Opioid and Other Substance Use Disorders: Origins and Scope of the Problem

Robert Valuck, PhD, RPh, FNAP

Departments of Clinical Pharmacy, Epidemiology, and Family Medicine
Director, Colorado Consortium for Prescription Drug Abuse Prevention

Presentation to the Colorado General Assembly
Opioid and Other Substance Use Disorders Interim Study Committee

July 10, 2017

Objectives

- Table setting: terms and definitions (and why we should care)
- Scope of substance use disorders problem in the U.S.
- Discuss factors contributing to the growth in opioid and other substance use disorders
- Highlights from the *Surgeon General's Report on Alcohol, Drugs, and Health* to help frame the discussion

Preferred Terms and Definitions

- **Substance:** A psychoactive compound with the potential to cause health and social problems, including substance use disorders (and their most severe manifestation, addiction). Substances include alcohol, illicit drugs, Rx medications used for non-medical purposes, and over-the-counter drugs and other substances such as inhalants (nicotine, cannabis).

Preferred Terms and Definitions

- **Substance:** A psychoactive compound with the potential to cause health and social problems, including substance use disorders (and their most severe manifestation, addiction). Substances include alcohol, illicit drugs, Rx medications used for non-medical purposes, and over-the-counter drugs and other substances such as inhalants (nicotine, cannabis).
- **Substance Use:** The use—even one time—of any substance.

Preferred Terms and Definitions

- **Substance:** A psychoactive compound with the potential to cause health and social problems, including substance use disorders (and their most severe manifestation, addiction). Substances include alcohol, illicit drugs, Rx medications used for non-medical purposes, and over-the-counter drugs and other substances such as inhalants (nicotine, cannabis).
- **Substance Use:** The use—even one time—of any substance.
- **Substance Misuse (not "Abuse"):** The use of any substance in a manner, situation, amount, or frequency that can cause harm to users or to those around them. For some substances or individuals, any use is considered misuse (e.g., underage drinking, heroin use).

Preferred Terms and Definitions

- **Substance Misuse Problems (Consequences):** Any health or social problem that results from substance misuse. Substance misuse problems may affect the substance user or those around them, and they may be acute (an argument or fight, a motor vehicle crash, an overdose) or chronic (a long-term substance-related medical, family, or employment problem, or chronic medical condition, such as cancer or liver disease).

Preferred Terms and Definitions

- **Substance Misuse Problems (Consequences):** Any health or social problem that results from substance misuse. Substance misuse problems may affect the substance user or those around them, and they may be acute (an argument or fight, a motor vehicle crash, an overdose) or chronic (a long-term substance-related medical, family, or employment problem, or chronic medical condition, such as cancer or liver disease).
- **Substance Use Disorder:** A medical illness caused by repeated misuse of a substance or substances. A severe substance use disorder is commonly called an addiction.

Preferred Terms and Definitions

- **Intervention:** A professionally delivered program, or policy designed to prevent substance misuse (prevention intervention) or treat a substance use disorder (treatment intervention).

Preferred Terms and Definitions

- **Intervention:** A professionally delivered program, or policy designed to prevent substance misuse (prevention intervention) or treat a substance use disorder (treatment intervention).
- **Recovery:** A process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential. Even individuals with severe substance use disorders can, with help, overcome them and regain health and social function. This is called **remission**. When these changes are voluntary, that is called being in **recovery**.

Preferred Terms and Definitions

- **Intervention:** A professionally delivered program, or policy designed to prevent substance misuse (prevention intervention) or treat a substance use disorder (treatment intervention).
- **Recovery:** A process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential. Even individuals with severe substance use disorders can, with help, overcome them and regain health and social function. This is called **remission**. When these changes are voluntary, that is called being in **recovery**.
- **Relapse:** The return to substance use after a significant period of abstinence. Relapse is common, and does not equate to treatment failure. According to NIDA, addiction is a chronic, relapsing and remitting brain disease.

What's the big deal?


1 in 7
people
will develop a substance use disorder at some point in their lives.
Source: Kessler et al., 2005.

Substance Use Disorders in the U.S.

- **Alcohol Use Disorder:** Over half of the US population consumes alcohol (176M); 17M have an alcohol use disorder.
- **Tobacco Use Disorder:** Nearly 25% of the US population uses tobacco (67M); causes over 480,000 deaths per year.
- **Cannabis Use Disorder:** 22.2M Americans age 12 or older report cannabis use in past month; CUD is rapidly growing.
- **Stimulant Use Disorder:** 1.5M Americans have a stimulant use disorder (cocaine, amphetamines/methamphetamine).
- **Opioid Use Disorder:** Over 2M Americans have an OUD relating to Rx Opioids; another 0.8M relating to heroin; and now approximately 0.2M from fentanyl/synthetics.

SAMHSA: Substance Use Disorders; 2015.
At: www.samhsa.gov/disorders/substance-use

Reasons for Concern

Table 1.2: Past Year Substance Use, Past Year Initiation of Substance Use, and Met Diagnostic Criteria for a Substance Use Disorder in the Past Year Among Persons Aged 12 Years or Older for Specific Substances: Numbers in Millions and Percentages, 2015 National Survey on Drug Use and Health (NSDUH)

Substance	Past Year Use or Misuse[v]		Past Year Initiation Among Total Population[vi]		Met Diagnostic Criteria for a Substance Use Disorder[vi,vii]	
	#	%	#	%	#	%
Alcohol	175.8	65.7	4.8	1.8	15.7	5.9
Drinking Pattern						
Binge Drinking[i]	66.7	24.9	da	da	da	da
Heavy Drinking[i]	17.3	6.5	da	da	da	da
Any Illicit Drug[ii]	47.7	17.8	nr	nr	7.7	2.9
Cocaine/Crack	36.0	1.8	1.0	0.4	0.9	0.3
Heroin	0.8	0.3	0.1	0.1	0.6	0.2
Hallucinogens	4.7	1.8	1.2	0.4	0.3	0.1
Marijuana[iii]	36.0	13.5	2.6	1.0	4.0	1.5
Inhalants	1.8	0.7	0.6	0.2	0.1	0.0
Misuse of Psychotherapeutics[iv]	18.9	7.1	nr	nr	2.7	1.0
Pain Relievers	12.5	4.7	2.1	0.8	2.0	0.8
Tranquilizers	6.1	2.3	1.4	0.5	0.7	0.3
Stimulants	5.3	2.0	1.3	0.5	0.4	0.2
Sedatives	1.5	0.6	0.4	0.2	0.2	0.1
Alcohol or Any Illicit Drugs[ii]	182.3	68.1	nr	nr	20.8	7.8
Alcohol and Any Illicit Drugs[ii]	41.3	15.4	nr	nr	2.7	1.0

Notes: Past year initiates are defined as persons who used the substance(s) for the first time in the 12 months before the date of interview. The "nr = not reported due to measurement issues" notation indicates that the estimate could be calculated based on available data but is not calculated due to potential measurement issues. The "da" indication means does not apply.

Reasons for Concern

Table 1.2: Past Year Substance Use, Past Year Initiation of Substance Use, and Met Diagnostic Criteria for a Substance Use Disorder in the Past Year Among Persons Aged 12 Years or Older for Specific Substances: Numbers in Millions and Percentages, 2015 National Survey on Drug Use and Health (NSDUH)

Substance	Past Year Use or Misuse[v]		Past Year Initiation Among Total Population[vi]		Met Diagnostic Criteria for a Substance Use Disorder[vi,vii]	
	#	%	#	%	#	%
Alcohol	175.8	65.7	4.8	1.8	15.7	5.9
Drinking Pattern						
Binge Drinking[i]	66.7	24.9	da	da	da	da
Heavy Drinking[i]	17.3	6.5	da	da	da	da
Any Illicit Drug[ii]	47.7	17.8	nr	nr	7.7	2.9
Cocaine/Crack	36.0	1.8	1.0	0.4	0.9	0.3
Heroin	0.8	0.3	0.1	0.1	0.6	0.2
Hallucinogens	4.7	1.8	1.2	0.4	0.3	0.1
Marijuana[iii]	36.0	13.5	2.6	1.0	4.0	1.5
Inhalants	1.8	0.7	0.6	0.2	0.1	0.0
Misuse of Psychotherapeutics[iv]	18.9	7.1	nr	nr	2.7	1.0
Pain Relievers	12.5	4.7	2.1	0.8	2.0	0.8
Tranquilizers	6.1	2.3	1.4	0.5	0.7	0.3
Stimulants	5.3	2.0	1.3	0.5	0.4	0.2
Sedatives	1.5	0.6	0.4	0.2	0.2	0.1
Alcohol or Any Illicit Drugs[ii]	182.3	68.1	nr	nr	20.8	7.8
Alcohol and Any Illicit Drugs[ii]	41.3	15.4	nr	nr	2.7	1.0

Notes: Past year initiates are defined as persons who used the substance(s) for the first time in the 12 months before the date of interview. The "nr = not reported due to measurement issues" notation indicates that the estimate could be calculated based on available data but is not calculated due to potential measurement issues. The "da" indication means does not apply.

Reasons for Concern

Table 1.2: Past Year Substance Use, Past Year Initiation of Substance Use, and Met Diagnostic Criteria for a Substance Use Disorder in the Past Year Among Persons Aged 12 Years or Older for Specific Substances: Numbers in Millions and Percentages, 2015 National Survey on Drug Use and Health (NSDUH)

Substance	Past Year Use or Misuse[v]		Past Year Initiation Among Total Population[vi]		Met Diagnostic Criteria for a Substance Use Disorder[vi,vii]	
	#	%	#	%	#	%
Alcohol	175.8	65.7	4.8	1.8	15.7	5.9
Drinking Pattern						
Binge Drinking[i]	66.7	24.9	da	da	da	da
Heavy Drinking[i]	17.3	6.5	da	da	da	da
Any Illicit Drug[ii]	47.7	17.8	nr	nr	7.7	2.9
Cocaine/Crack	36.0	1.8	1.0	0.4	0.9	0.3
Heroin	0.8	0.3	0.1	0.1	0.6	0.2
Hallucinogens	4.7	1.8	1.2	0.4	0.3	0.1
Marijuana[iii]	36.0	13.5	2.6	1.0	4.0	1.5
Inhalants	1.8	0.7	0.6	0.2	0.1	0.0
Misuse of Psychotherapeutics[iv]	18.9	7.1	nr	nr	2.7	1.0
Pain Relievers	12.5	4.7	2.1	0.8	2.0	0.8
Tranquilizers	6.1	2.3	1.4	0.5	0.7	0.3
Stimulants	5.3	2.0	1.3	0.5	0.4	0.2
Sedatives	1.5	0.6	0.4	0.2	0.2	0.1
Alcohol or Any Illicit Drugs[ii]	182.3	68.1	nr	nr	20.8	7.8
Alcohol and Any Illicit Drugs[ii]	41.3	15.4	nr	nr	2.7	1.0

Notes: Past year initiates are defined as persons who used the substance(s) for the first time in the 12 months before the date of interview. The "nr = not reported due to measurement issues" notation indicates that the estimate could be calculated based on available data but is not calculated due to potential measurement issues. The "da" indication means does not apply.

Reasons for Concern

Table 1.2: Past Year Substance Use, Past Year Initiation of Substance Use, and Met Diagnostic Criteria for a Substance Use Disorder in the Past Year Among Persons Aged 12 Years or Older for Specific Substances: Numbers in Millions and Percentages, 2015 National Survey on Drug Use and Health (NSDUH)

Substance	Past Year Use or Misuse[v]		Past Year Initiation Among Total Population[vi]		Met Diagnostic Criteria for a Substance Use Disorder[vi,vii]	
	#	%	#	%	#	%
Alcohol	175.8	65.7	4.8	1.8	15.7	5.9
Drinking Pattern						
Binge Drinking[i]	66.7	24.9	da	da	da	da
Heavy Drinking[i]	17.3	6.5	da	da	da	da
Any Illicit Drug[ii]	47.7	17.8	nr	nr	7.7	2.9
Cocaine/Crack	36.0	1.8	1.0	0.4	0.9	0.3
Heroin	0.8	0.3	0.1	0.1	0.6	0.2
Hallucinogens	4.7	1.8	1.2	0.4	0.3	0.1
Marijuana[iii]	36.0	13.5	2.6	1.0	4.0	1.5
Inhalants	1.8	0.7	0.6	0.2	0.1	0.0
Misuse of Psychotherapeutics[iv]	18.9	7.1	nr	nr	2.7	1.0
Pain Relievers	12.5	4.7	2.1	0.8	2.0	0.8
Tranquilizers	6.1	2.3	1.4	0.5	0.7	0.3
Stimulants	5.3	2.0	1.3	0.5	0.4	0.2
Sedatives	1.5	0.6	0.4	0.2	0.2	0.1
Alcohol or Any Illicit Drugs[ii]	182.3	68.1	nr	nr	20.8	7.8
Alcohol and Any Illicit Drugs[ii]	41.3	15.4	nr	nr	2.7	1.0

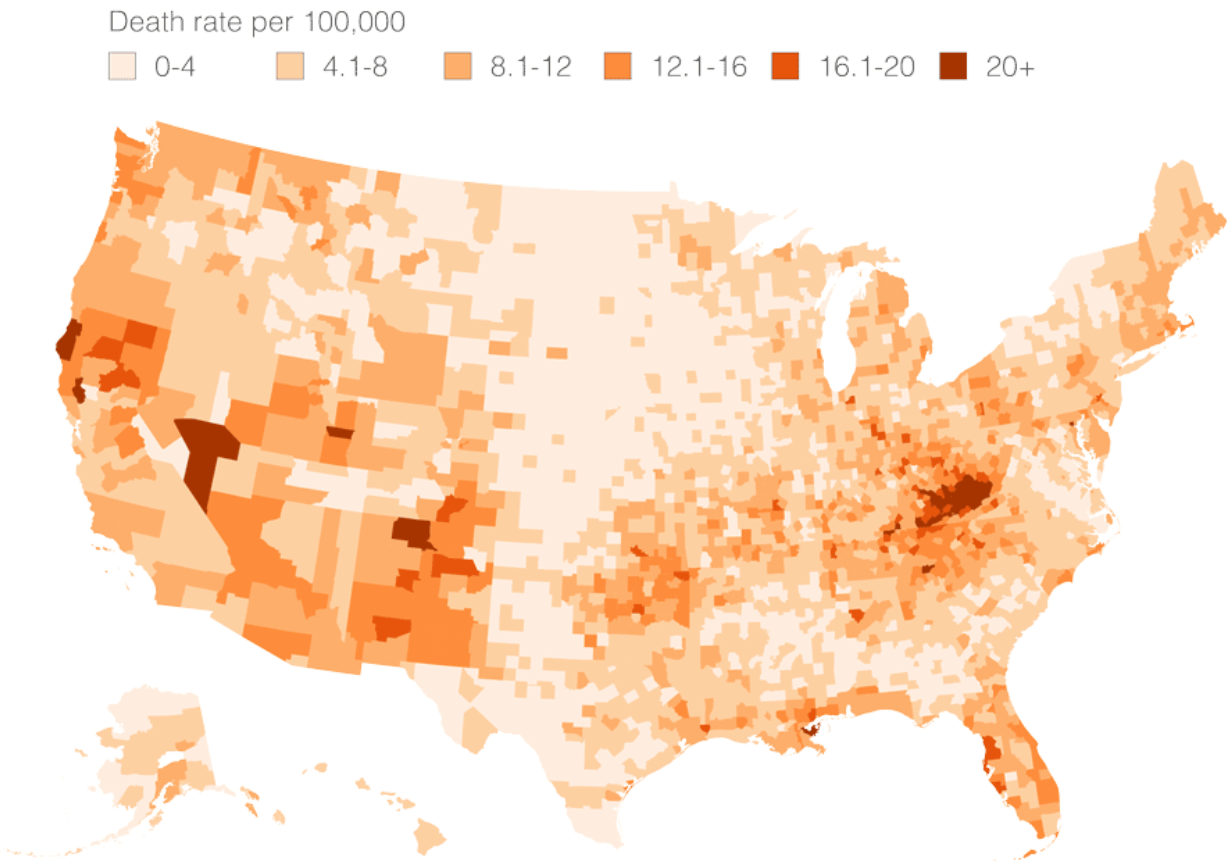
Notes: Past year initiates are defined as persons who used the substance(s) for the first time in the 12 months before the date of interview. The "nr = not reported due to measurement issues" notation indicates that the estimate could be calculated based on available data but is not calculated due to potential measurement issues. The "da" indication means does not apply.

Drug Overdose Mortality

- In 2015, over 51,000 people died from drug overdoses in the United States
  - One every 11 minutes (4 more during this presentation)
  - Nearly 2/3 of those deaths involved prescription drugs
  - “Painkillers” (opioids) were involved in 75% of those deaths
- In Colorado, drug overdose deaths now number 869/yr (2015)
- Since 2002, more overdose deaths have involved Rx opioids than heroin, cocaine, and meth combined
- The problem knows no regional, gender, age, income, or other bounds: it is truly an epidemic (CDC: top four)

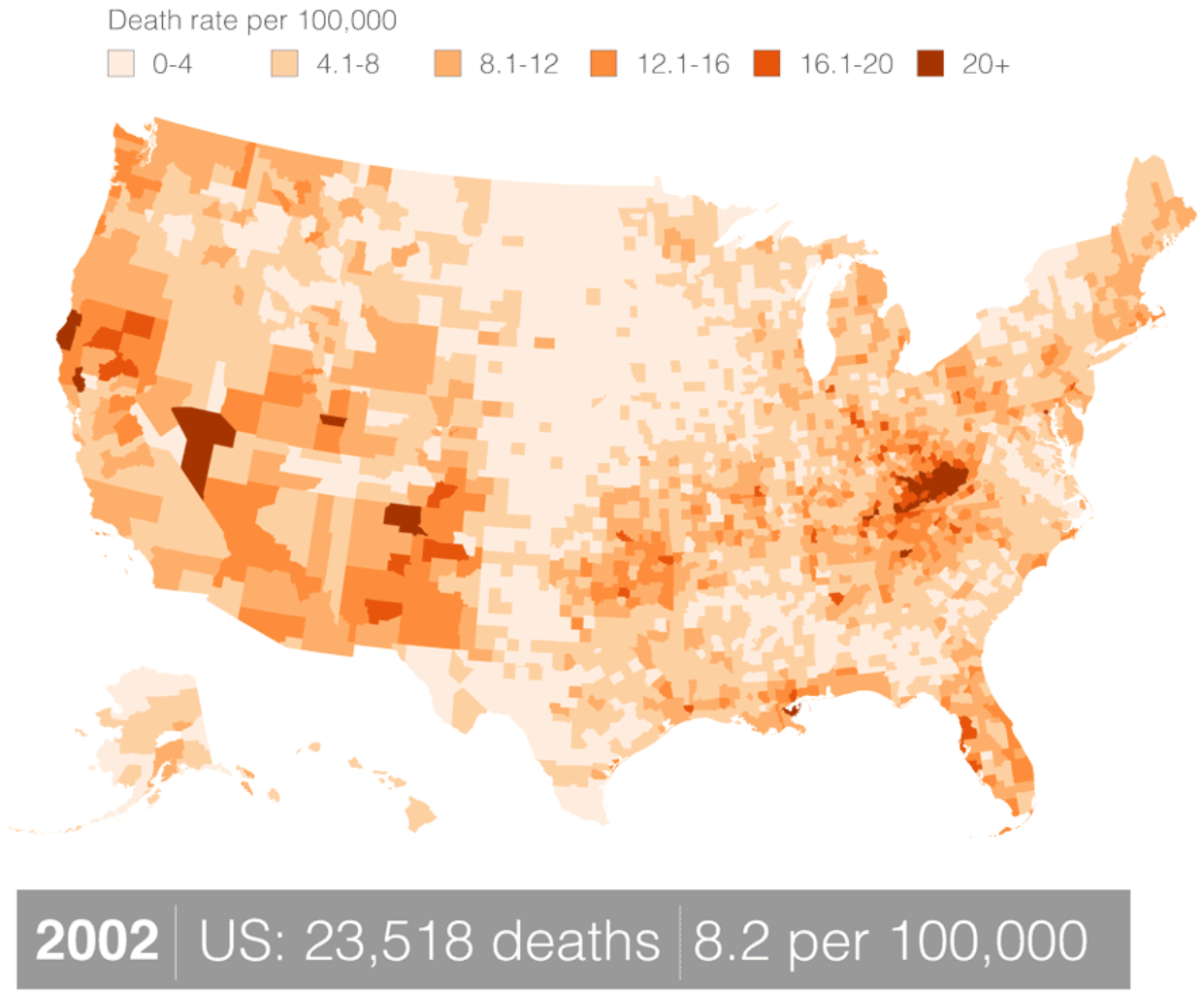
CDC/MMWR Jan 13, 2012; 61(01):10-13.
Colorado Rx Abuse Task Force data.
SAMSHA: NSDUH 2011 survey.

Overdose Deaths in the US: 2002-2014

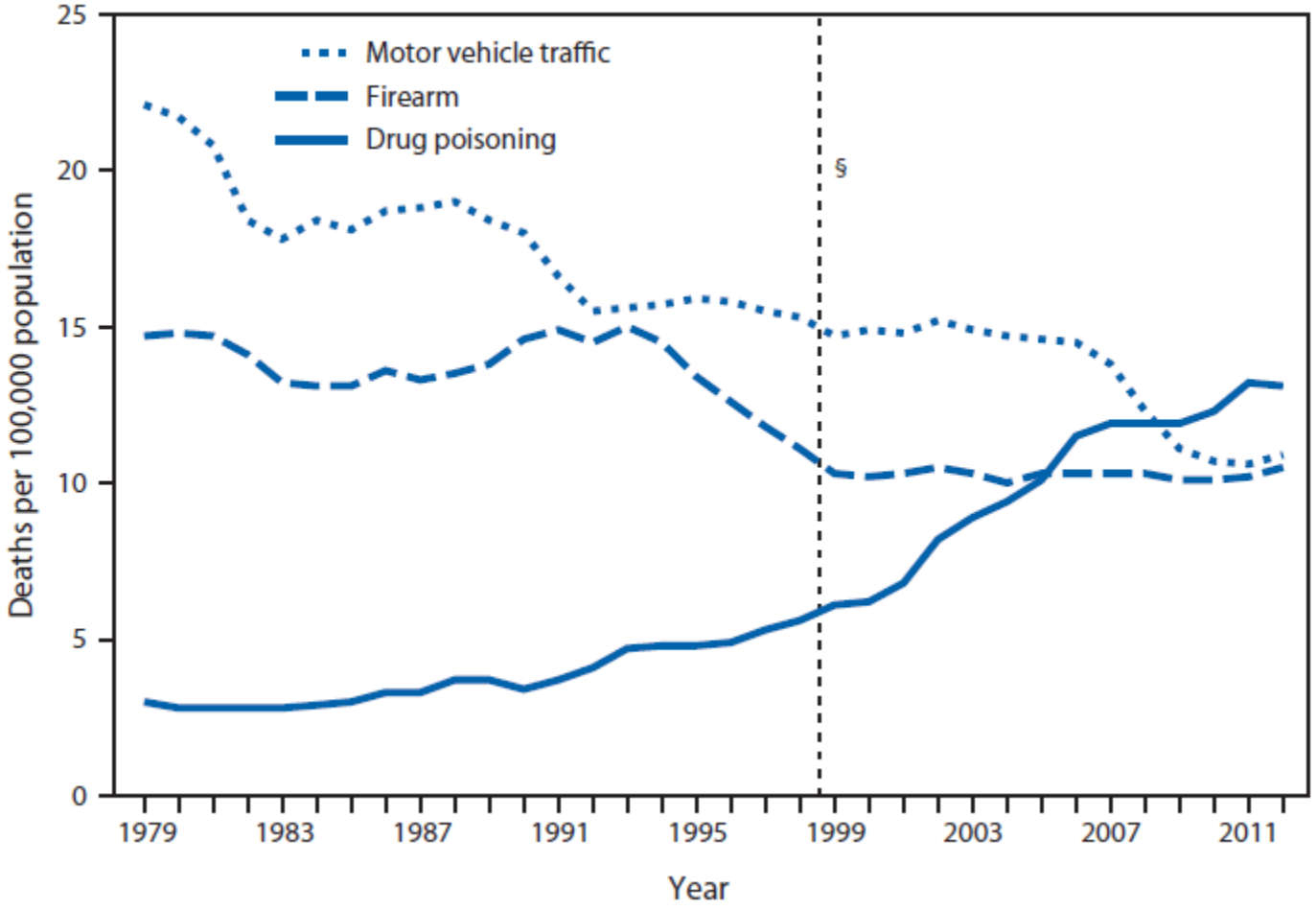


2002 | US: 23,518 deaths | 8.2 per 100,000

Overdose Deaths in the US: 2002-2014

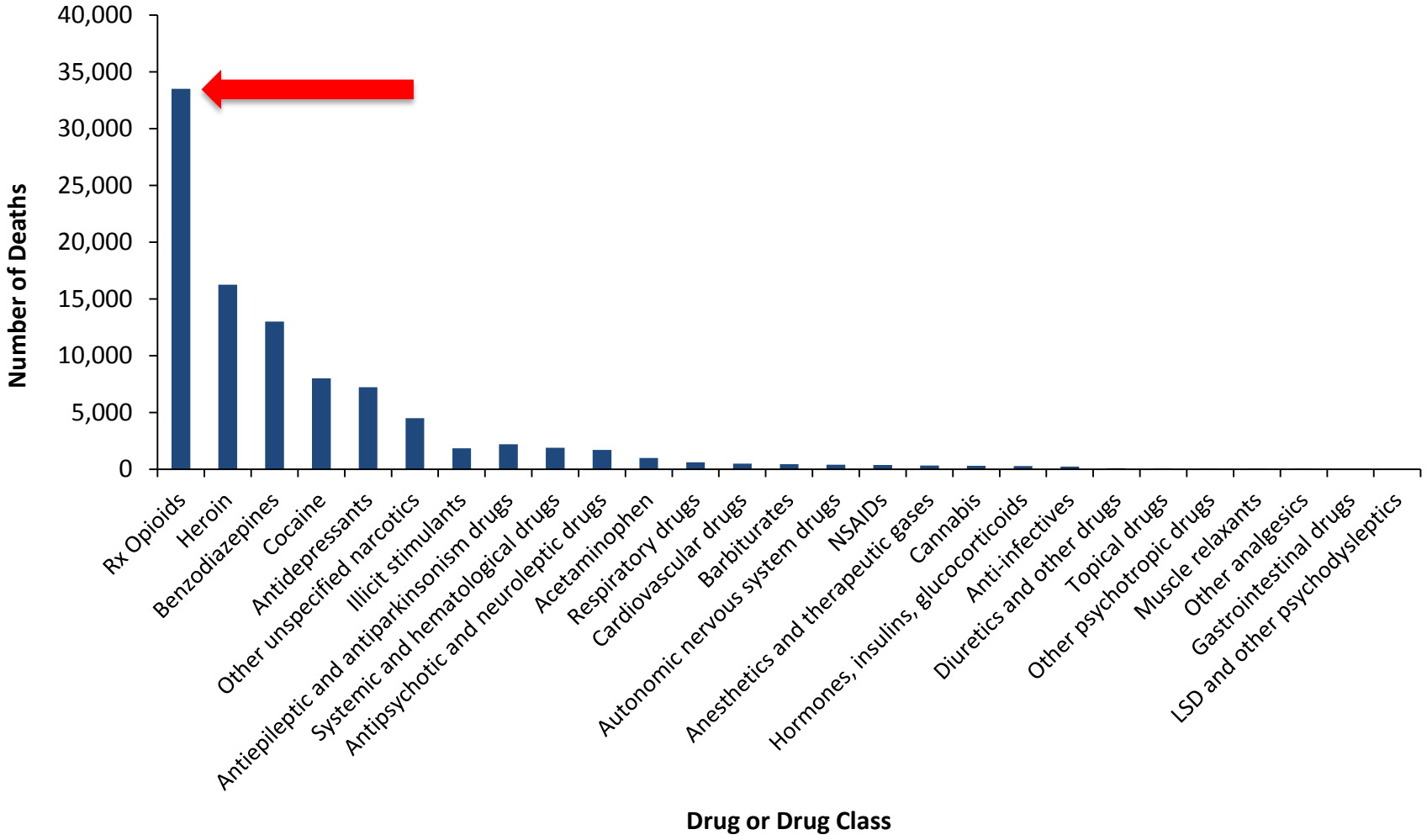


Drug Overdose Death Rates in the US

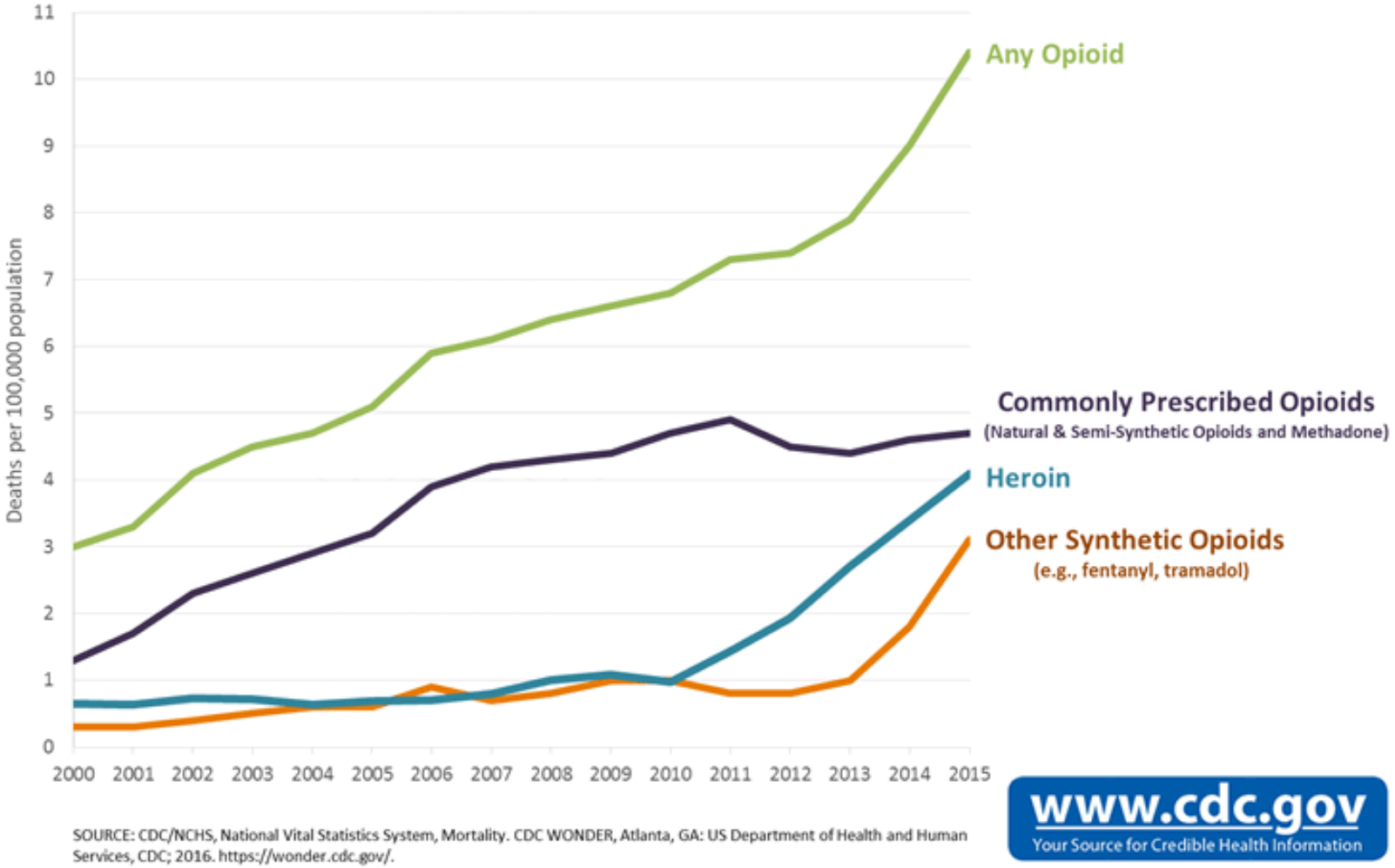


CDC WONDER data file, Nov 21, 2014; 63(46);1095.

Prescription Opioids: primary driver of Drug Overdose Deaths in United States in 2015



Overdose Deaths Involving Opioids, United States, 2000-2015

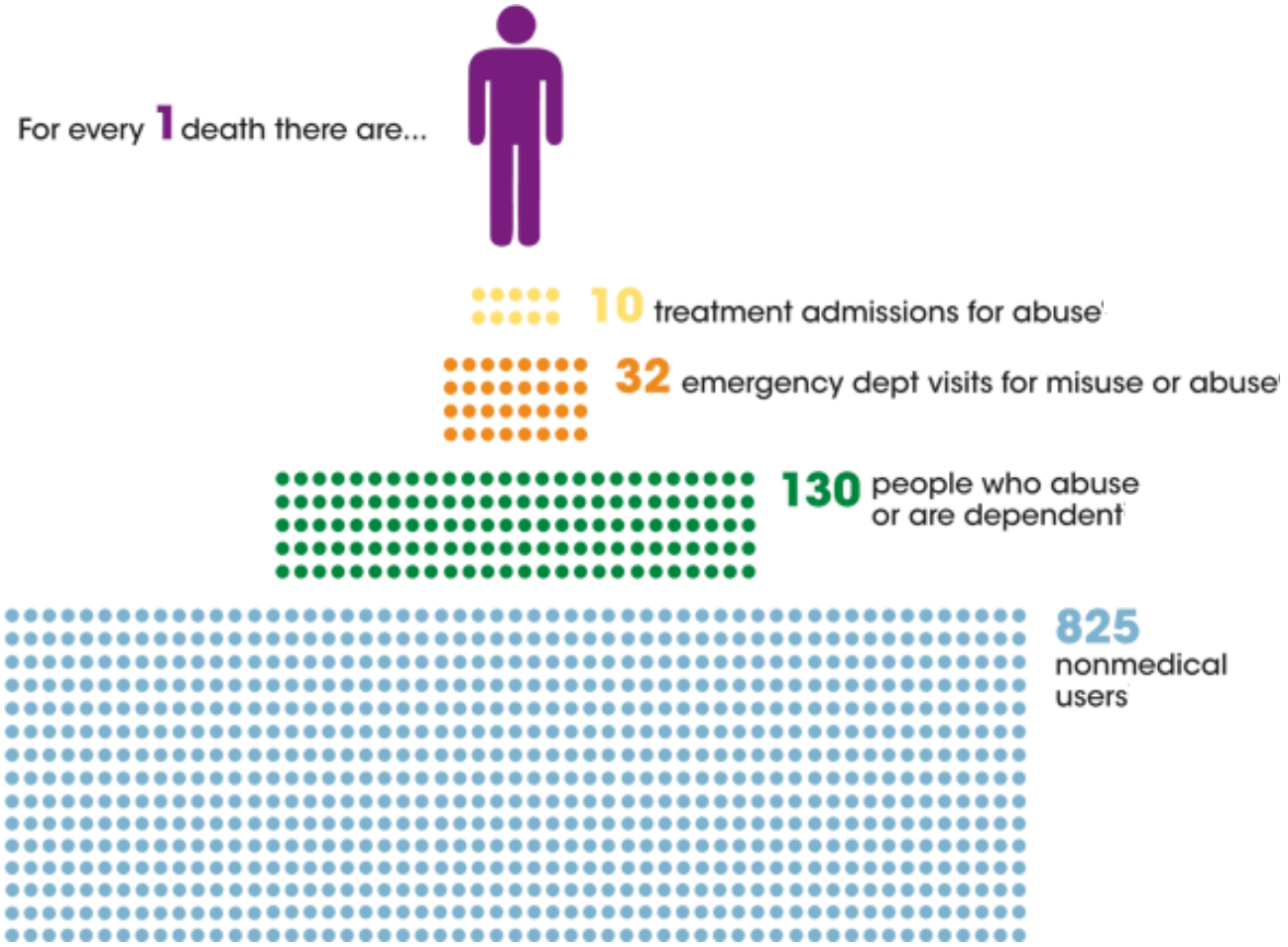


SOURCE: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2016. https://wonder.cdc.gov/.

www.cdc.gov
Your Source for Credible Health Information

Deaths are the Tip of the Iceberg

For every opioid overdose death in 2013 there were…



University of Colorado
Boulder | Colorado Springs | Denver | Anschutz Medical Campus

SAMHSA NSDUH, DAWN, TEDS data sets

Coalition Against Insurance Fraud. Prescription for Peril. http://www.insurancefraud.org/downloads/drugDiversion.pdf, 2007.

Office of the Governor

Costs of Substance Abuse in the U.S.

	Health Care Costs	Overall Costs
Tobacco	$ 168 Billion	$ 300 Billion
Alcohol	$ 27 Billion	$ 249 Billion
Rx Opioids	$ 26 Billion	$ 79 Billion
Illicit Drugs (includes: heroin, fentanyl, cocaine, meth)	$ 11 Billion	$ 193 Billion
TOTAL	**$ 232 Billion**	**$ 821 Billion**

Surgeon General's Report on Alcohol, Drugs, and Health; 2016. At: addiction.surgeongeneral.com

Costs of Substance Abuse in the U.S.

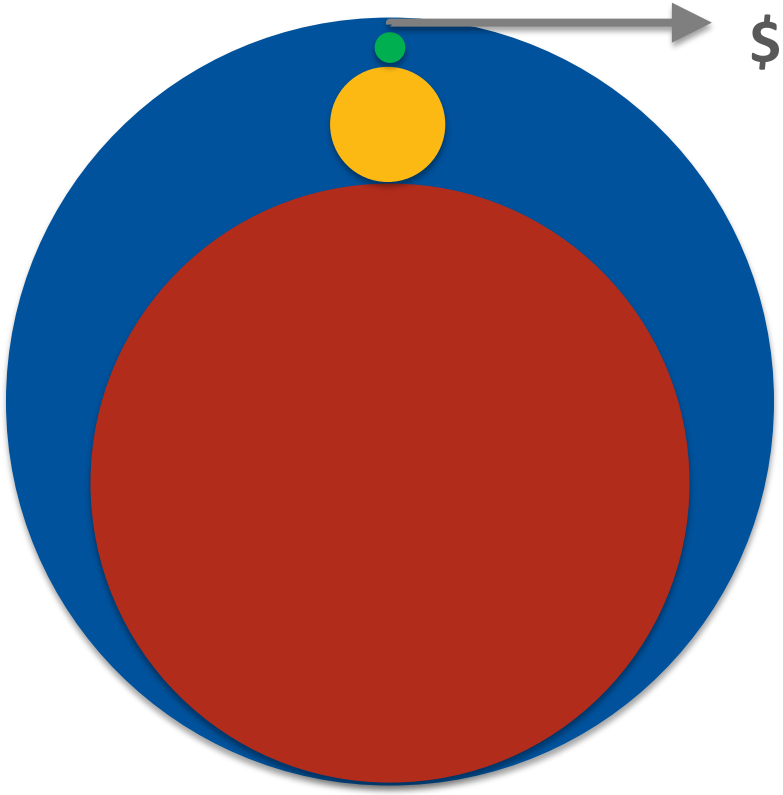
	Health Care Costs	Overall Costs
Tobacco	$ 168 Billion	$ 300 Billion
Alcohol	$ 27 Billion	$ 249 Billion
Rx Opioids	$ 26 Billion	$ 79 Billion
Illicit Drugs (includes: heroin, fentanyl, cocaine, meth)	$ 11 Billion	$ 193 Billion
TOTAL	**$ 232 Billion**	**$ 821 Billion**

$ 25,987 per second – cost to treat one person for one month of inpatient/residential treatment

Cost of Rx Opioid Abuse on the US Economy

Total Cost (2013)

$78.5 BILLION



Medical Complications

$1.2 BILLION (1.5%)

Substance Abuse Treatment

$3.2 BILLION (4.1%)

Criminal Justice

$12.1 BILLION (15.4%)

Lost Productivity*

$62.0 BILLION (79%)

*Productivity loss included mortality, unemployment/sub-employment, and incarceration.

1. Hansen RN et al. *Clin J Pain* 2010;27:194-202.
2. Florence CS et al. *Med Care* 2016; 54:901-906.

Investment in Interventions is Cost Effective (both Prevention and Treatment)

Economics of Prevention

The Washington State Institute for Public Policy developed a standardized model using scientifically rigorous standards to estimate the costs and benefits associated with various prevention programs. Benefit-per-dollar cost ratios for EBIs ranged from small returns per dollar invested to more than $64 for every dollar invested. These estimates are illustrated below in Table 3.3.

Table 3.3: Cost-Benefit of EBIs Reviewed by the Washington State Institute for Public Policy, 2016

Program	Benefit per Dollar Cost
Nurse-Family Partnership	$1.61
Raising Healthy Children/SSDP	$4.27
Good Behavior Game	$64.18
LifeSkills Training	$17.25
keepin' it REAL	$11.79
Strengthening Families Program 10-14	$5.00
Guiding Good Choices	$2.69
Positive Family Support/ Family Check Up	$0.62
Project Towards No Drug Abuse	$6.54
BASICS	$17.61

*Cost estimates are per participant, based on 2015 United States dollars.

Note: This is a general indication of the potential health and social value of EBIs. It is not possible to estimate specific cost-benefit for every EBI due to challenges in calculating accurate intervention effect sizes, the failure to document costs, the variation of methods used, and few mandates or incentives to complete this research. Reaching a consensus on standards for cost-benefit analyses and making them a routine part of prevention program evaluation could help policymakers choose EBIs that both prevent substance misuse and ensure that investments return benefits over the life course.

Source: Washington State Institute for Public Policy, (2016).[176]

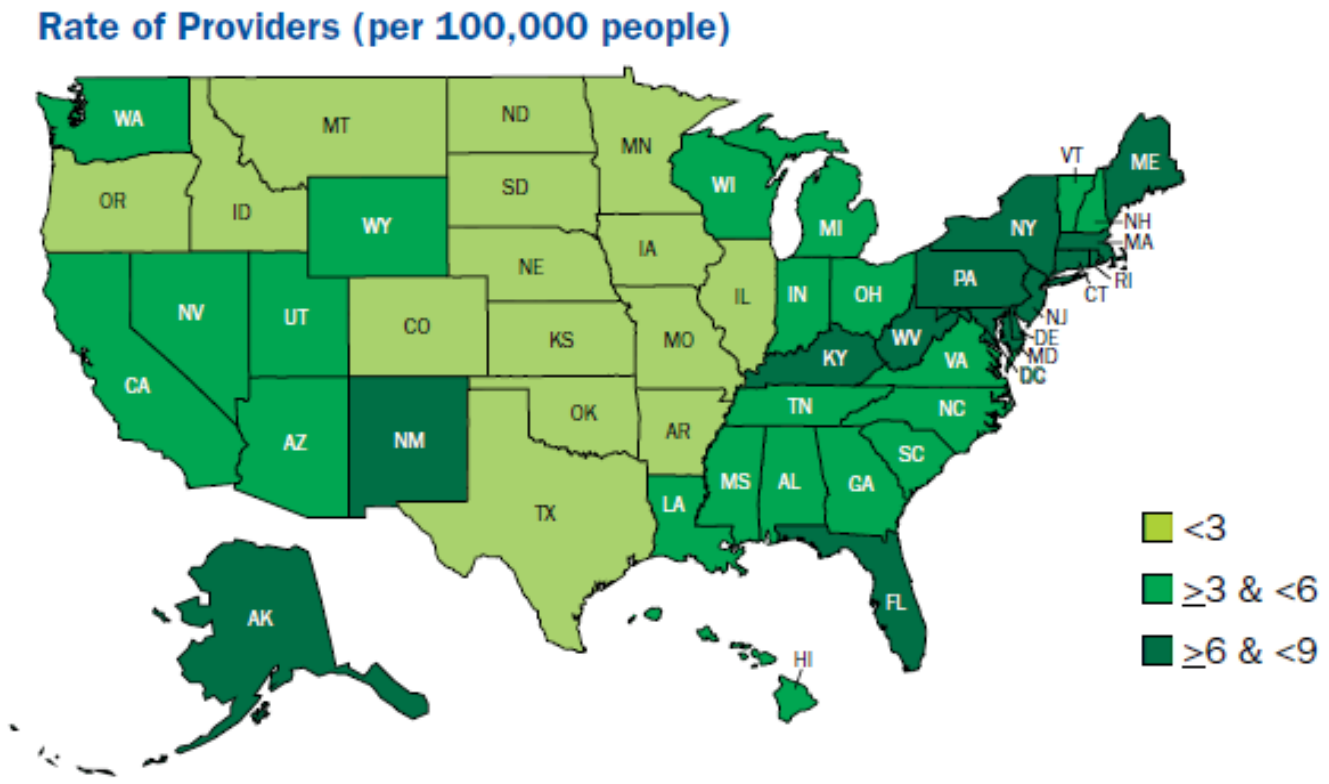
Investment in Interventions is Cost Effective (both Prevention and Treatment)

- Cost-Benefit Ratio for SUD Treatment is **11 : 1** in Health Care and Criminal Justice costs alone

Substance Use Disorder Treatment Gap: 90%

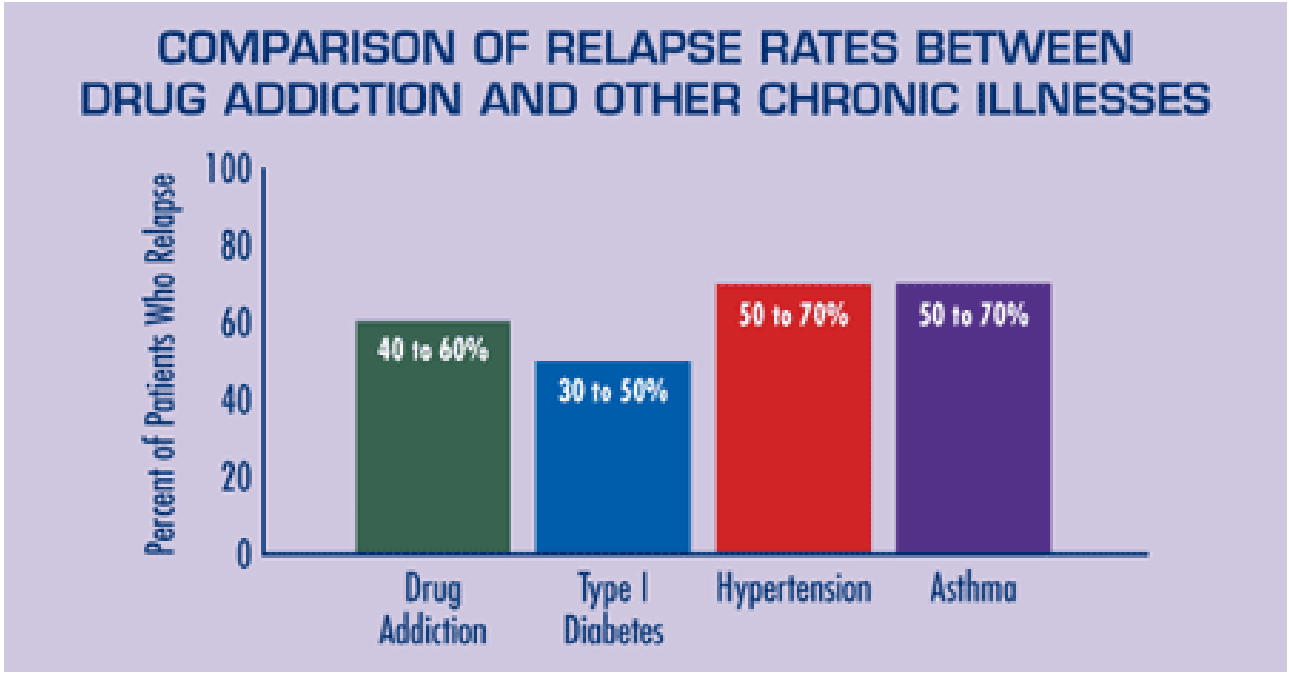
SAMHSA. National Survey on Drug Use and Health, 2011.

Physicians Authorized to Treat Addiction (Buprenorphine/Methadone)



SAMHSA. National Expenditures for MH Services and Substance Abuse Treatment, 1986-2009. Pub SMA-13-4740.

Relapse is Common – Not Desirable, but Not Equal to Failure

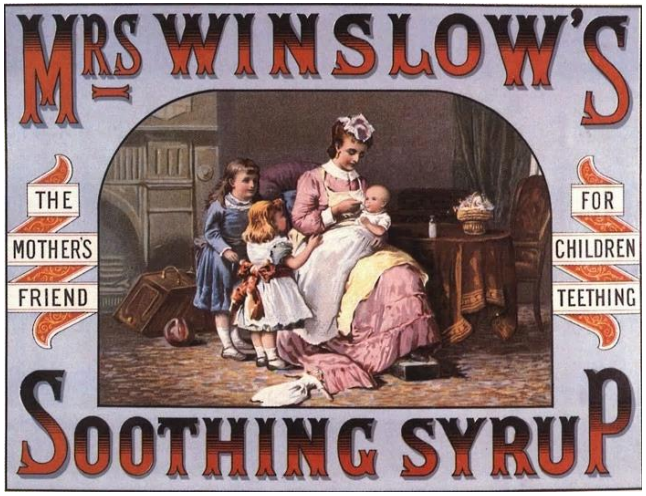


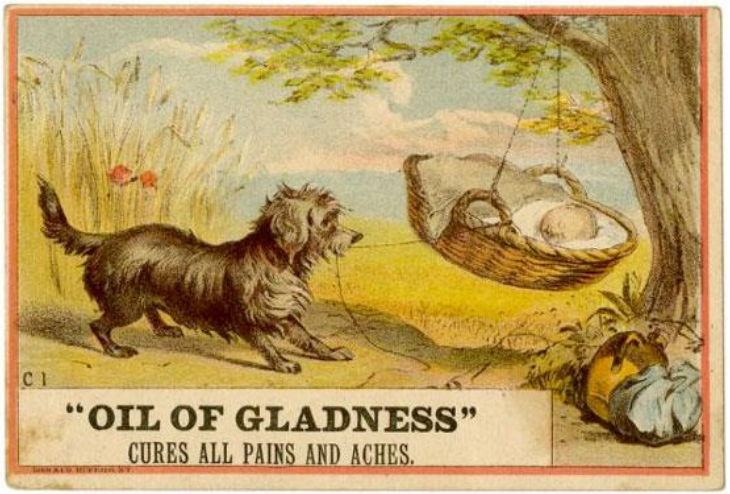
How did we get here?

This problem is not “new”

- Opium (from the poppy plant) has been around since Sumerian times (Hul Gil – the plant of life)
- Alcohol, tobacco date from earliest recorded history
- Morphine was isolated in the early 1800s, mass produced by mid-1800s, root of “Soldier’s Disease” during/after the Civil War
- Aspirin and Heroin were created in 1897 (by the same chemist at Bayer, within a two week span); the latter was part of a major problem…

Welcome to 1897…





Within four years…

Am. J. Ph.] 7 [December, 1901

BAYER Pharmaceutical Products

HEROIN—HYDROCHLORIDE

is pre-eminently adapted for the manufacture of cough elixirs, cough balsams, cough drops, cough lozenges, and cough medicines of any kind. Price in 1 oz. packages, $4.85 per ounce; less in larger quantities. The efficient dose being very small (1-48 to 1-24 gr.), it is

The Cheapest Specific for the Relief of Coughs

(In bronchitis, phthisis, whooping cough, etc., etc.)

WRITE FOR LITERATURE TO

FARBENFABRIKEN OF ELBERFELD COMPANY

SELLING AGENTS

P. O. Box 2160 40 Stone Street, NEW YORK

Problems and Responses…

- Patent Medicines: Pure Food and Drugs Act (1906)
- Heroin/Cocaine Addictions: Harrison Narcotics Act (1914), International Narcotics Control Conferences (1920's - on)
- Percodan (1950) and Valium (1963) issues: Federal Controlled Substances Act (1971)

And then…The Letter:

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 patients[1] 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, Miettinen OS, Shapiro S, Lewis GP, Siskind Y, Slone D. Comprehensive drug surveillance. JAMA. 1970; 213:1455-60.
2. Miller RR, Jick H. Clinical effects of meperidine in hospitalized medical patients. J Clin Pharmacol. 1978; 18:180-8.

The Response: A Tidal Wave

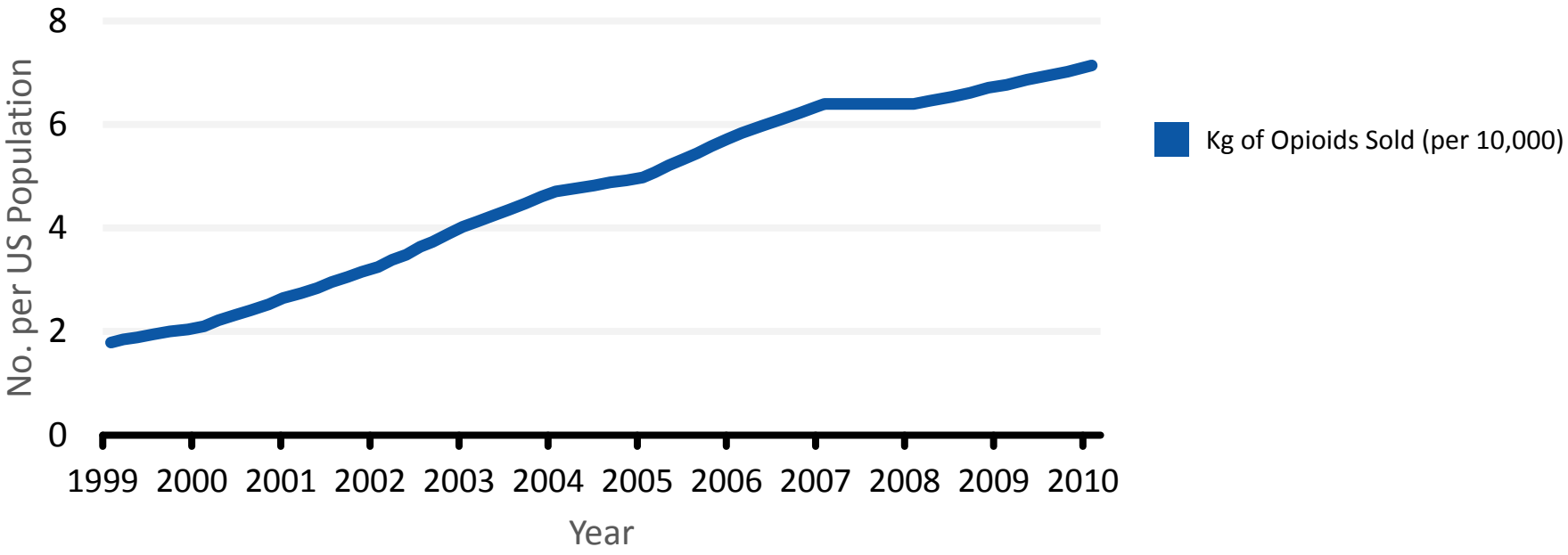
- A 1989 monograph for the National Institutes of Health, which asked readers to "consider the work" of Porter and Jick
- A 1990 article in Scientific American, where it was called "an extensive study"
- A 1995 article in Canadian Family Physician, where it was called "persuasive"
- A 2001 Time magazine feature, which said that it was a "landmark study" demonstrating that the "exaggerated fear that patients would become addicted" to opiates was "basically unwarranted"
- A 2007 textbook, "Complications in Regional Anesthesia and Pain Medicine," which said that it was "a landmark report" that "did much to counteract" fears about patients becoming addicted
- As of May 24, 2016, the Porter and Jick letter had been cited 901 times in scholarly papers, according to a Google Scholar search

The "Perfect Storm" of Opioids

- Over past 25 years: rapid increase in amount of opioids being prescribed and dispensed
- After "The Letter", additional causes included:
  - Increased recognition of pain, under-treatment of pain
  - Pain as the "fifth vital sign", JCAHO quality measure, etc.
  - Drug company advertising and promotion
  - Practitioners are not well trained in pain management, opioid pharmacology, and addiction
  - Drugs are very powerful, highly addictive if not used properly
  - Scamming, doctor/pharmacy shopping, black market for opioids

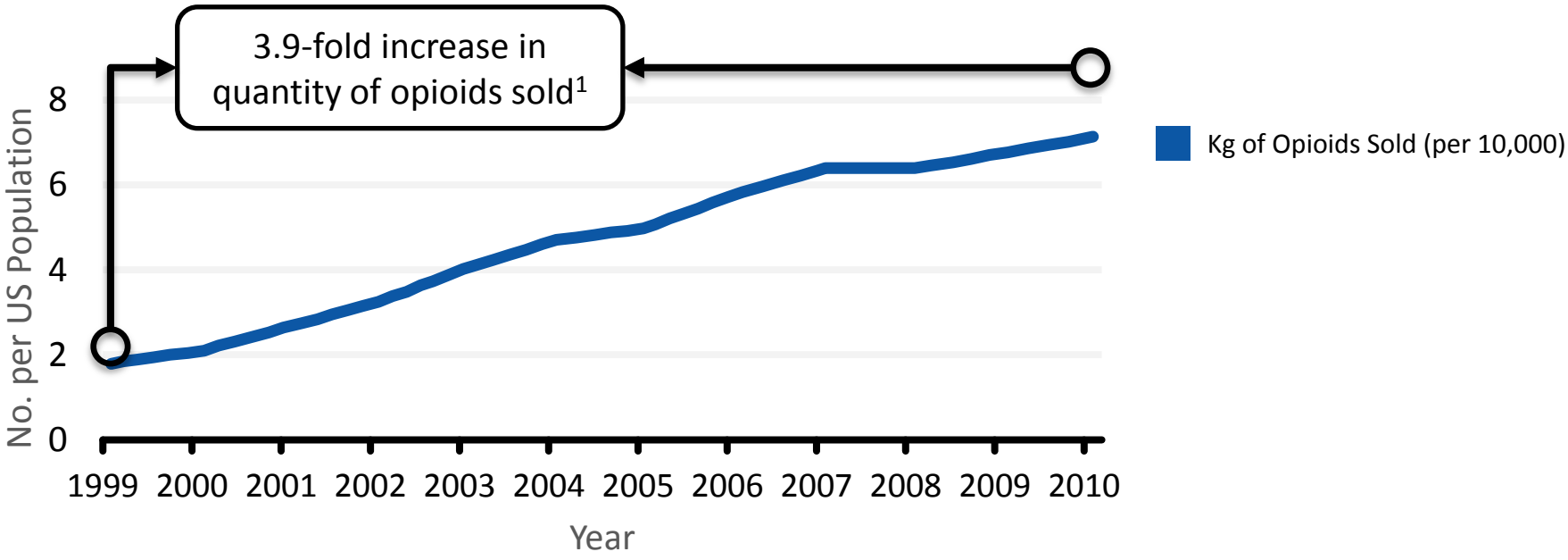
CDC/MMWR Jan 13, 2012; 61(01):10-13.
Dreamland, Sam Quinones, 2015.

Growth in Opioid Sales/Prescribing/Use



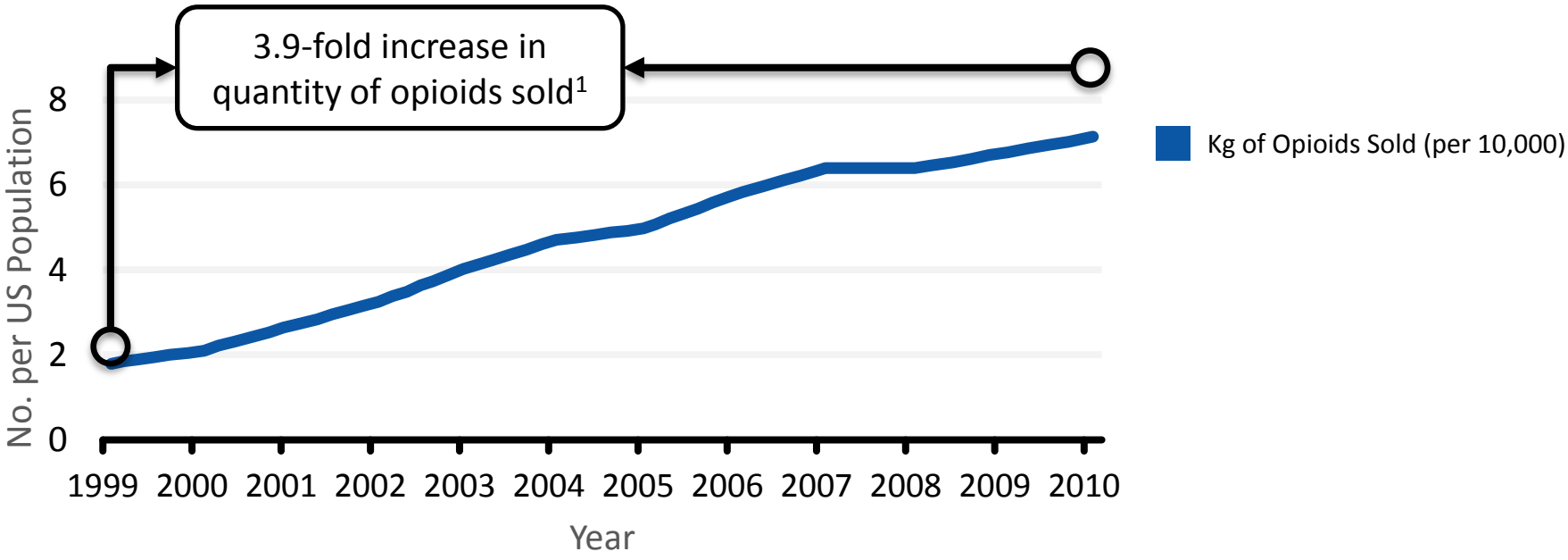
1. Volkow ND et al. *N Engl J Med*. 2014;370:2063-2066.
2. CDC Vital Signs. http://www.cdc.gov.

Growth in Opioid Sales/Prescribing/Use



1. Volkow ND et al. *N Engl J Med*. 2014;370:2063-2066.
2. CDC Vital Signs. http://www.cdc.gov.

Growth in Opioid Sales/Prescribing/Use

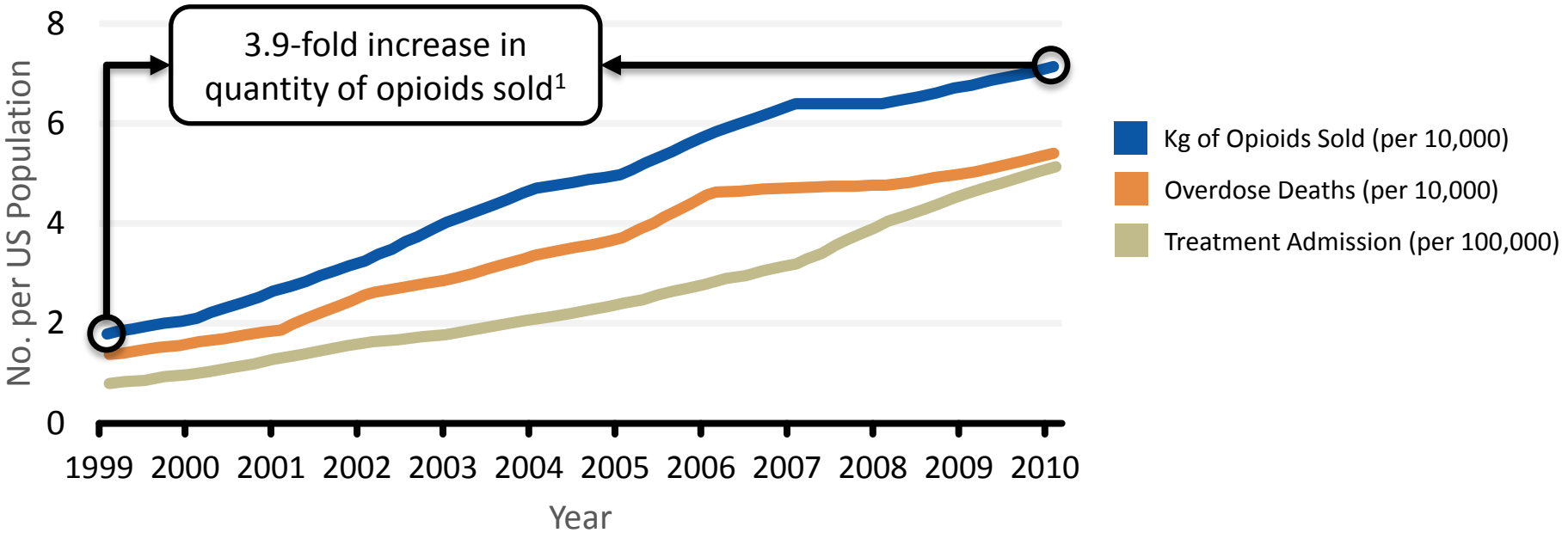


259 million opioid prescriptions were dispensed at retail in 2013[2]

…enough for every American adult to have a bottle of pills…every year!

1. Volkow ND et al. *N Engl J Med*. 2014;370:2063-2066.
2. CDC Vital Signs. http://www.cdc.gov.

Growth in Opioid Sales/Prescribing/Use



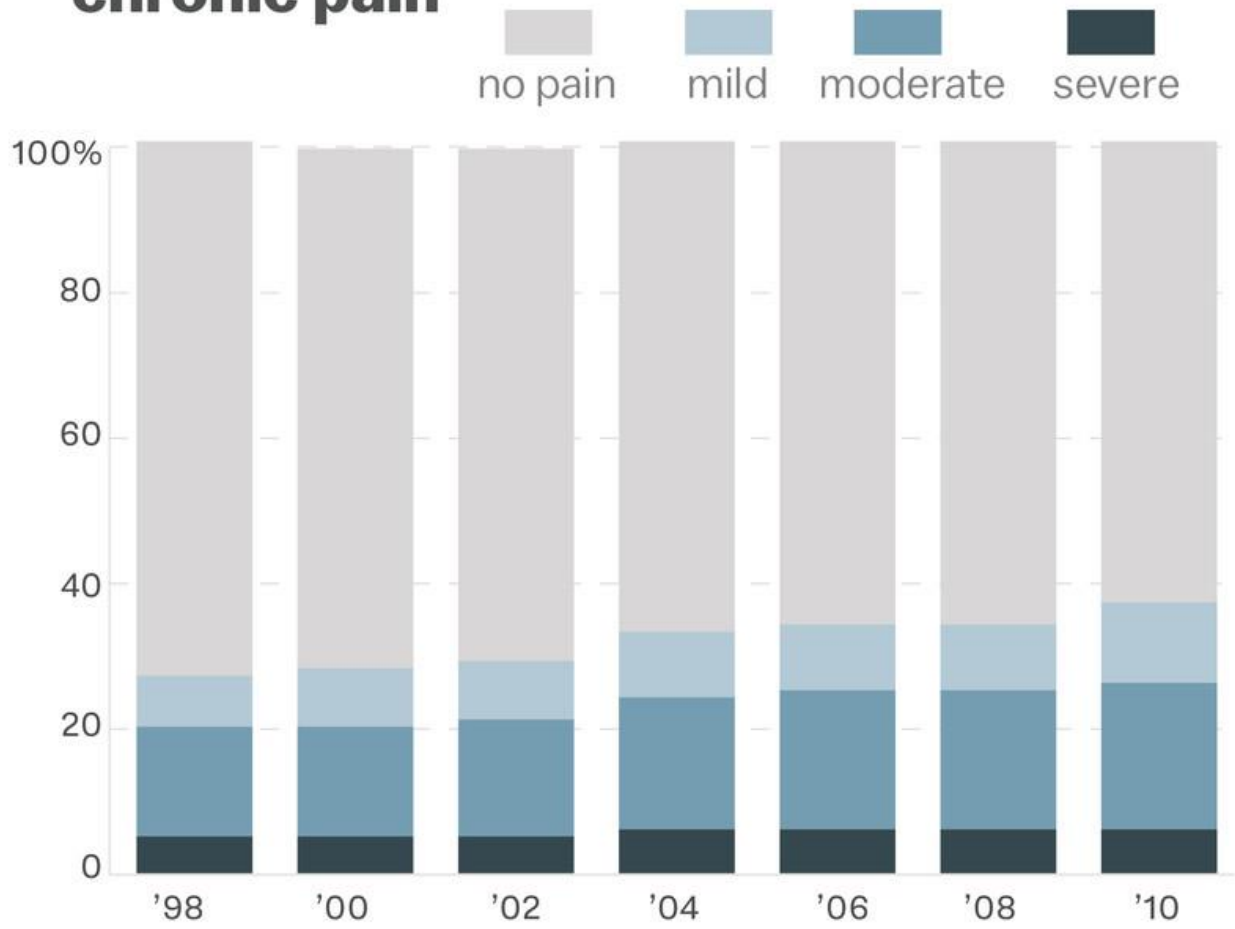
259 million opioid prescriptions were dispensed at retail in 2013[2]

…enough for every American adult to have a bottle of pills…every year!

1. Volkow ND et al. *N Engl J Med*. 2014;370:2063-2066.
2. CDC Vital Signs. http://www.cdc.gov.

How does this problem start?

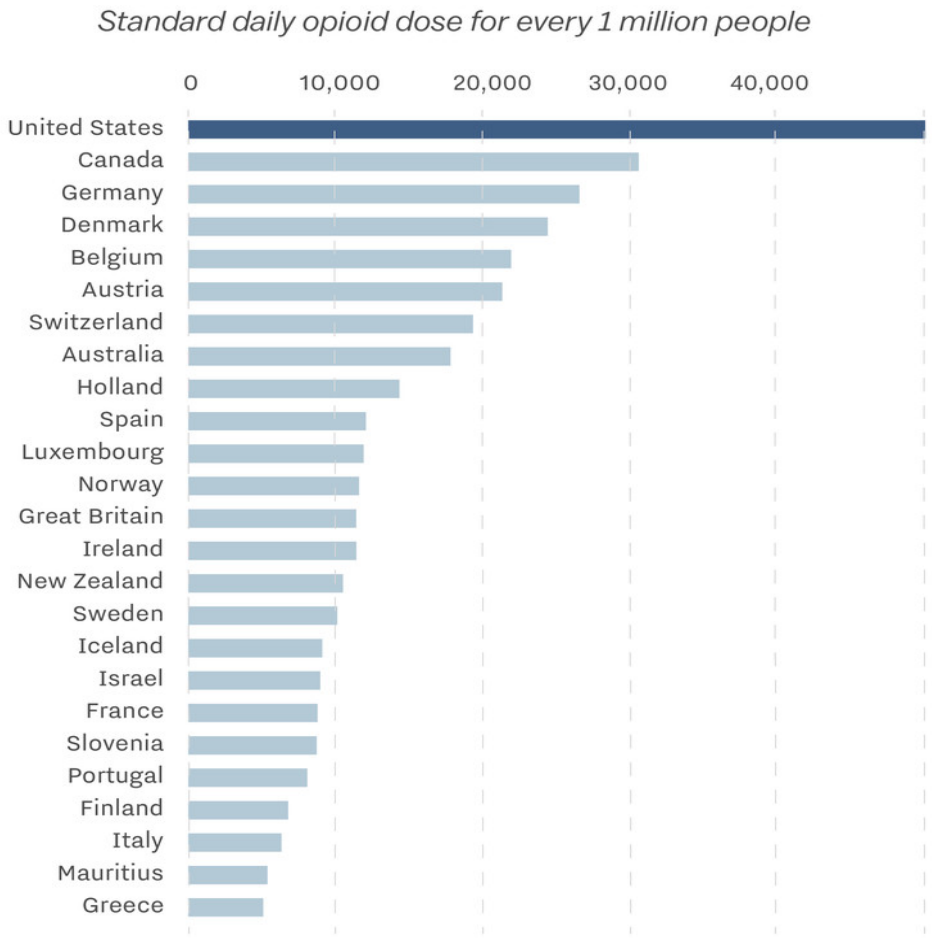
Americans are suffering from more chronic pain



Source: Health and Retirement Study, 1998-2010

Credit: Sarah Frostenson

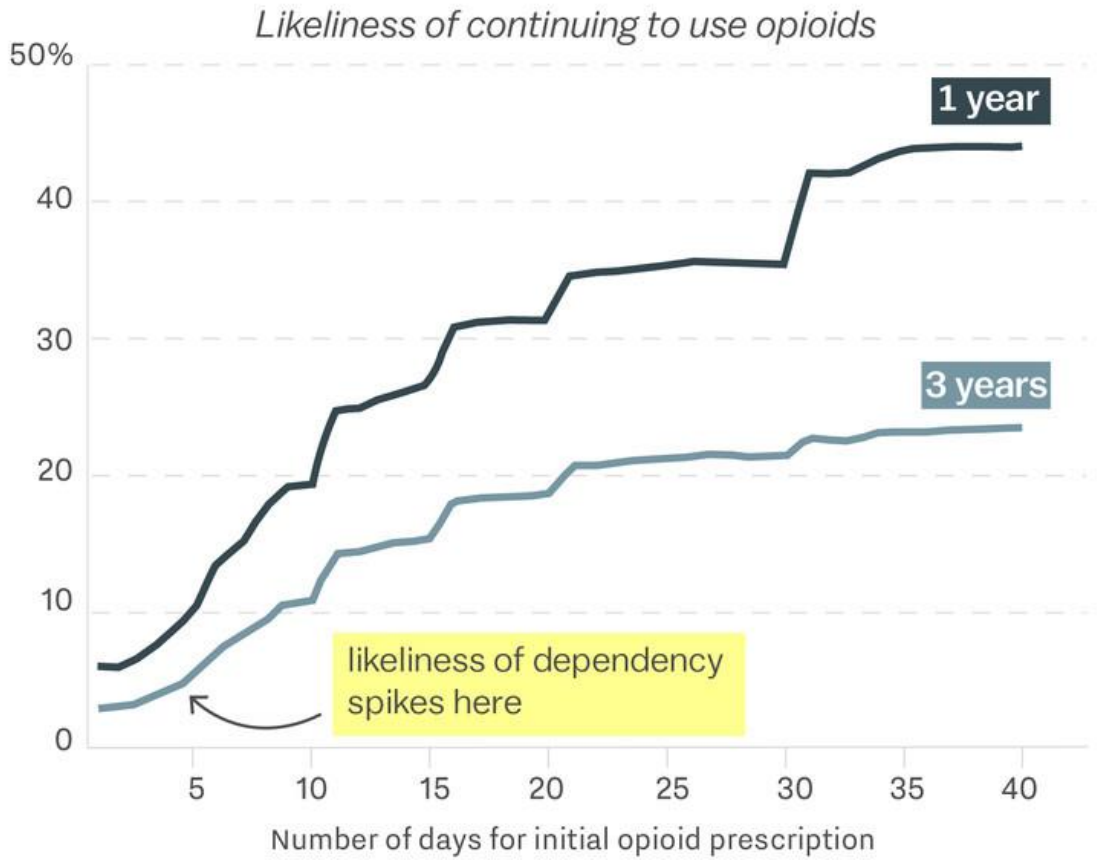
Americans consume more opioids than any other country



Source: United Nations International Narcotics Control Board

Credit: Sarah Frostenson

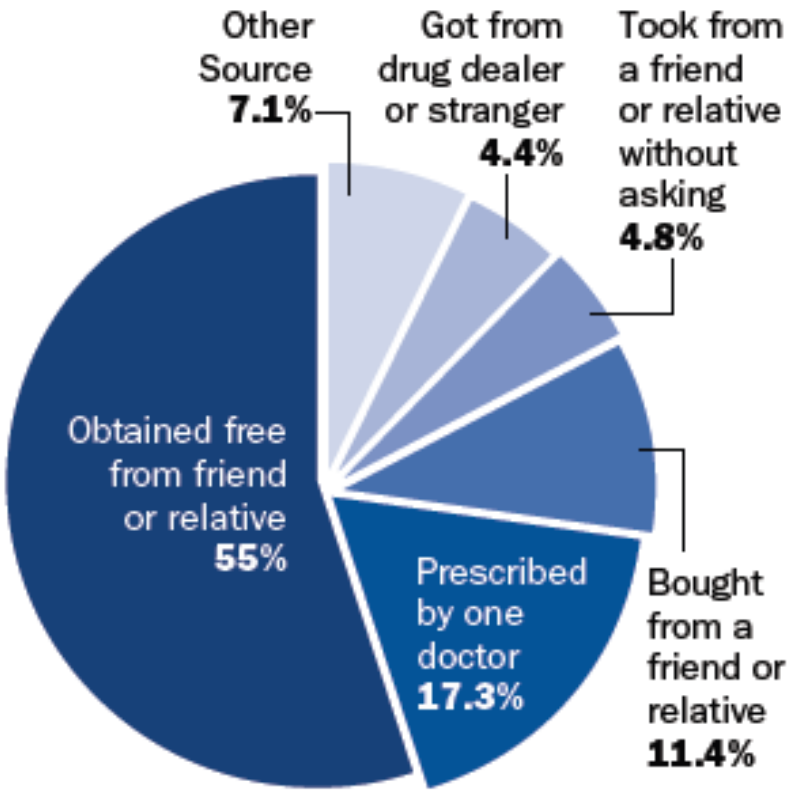
Risk of continued opioid use increases at 4-5 days



Source: Centers for Disease Control and Prevention

Credit: Sarah Frostenson

Sources of Opioids among Nonmedical Users



CDC/MMWR Jan 13, 2012; 61(01):10-13.
SAMHSA: SDUH 2011 survey.

Sales of Opioid Pain Relievers and Nonmedical Opioid Use (2010-11)

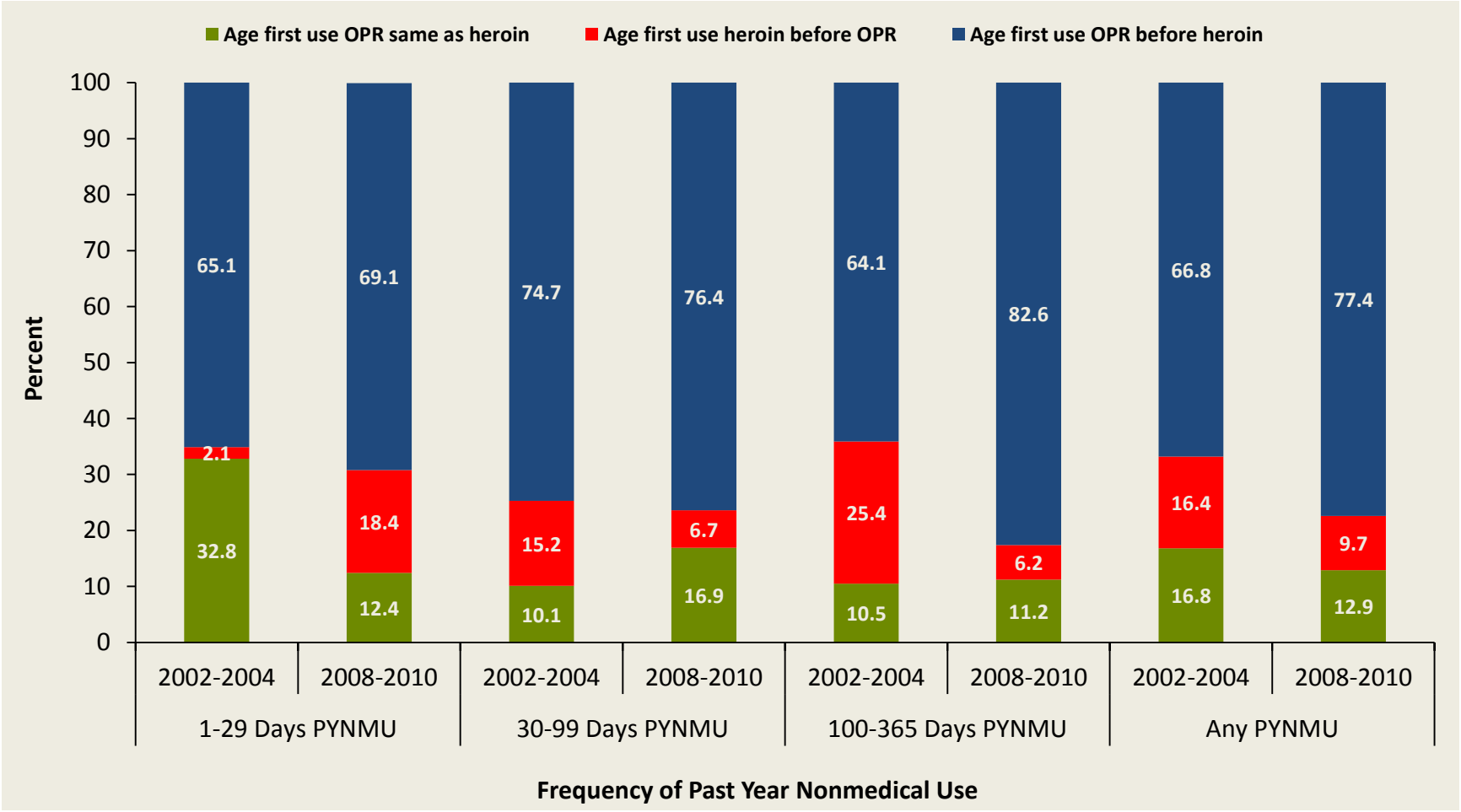
RATES OF NON-MEDICAL USE OF PRESCRIPTION OPOIDS, AND SALES		
State	**Sales of Opioid Pain Relievers, 2010.[i]** Source: Drug Enforcement Administration, 2011	**Nonmedical % Use of Prescription Pain Relievers in the Past Year by Persons Aged 12 or Older, 2010-2011.** Source: National Survey on Drug Use and Health
Alabama	9.7	4.4
Alaska	8.2	5.3
Arizona	8.4	5.7
Arkansas	8.7	5.6
California	6.2	4.7
Colorado	6.3	6.0
Connecticut	6.7	4.4
Delaware	10.2	5.6
D.C.	3.9	4.7
Florida	12.6	4.1
Georgia	6.5	3.8
Hawaii	5.9	3.9
Idaho	7.5	5.7
Illinois	2.7	4.1
Wyoming	6.0	4.7
National Rate	**7.1**	**4.6**

i Kilograms of opiod pain relievers sold per 10,000 population, measured in morphine equivalents.

#2 in U.S.

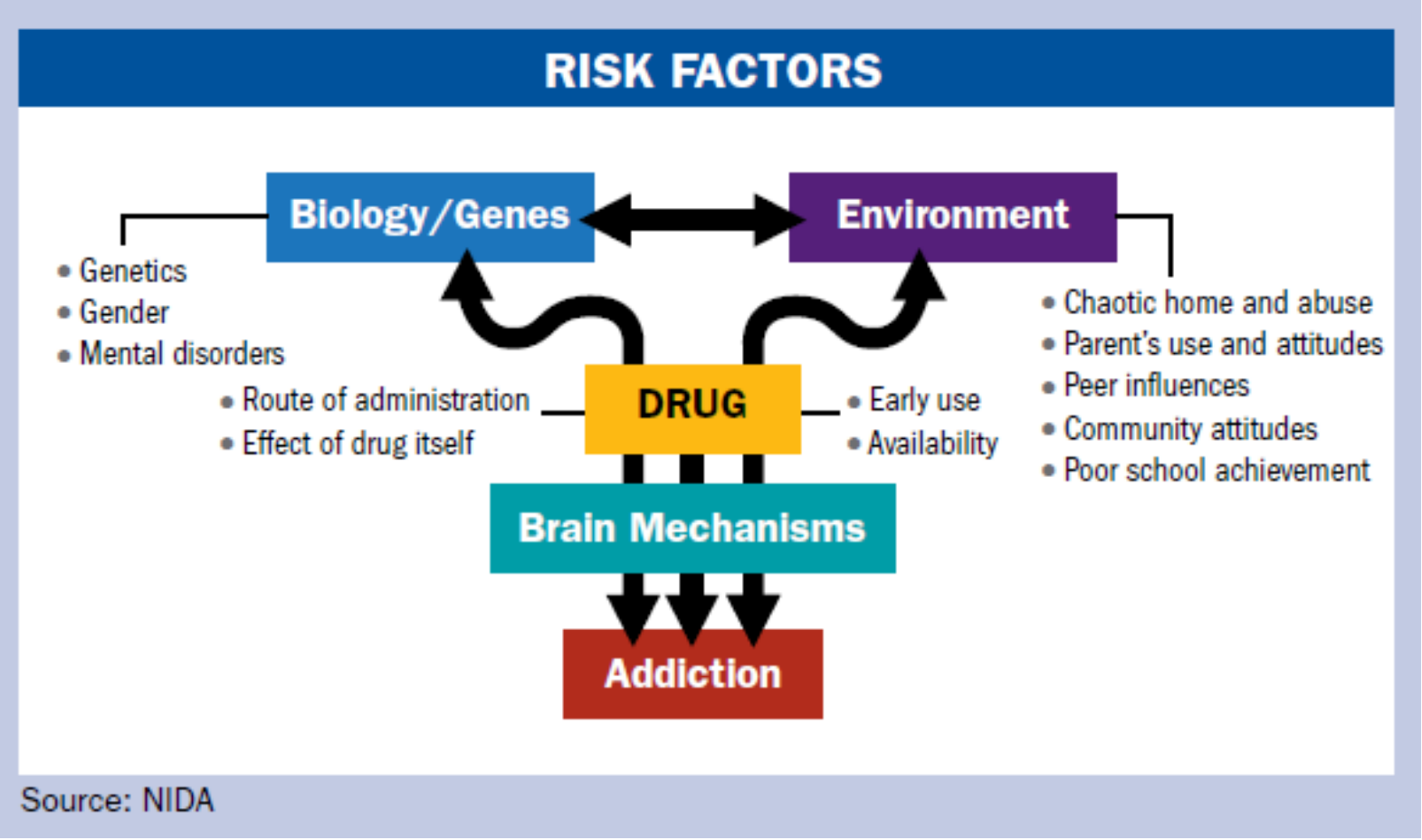
(Oregon #1 at 6.4%)

Majority of Heroin users in past year reported Nonmedical Use of Opioids before Heroin initiation (US, 2002-2004 and 2008-2010)



What is being done?

Risk Factors for Substance Misuse/Addiction



Drugs, Brains, and Behavior: The Science of Addiction. *National Institute on Drug Abuse.* http://www.drugabuse.gov/publications/science-addiction/drug-abuseaddiction (accessed December 2016)

PRESCRIPTION DRUGS

Strategies and points of intervention for preventing misuse, abuse, and overdose, while safeguarding access to treatment.

Strategies Legend
- PDMPs
- PRRs
- Laws/Regulations/Policies
- Insurers/PBMs
- Clinical Guidelines

MANUFACTURERS / WHOLESALERS / DISTRIBUTORS
Intervention

PILL MILLS
Interventions

PROBLEM PRESCRIBING
Interventions

GENERAL PRESCRIBING
Interventions

HOSPITALS / EMERGENCY DEPARTMENTS
Interventions

PEOPLE AT HIGH RISK FOR OVERDOSE
Interventions

GENERAL PATIENTS / PUBLIC
Interventions

PHARMACIES
Interventions

Anthem · Aetna · UniCare · HUMANA · CIGNA · PacifiCare · UnitedHealthcare · Health Net

INSURERS / PBMs
Interventions

NOTE: What is presented here are the priority strategies that are likely to have the greatest impact. This is not an exhaustive list.

We also Know that…

Prevention Works

- Strong positive family ties, social connections, emotional health, and feelings of control help people avoid substance misuse.
- Evidenced-based prevention programs and policies are available for communities, schools, health care organizations, and other settings.

Treatment is Effective

- Substance use disorders can be effectively treated with behavioral therapies.
- Medications are also available for treating alcohol and opioid use disorders, and when combined with behavioral therapies, can effectively help people manage their symptoms and achieve recovery.

People Recover

- Many people are able to make significant changes in their lives and maintain remission through social networks and recovery-supportive environments.
- Recovery supports, including mutual aid groups (like Alcoholics Anonymous), recovery coaches, and peer recovery services, can help.

New Federal Initiatives

- **CDC:** calls Prescription Drug Abuse one of the top four epidemics facing the U.S.; issued new guideline for prescribing opioids for chronic pain

- **CMS:** recently said that they would "adopt" CDC guidelines for Medicare patients

- **FDA:** issued new Black Box Warnings for opioids (risk of OIRD and death); guidance for abuse deterrent formulations; Advisory Panel just recommended that Opana ER be removed from the market, and the manufacturer complied (without fighting the decision)

- **DEA:** tougher scheduling (Tramadol; Hydrocodone combination products); National Drug Take Back days (just had one April 29th); new rules allowing pharmacies and law enforcement to register as "reverse distributors"

New Federal Funding

- **CARA (Comprehensive Addiction and Recovery Act):** parity for substance abuse disorder treatment; funding for expansion of Medication Assisted Treatment (MAT)
  - Colorado received funds, using them to create "hub and spoke" model to increase provider capacity for offering MAT (one via Denver Health)

- **21st Century Cures Act:** additional funding for treatment, naloxone expansion, education, prevention
  - Colorado receiving formula funding of $7.8M/year for next 2 years
  - Primary use (80%): MAT treatment expansion
  - Other programs (20%): naloxone access, better referral systems, etc.

Key Takeaways

- Substance Use Disorders are common, affect us all in many ways (and at great cost)
- Prevention Works
- Treatment is Effective
- Recovery is Possible for Everyone
- Collaboration is Key
- More must be done to stem the tide of SUDs, and we have lots of expertise here in CO to do that

Questions?

robert.valuck@ucdenver.edu
Tel (303) 724-2890