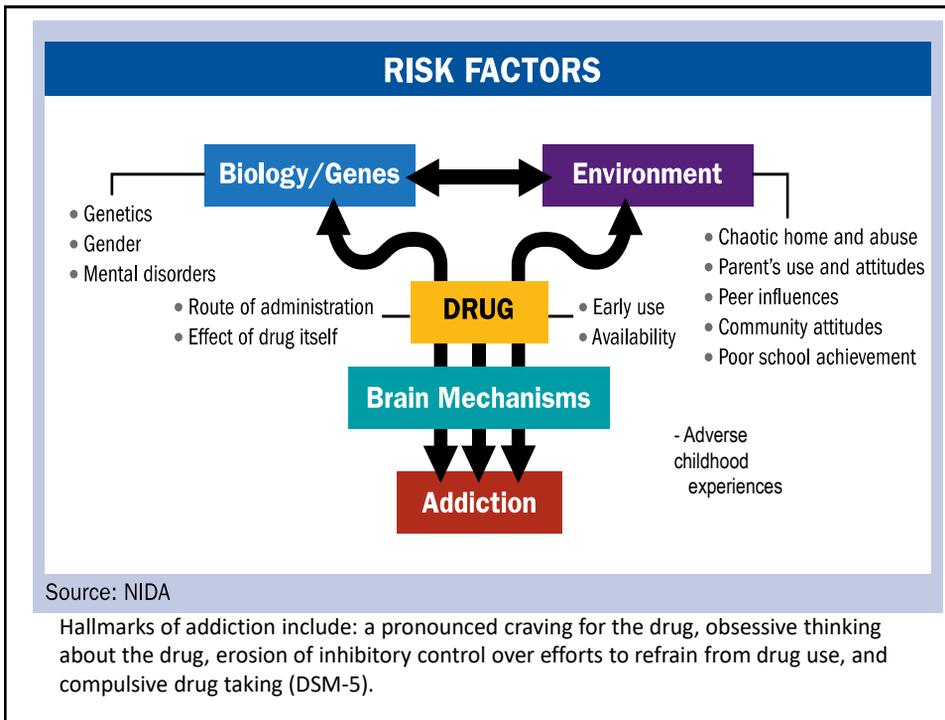




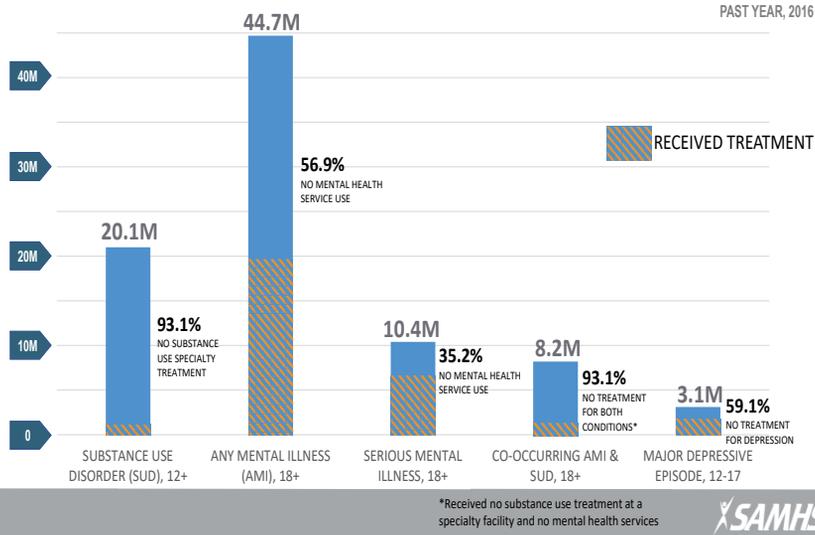
Prescription painkillers sold in Minnesota



SOURCE: Automation of Reports and Consolidated Orders System (ARCOS), U.S. Drug Enforcement Administration, 2012. Prescription opiate analgesics (painkillers) include: codeine, morphine, fentanyl (brand names: Sublimaze, Actiq, etc), hydrocodone (brand names: Vicodin, Lortab), hydromorphone (brand names: Dilaudid, Palladone), meperidine, pethidine (brand name: Demerol), and oxycodone (brand names: OxyContin, Percodan, Percocet). 2011 data.

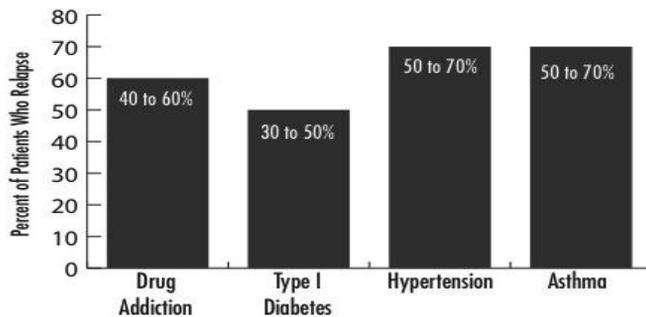


Most people who need specialized treatment for a drug or alcohol problem do not receive it



SOURCE: NSDUH 2016, SAMHSA

Comparison of relapse rates: Addiction vs. other chronic illnesses



SOURCE: Journal of the American Medical Association, 284 (13): 1689-1695, 2000.

Effective medications for opioid use disorders:

- Suboxone
- Methadone
- Extended release naltrexone (Vivitrol)

World Health Organization: “essential medicines”
Reduce craving, withdrawal. Restore balance to brain circuits affected by addiction.

They decrease opioid use, opioid overdose deaths, criminal activity, and infectious disease transmission, and increase social functioning, and Tx retention.

SOURCE: NIDA, <https://www.drugabuse.gov/publications/effective-treatments-opioid-addiction/effective-treatments-opioid-addiction>

MAT is NOT widely used**2008**

35% of opioid Tx programs used medications

2012

28% of opioid Tx programs used medications

SOURCE: NIDA, <https://www.drugabuse.gov/publications/effective-treatments-opioid-addiction/effective-treatments-opioid-addiction>

Rx Opioid Abuse

How'd we get here?



- Awash in pills
- Expanded use of opioids for long-term treatment of chronic pain
- DTC advertising of Rx drugs
- Inadequate medical education about addiction, pain management, and opioids
- Pain added as 5th vital sign
- Consumer satisfaction surveys tied to doctor payment
- Deceptive marketing practices of pharmaceutical companies

Letter: 1980 New England Journal of Medicine

Vol. 302 No. 2

CORRESPONDENCE

ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

To the Editor: Recently, we examined our current files to determine the incidence of narcotic addiction in 39,946 hospitalized medical patients¹ who were monitored consecutively. Although there were 11,882 patients who received at least one narcotic preparation, there were only four cases of reasonably well documented addiction in patients who had no history of addiction. The addiction was considered major in only one instance. The drugs implicated were meperidine in two patients,² Percodan in one, and hydromorphone in one. We conclude that despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.

JANE PORTER
HERSHEL JICK, M.D.
Boston Collaborative Drug
Surveillance Program

Waltham, MA 02154

Boston University Medical Center

1. Jick H, Mietinen OS, Shapiro S, Lewis GP, Siskind Y, Slone D.

As many as **1 in 4**



patients receiving long-term **opioid therapy** in primary care settings

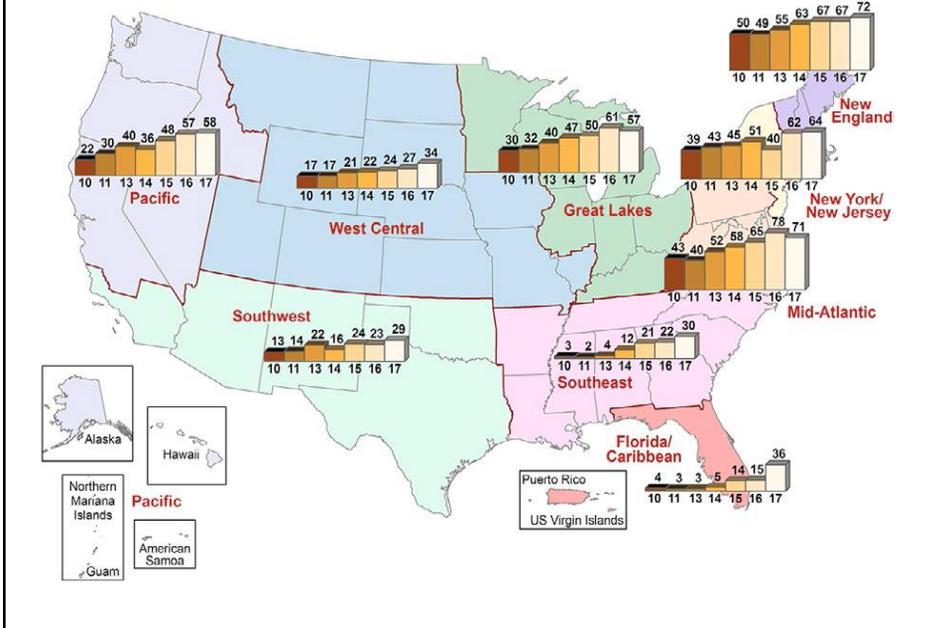


struggle with **opioid use disorder.**

SOURCE: CDC Guideline at https://www.cdc.gov/drugoverdose/pdf/guidelines_at-a-glance-a.pdf



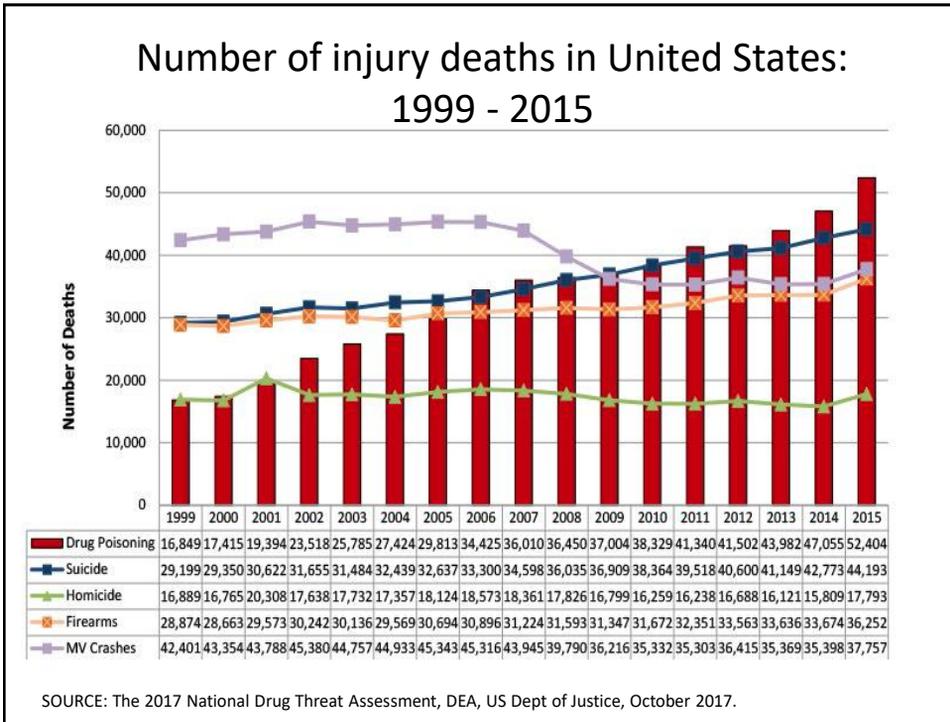
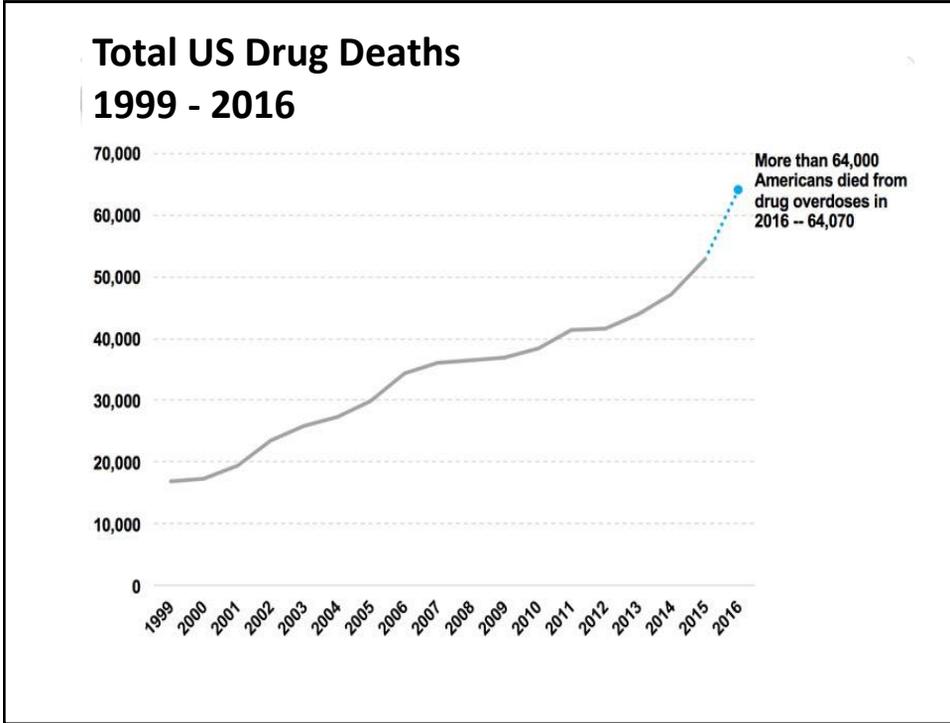
HEROIN: HIGH AVAILABILTY 2010 - 2017

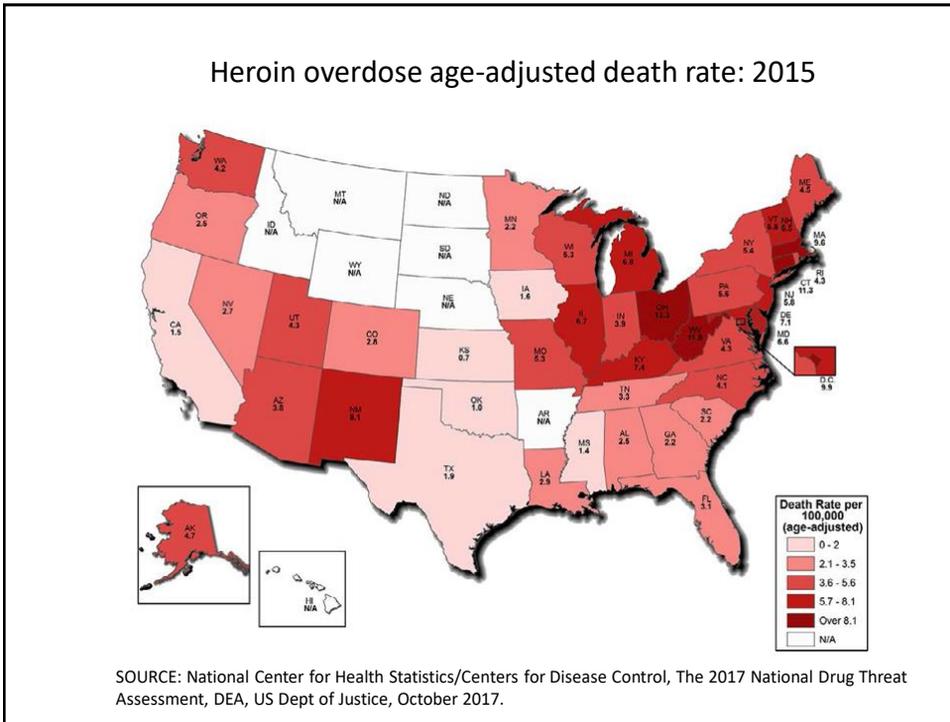
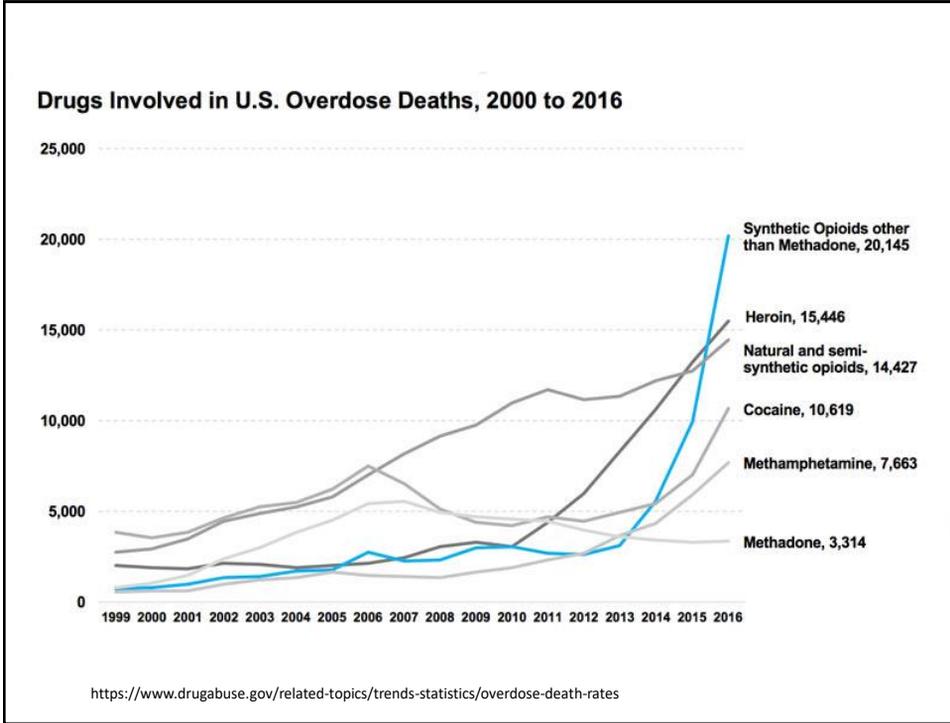


Drug crisis is pushing up death rates for almost all groups of Americans

Washington Post
June 9, 2017

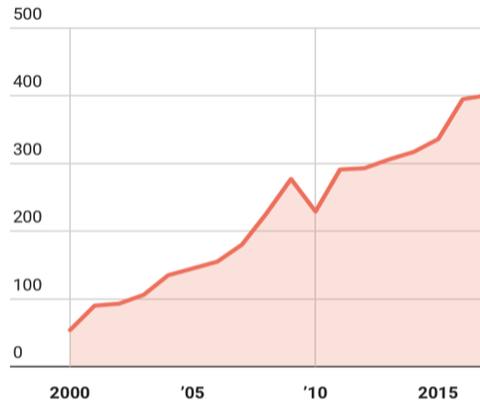
https://www.washingtonpost.com/national/health-science/the-drug-crisis-is-now-pushing-up-death-rates-for-almost-all-groups-of-americans/2017/06/09/971d8424-4aa1-11e7-a186-60c031eab644_story.html?utm_term=.eaa9b07534cc





Rising opioid-related deaths in Minnesota

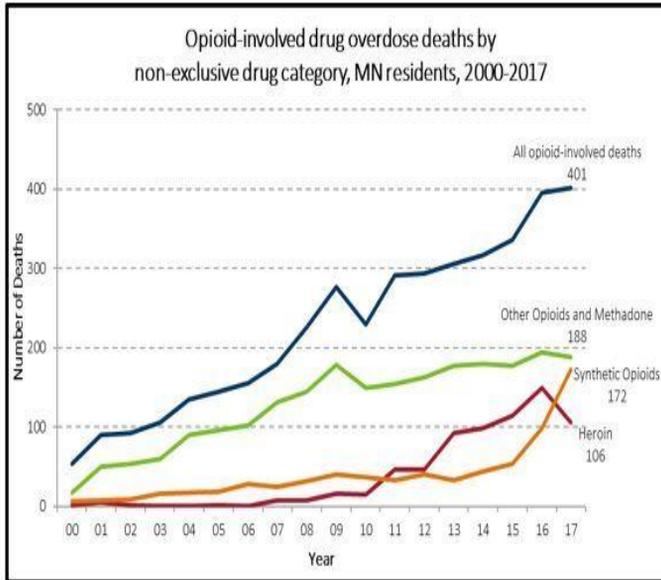
Deaths related to opioids:



Note: 2017 figure is preliminary

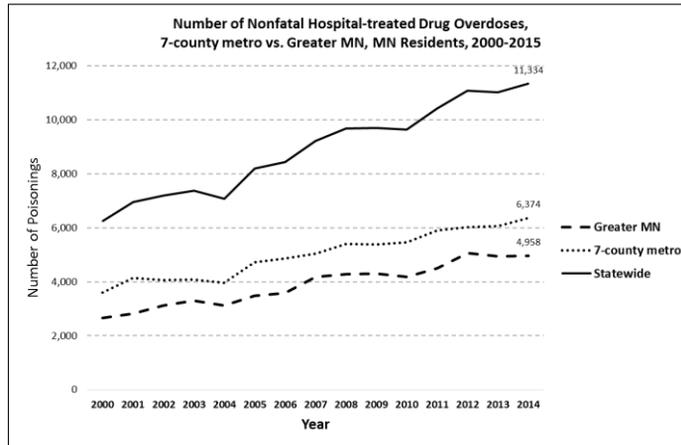
Chart: Eddie Thomas, Star Tribune • Source: Minnesota Department of Health • [Get the data](#) • [Created with Datawrapper](#)

Opioid-involved drug overdose deaths by non-exclusive drug category, MN residents, 2000-2017



NOTE: Data are preliminary and likely to change when finalized. Also the category other opioids and Methadone includes prescription opioids.

Hospital Drug Overdoses Follow Same Trend as Drug Overdose Deaths



SOURCE: Minnesota Department of Health, 11/21/2016.

Fentanyl = It is 50 to 100 times more potent than morphine. It is used medically and prescribed in the form of transdermal patches or lozenges and can be diverted for misuse and abuse.

Synthetic fentanyl and counterfeit pills

Counterfeit pharmaceuticals are fake products manufactured illegally in clandestine labs that resemble legitimate pharmaceutical drugs.

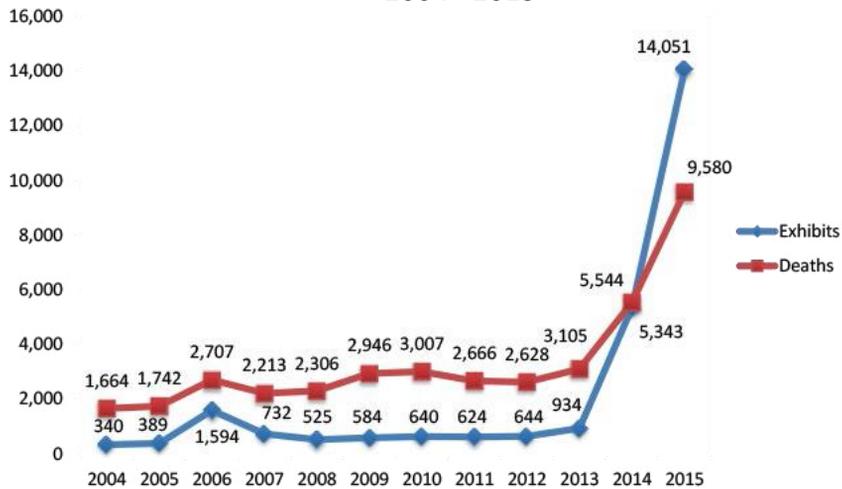
These synthetic opioids in tablets and powders dramatically increase the risk of overdose among people using them because their actual ingredients and dosage amounts are unknown.



On the left, a lethal dose of heroin; on the right, a lethal dose of fentanyl.

SOURCE: NEW HAMPSHIRE STATE POLICE FORENSIC LAB

Number of synthetic opioid deaths and fentanyl exhibits:
2004 - 2015



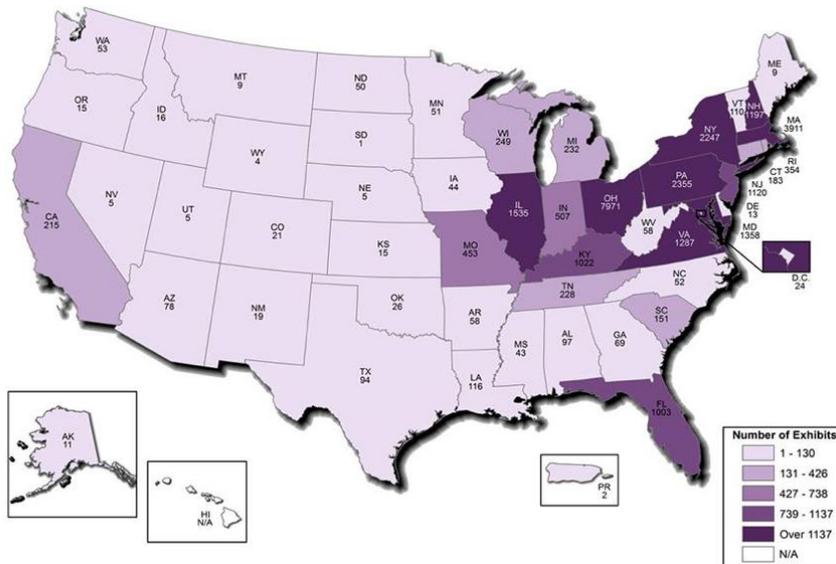
SOURCE: The 2017 National Drug Threat Assessment, DEA, US Dept of Justice, October 2017.

Nationwide the opioid epidemic
is killing nearly 200 people/day.

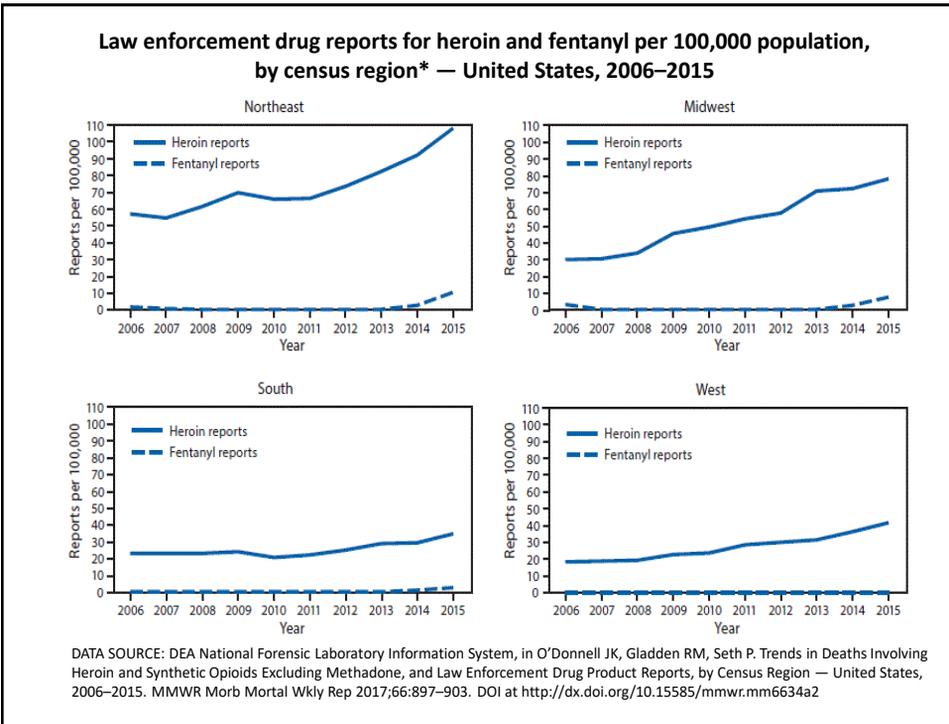
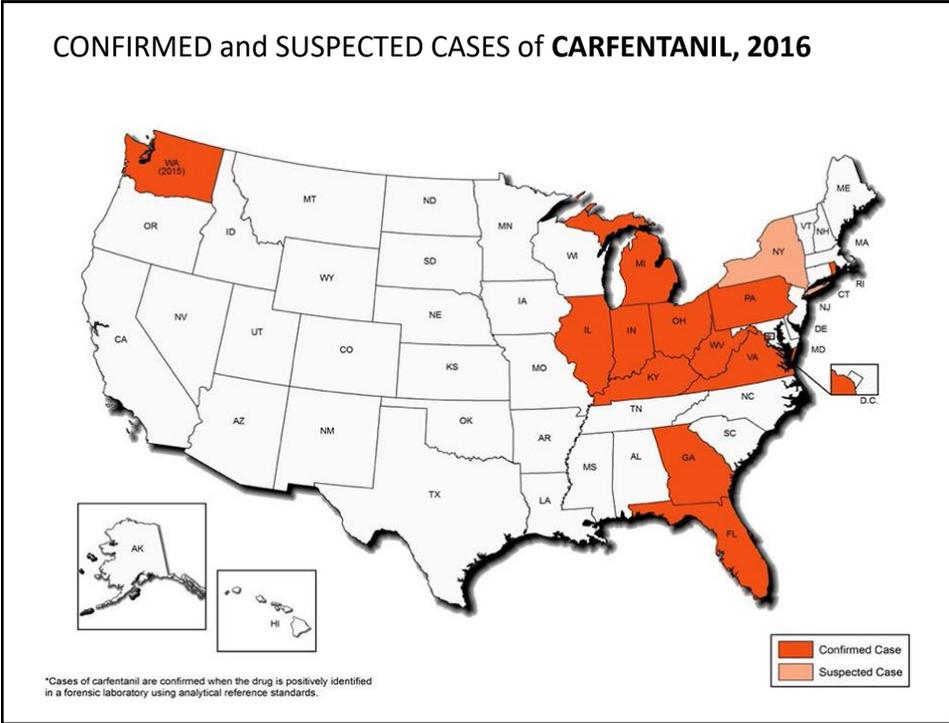
**In 2017 almost half of the
deaths involved fentanyl.**

SOURCE; <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2018/10/17/how-fentanyl-changes-the-opioid-equation>

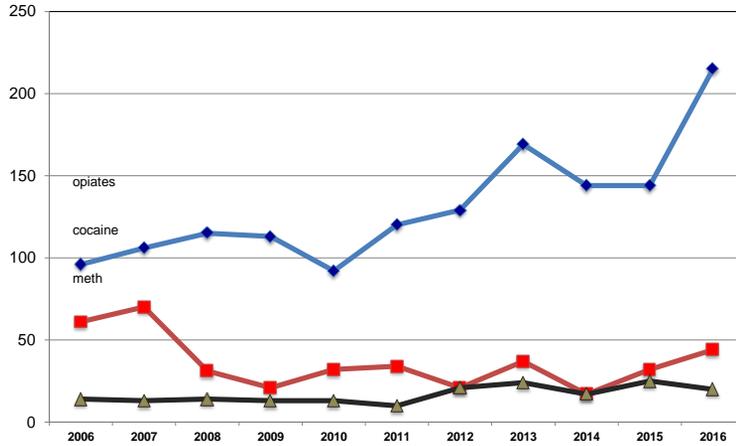
Number of fentanyl exhibits by state: 2016



SOURCE: The 2017 National Drug Threat Assessment, DEA, US Dept of Justice, October 2017.

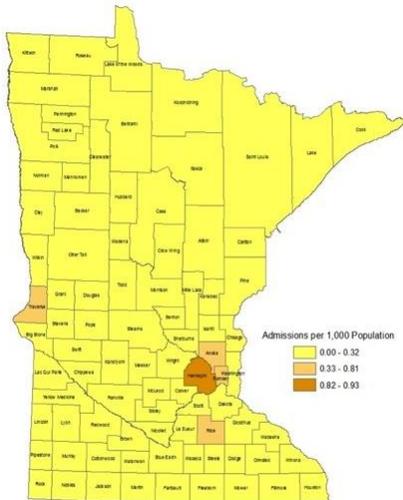


Hennepin County and Ramsey County combined drug abuse-related deaths: 2006 - 2016



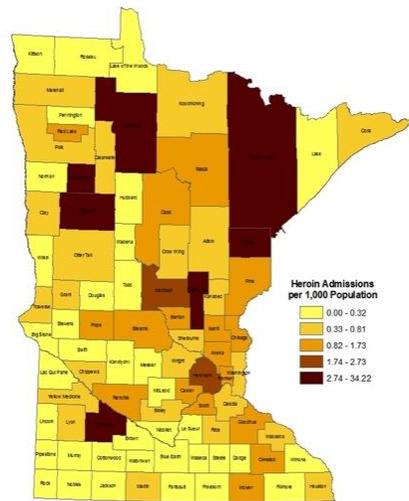
SOURCE: Hennepin County Medical Examiner and Ramsey County Medical Examiner, 2017.

Heroin Tx - 2007



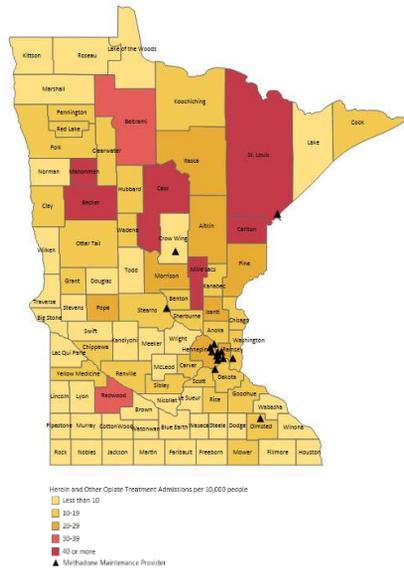
Source: Minnesota Department of Human Services, ADAD, DAANES (5/14/2015).

Heroin Tx - 2016



Source: Minnesota Department of Human Services, ADAD, DAANES (5/9/2017).

Appendix D: Heroin and other opiate treatment admissions per 10,000 people and methadone maintenance providers, by county, 2016



Responses to the Opioid Crisis:

- Task Forces – Federal guidelines (2011)
- Public health emergencies
- Tamper resistance formulations
- Rescheduling
- Increased criminal penalties
- State Prescription Monitoring Programs
- Naloxone/Good Samaritan laws
- CDC Guideline for Rxing Opioids for Pain
- Litigation

**County attorneys in Minnesota
file lawsuits against opioid
manufacturers**

November 30, 2017

**CDC Guideline for Prescribing Opioids for
Chronic Pain — United States, 2016**

March 18, 2016

Recommendations for the prescribing of opioid pain medication for patients 18 and older in primary care setting that focus on the use of opioids in treating chronic pain (pain lasting longer than 3 months or past the time of normal tissue healing) outside of active cancer treatment, palliative care, and end-of-life care.

<https://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm>

Clinical practices addressed:

- Determining when to initiate or continue opioids for chronic pain outside of active cancer treatment, palliative care, and end-of-life care
- Opioid selection, dosage, duration, follow-up, and discontinuation
- Assessing risk and addressing harms of opioid use



ASSESS. MANAGE. MONITOR.

www.cdc.gov

GUIDELINE FOR PRESCRIBING
OPIOIDS FOR CHRONIC PAIN

Myth:

Opioids are effective in the treatment of chronic pain

Reality:

While evidence supports the short-term effectiveness of opioids, there is insufficient evidence that opioids control chronic pain effectively over the long term, and there is evidence that other treatments can be effective with less harm.

GUIDELINE FOR
PRESCRIBING
OPIOIDS FOR
CHRONIC PAIN

www.cdc.gov

Myth:

There is no unsafe dose of opioids as long as opioids are titrated slowly

GUIDELINE FOR
PRESCRIBING
OPIOIDS FOR
CHRONIC PAIN

www.cdc.gov

Reality:

Daily opioid dosages close to or greater than 90MME/day are associated with significant risks and lower dosages are safer.

Myth:

The risk of addiction is minimal

GUIDELINE FOR
PRESCRIBING
OPIOIDS FOR
CHRONIC PAIN

www.cdc.gov

Reality:

Up to one quarter of patients receiving prescription opioids long terms in a primary care setting struggles with addiction. Certain risk factors increase susceptibility to opioid-associated harms: history of overdose, history of substance use disorder, higher opioid dosages, or concurrent benzodiazepine use.

GUIDELINE FOR
PRESCRIBING
OPIOIDS FOR
CHRONIC PAIN

www.cdc.gov

Even at low doses,
taking an opioid for more than 3 months
increases the risk of addiction by **15 times**.

Average days supply per prescription: 2006 to 2015.

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
13.3	13.9	14.5	15.0	15.5	16.0	16.4	16.9	17.2	
17.7									

SOURCE: CDC Vital Signs, July 2017

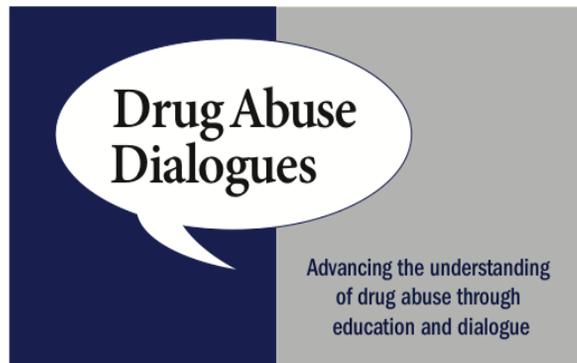
Addressing a drug epidemic:

- **Law enforcement/curtail supply**
- **Prevention**
- **Access to evidence-based addiction treatment services**

Addressing the OPIOID epidemic:

Changes medical practice:

- CDC Guideline/Rethink opioid use for chronic pain
- Expand medical education about addiction/pain
- Screening for SUDs
- New pain management tools
- Use of Rx monitoring programs
- Expand access to science-based treatment for opioid addicted patients



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