

Substance Abuse in US and Europe

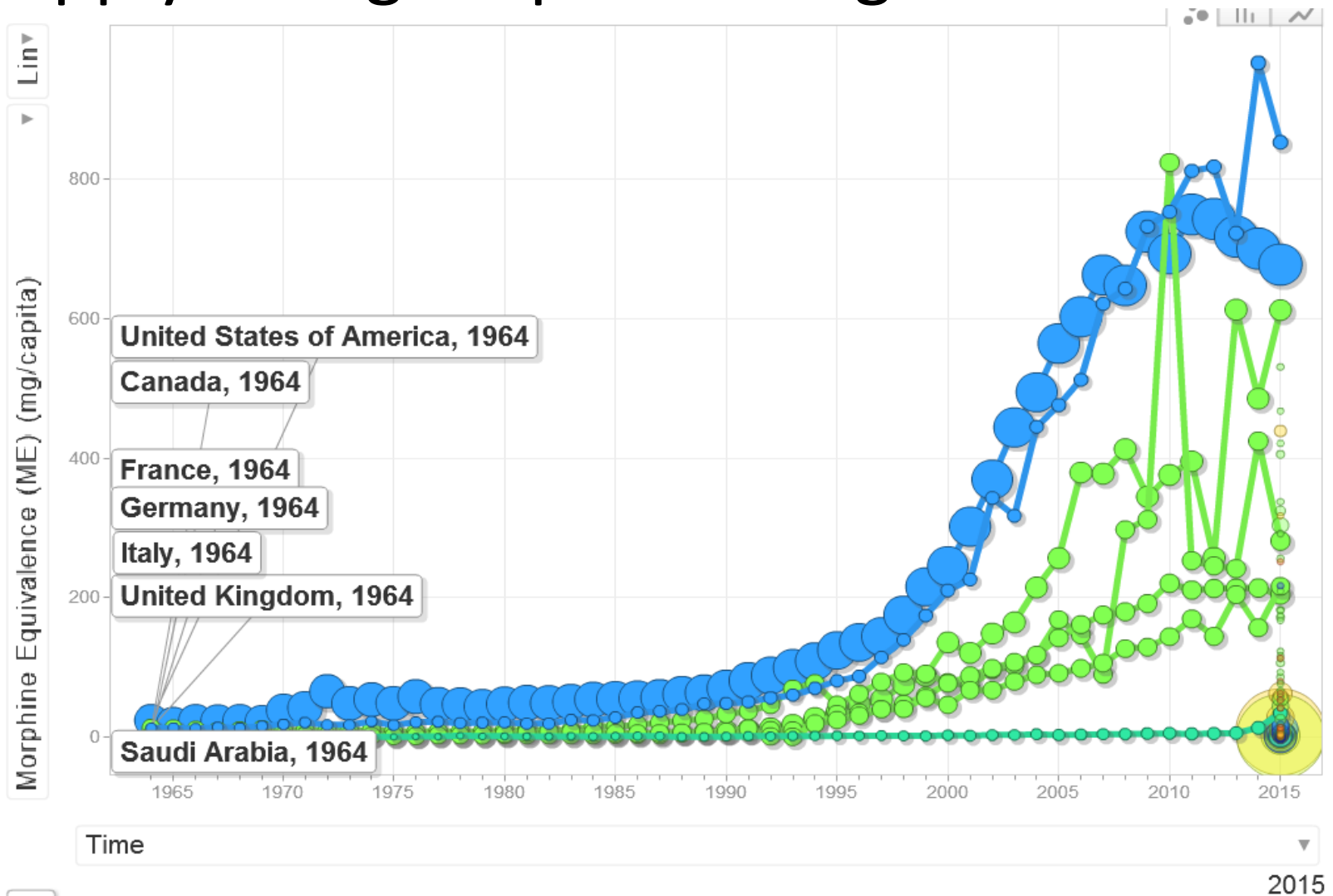


Richard C. Dart, MD, PhD

Director, Rocky Mountain Poison and Drug Center, Denver Health

Professor, University of Colorado School of Medicine

Supply of Legal Opioid Analgesics



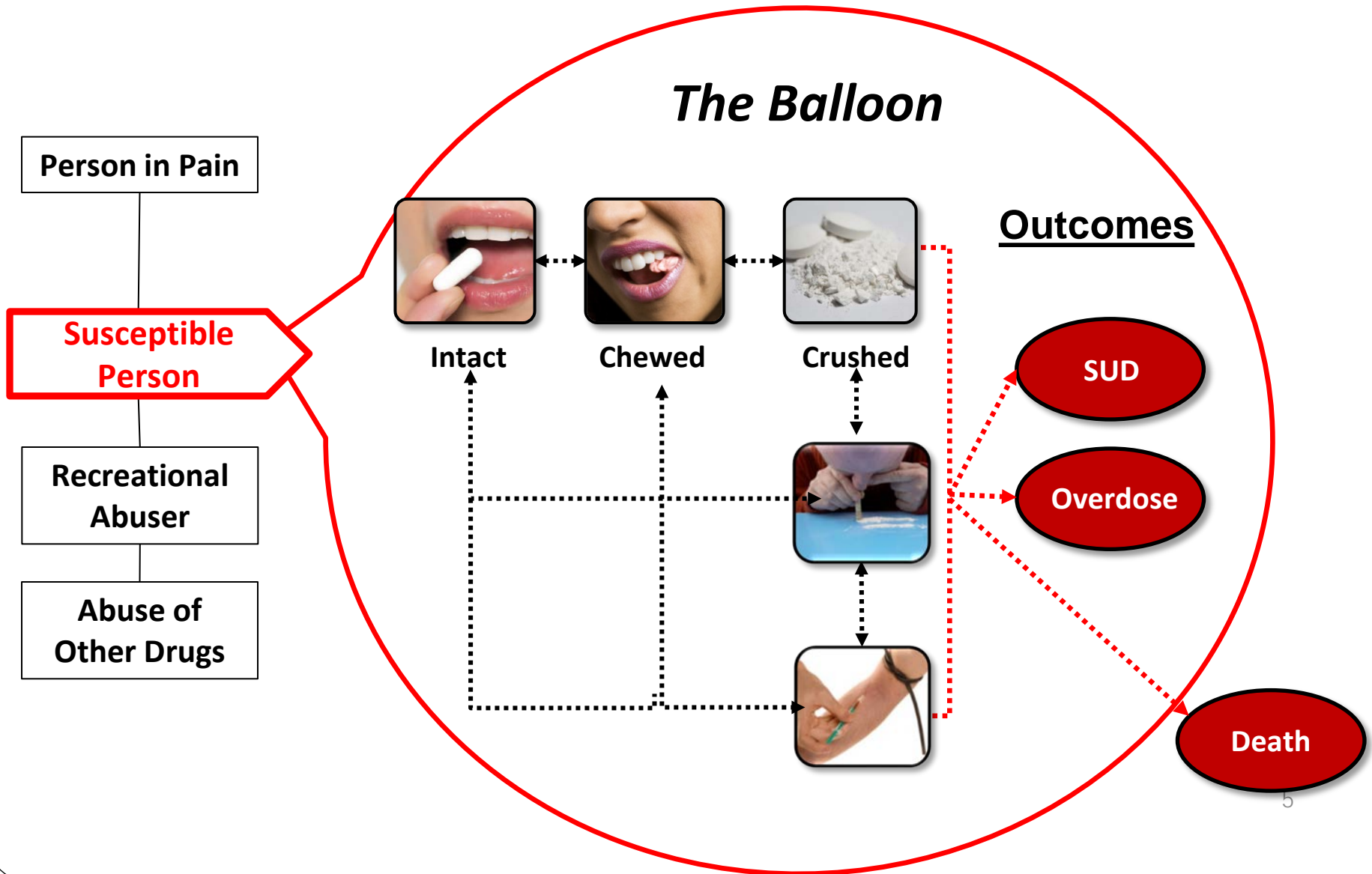
Ever-Expanding List of Drugs of Abuse

- Opioids (heroin, prescription analgesics, loperamide)
- Stimulants (methamphetamine, cocaine, Adderall, Concerta, synthetic cannabinoids)
- Cannabinoids (marijuana)
- Hallucinogens (LSD, peyote, ketamine)
- Antipsychotics (olanzapine)
- Novel psychoactive substances (NPS) “Designer Drugs”
- Any CNS active drug?
 - Gabapentin, pregabalin
 - Nicotine

Risk Factors for Substance Abuse

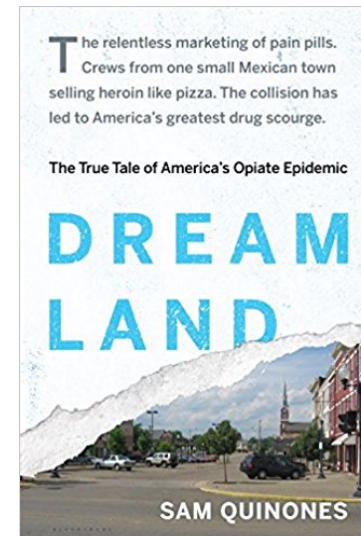
- **Family history of addiction.** Drug addiction is partially genetic predisposition.
- **Taking a highly addictive drug.** Using multiple drugs. Necessary, but not sufficient to cause addiction alone
- **Having another mental health disorder.** Depression, attention-deficit/hyperactivity disorder (ADHD) or post-traumatic stress disorder
- **Anxiety, depression and loneliness.** “Chemical coping” with these painful psychological feelings and can make these problems even worse.
- **Gender**
 - Male = increased risk of drug abuse
 - Female = increased risk of Rx drug abuse. Progression of abuse is faster
- **Peer pressure.** Particularly for young people.
- **Lack of family involvement.** Difficult family situations or lack of a bond with your parents or siblings may increase the risk of addiction.

Progression of Prescription Drug Abuse



Demographics of Prescription Drug Abuse

- Who?
 - Young, expanding into older age groups
 - Young adults at higher risk, but increasing prevalence in all age groups
 - Males more prevalent in recreational
 - Female more prevalent in prescription drug abuse
- Where?
 - Rural, Urban
 - High income, low income
 - Role of distribution systems

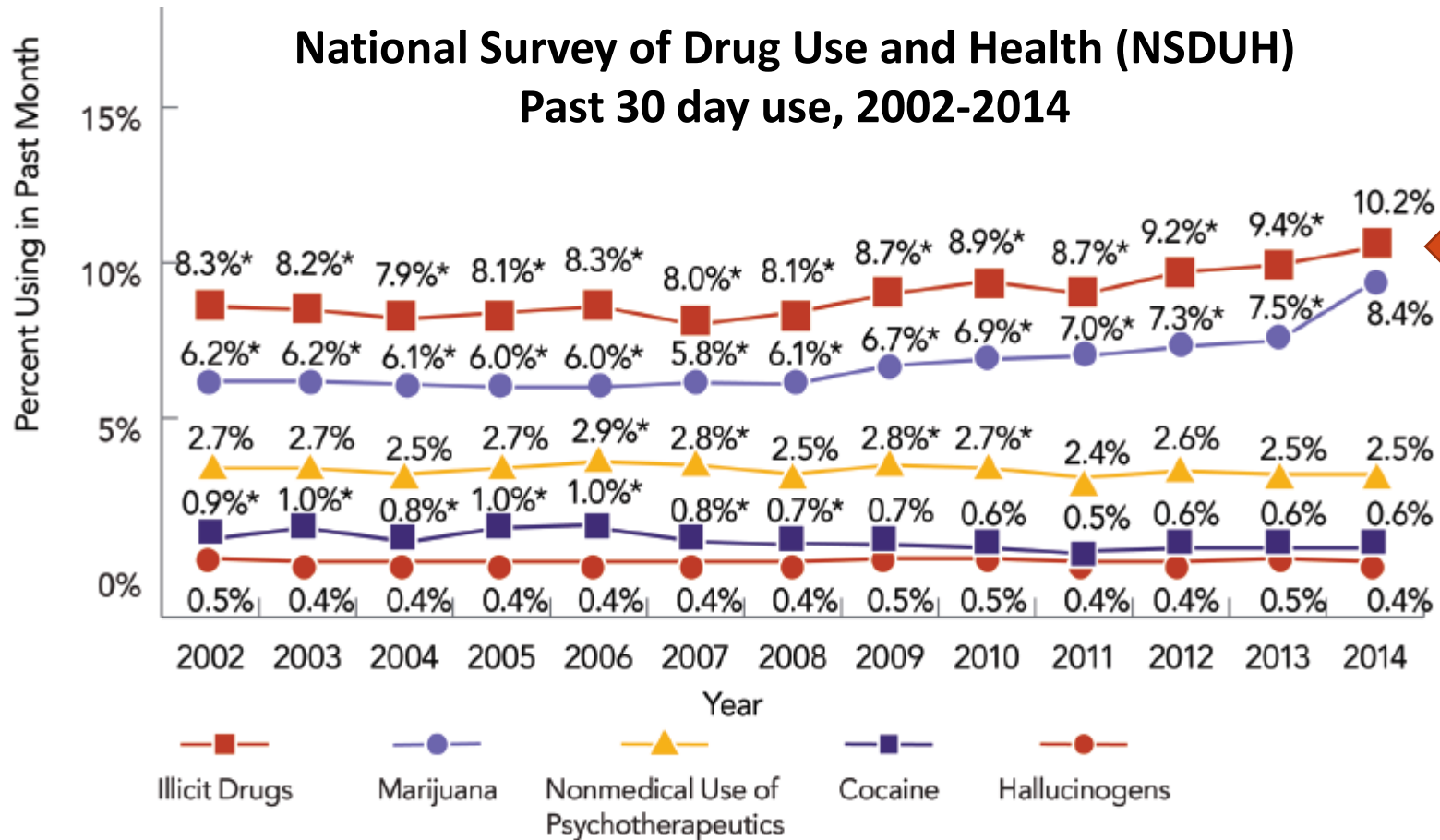


Magnitude of Drug Abuse

Abuse Problem is Extraordinarily Large and Growing

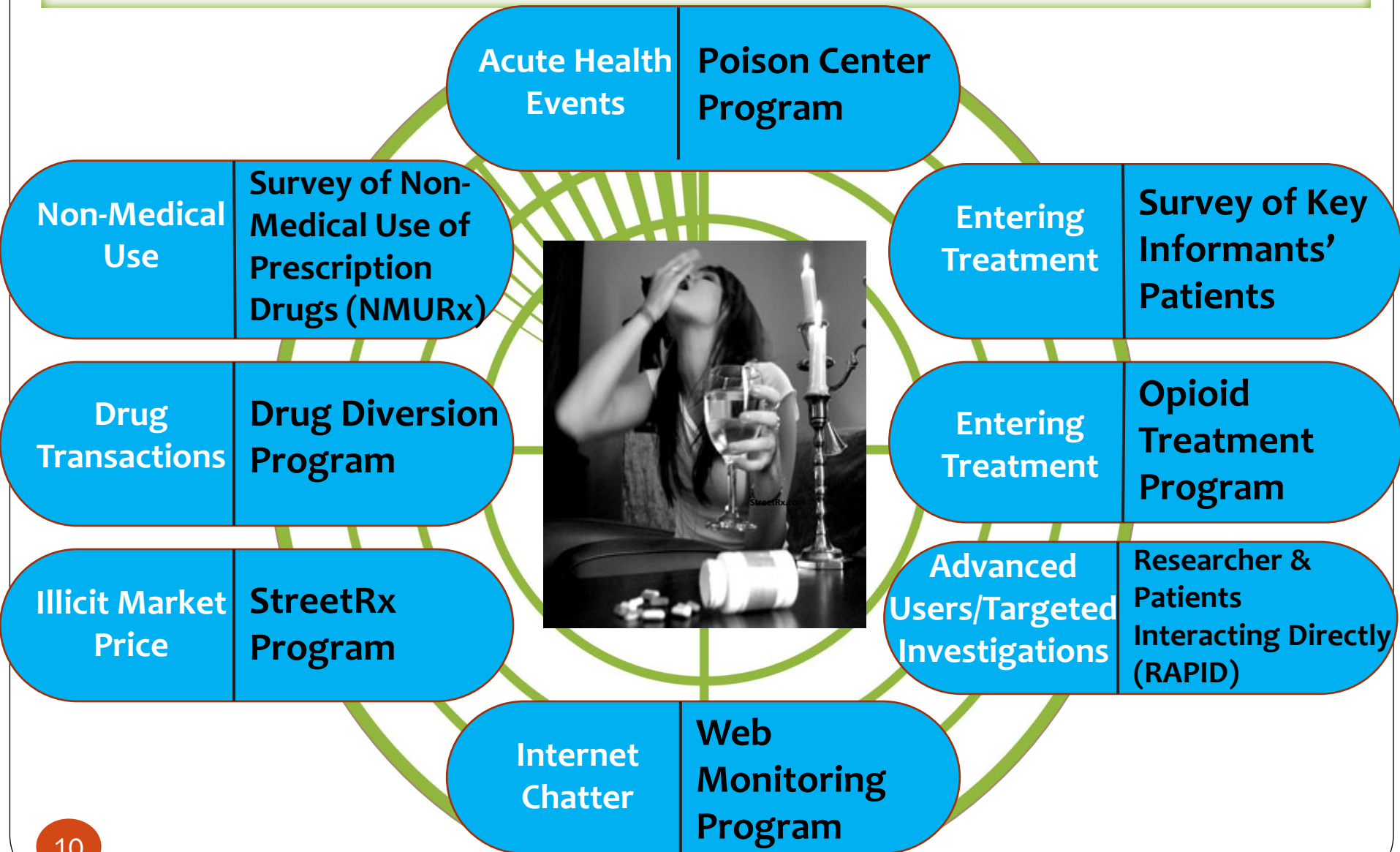
- ~8% of pain patients x millions = large problem
 - 80,000 per 1 million
 - 50 million pain patients = 4.8 million substance abusers just from pain patients alone
 - True fraction of “real” pain patients that develop substance abuse is unknown
- Intermingling of “patients” and “abusers”
 - Common clinical conditions
 - Often mental health component to abuse
 - Movement between drugs opioid-stimulants-novel psychoactive substances-antipsychotic substances
 - Important not to pigeonhole

US: Abuse of Illicit Drugs is Exceeds Marijuana

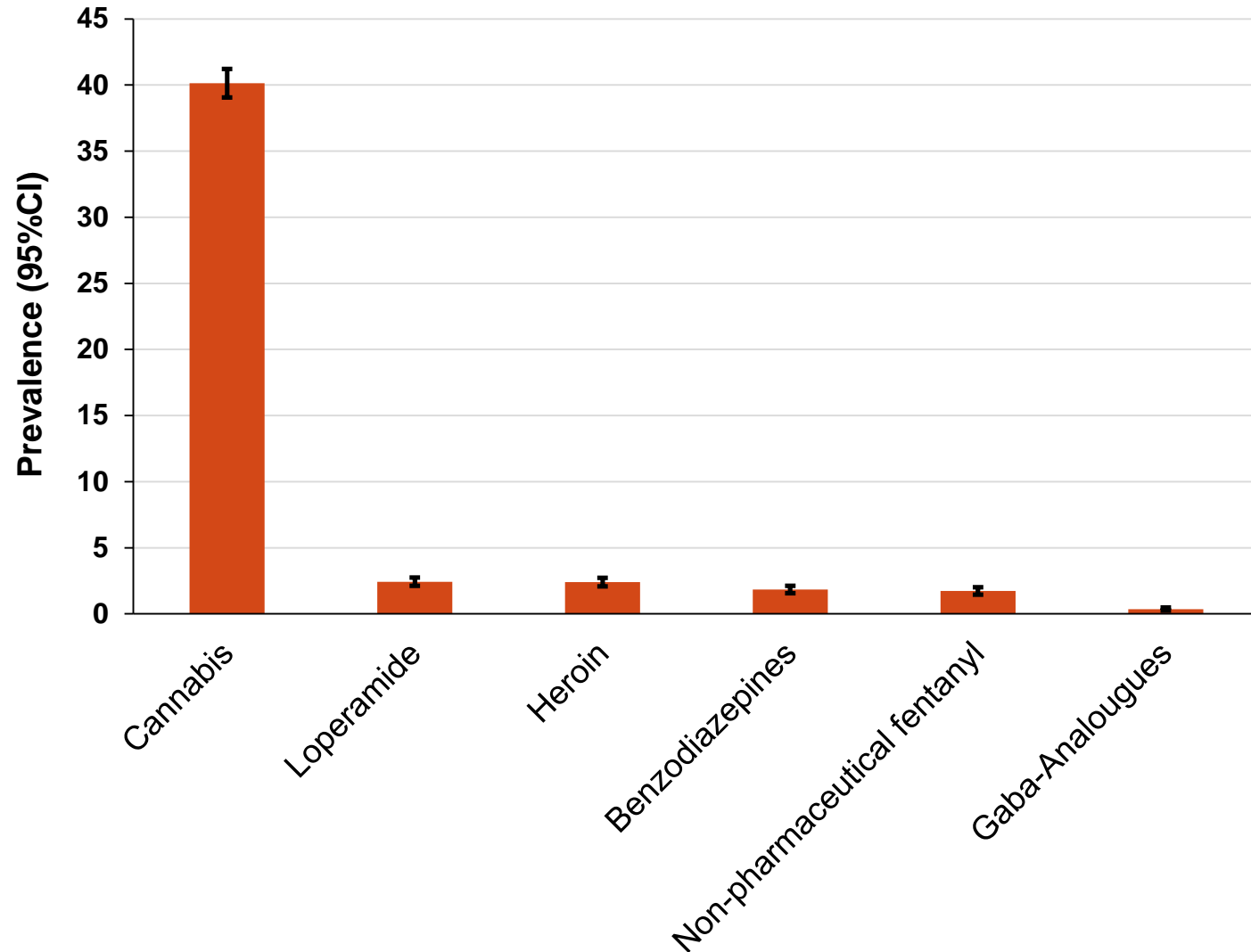


**Illicit
Drugs**

Mosaic Surveillance of Prescription Drug Abuse



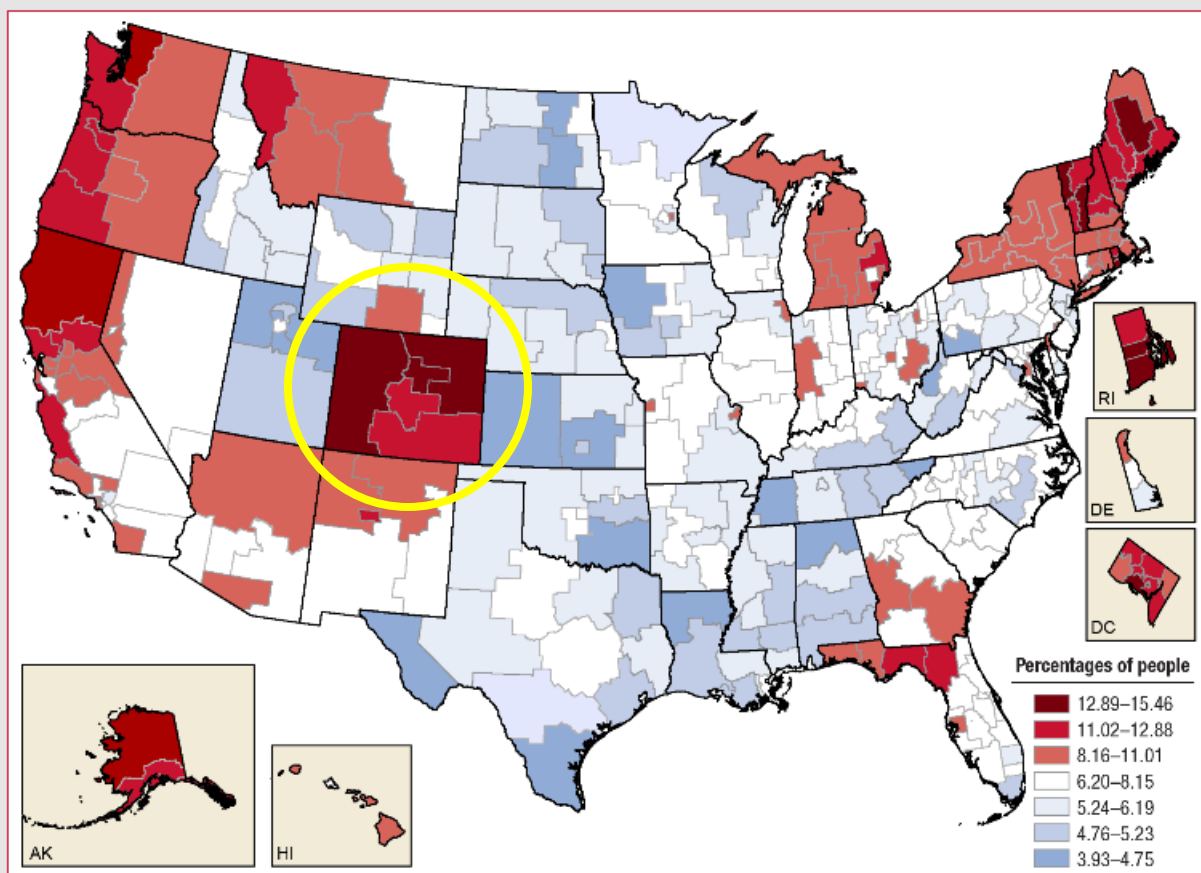
US: Lifetime Nonmedical Use (NMTU) of Drugs



Emerging Drugs of Abuse

- 429 patients from detox and rehab units of Addiction Institute of New York, 73 (17%) reported abuse of prescribed atypical antipsychotics with alcohol, opioids, cocaine/crack, methamphetamine, and/or cannabis
- Quetiapine was the most abused (84.9%)
- Other antipsychotics - olanzapine (17.8%), risperidone (24.7%), aripiprazole (20.5%), ziprasidone (8.1%), and asenapine (2.9%)
- Most of the antipsychotics came from friends or family
- Patients listed "getting mellow" or "slowing down" as the leading desired effects from mixing atypical antipsychotics with recreational drugs.

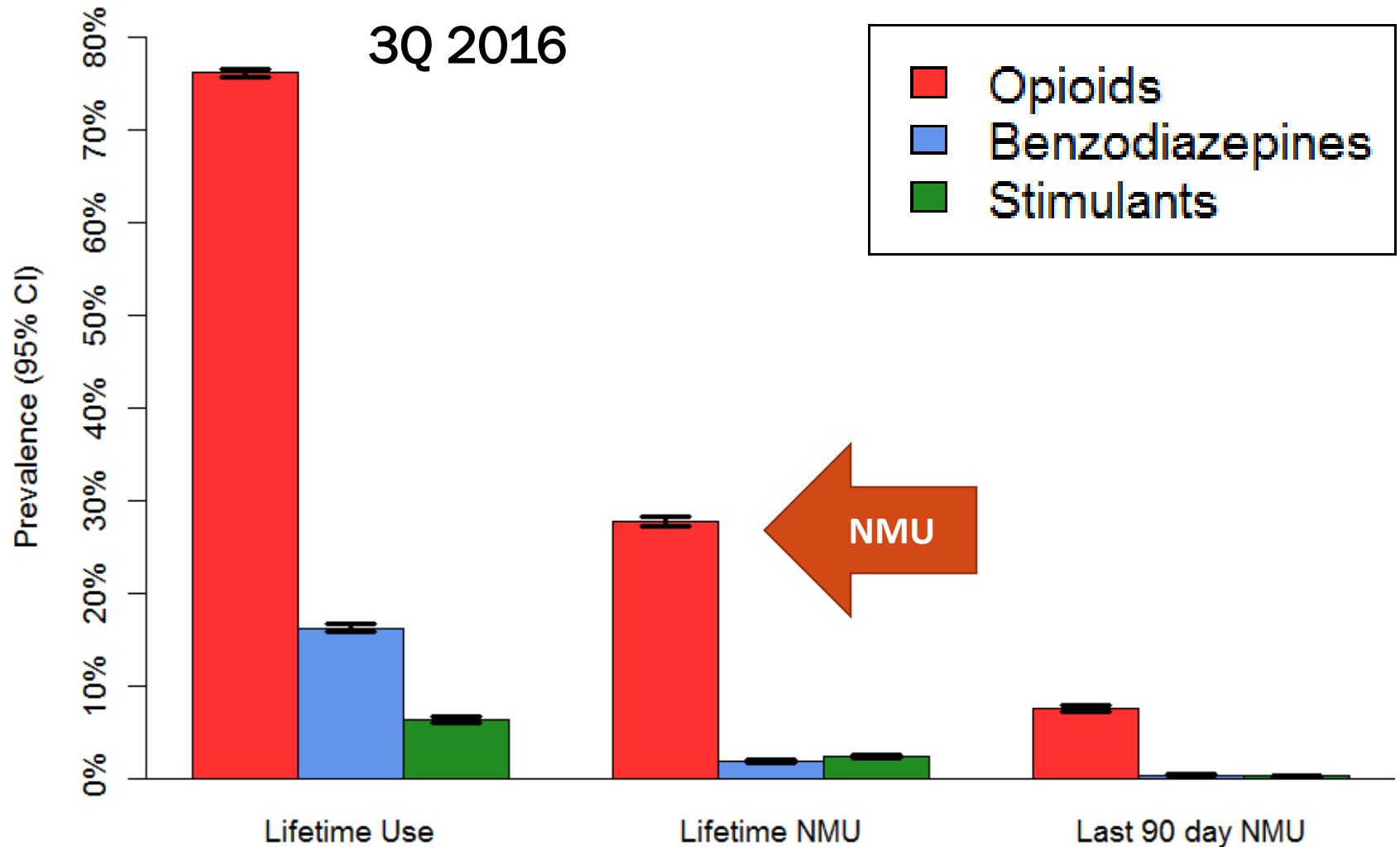
US: Marijuana Use in Past 30 days.



Note: For substate region definitions, see the "2012–2014 National Survey on Drug Use and Health Substate Region Definitions" at <http://www.samhsa.gov/data/>.

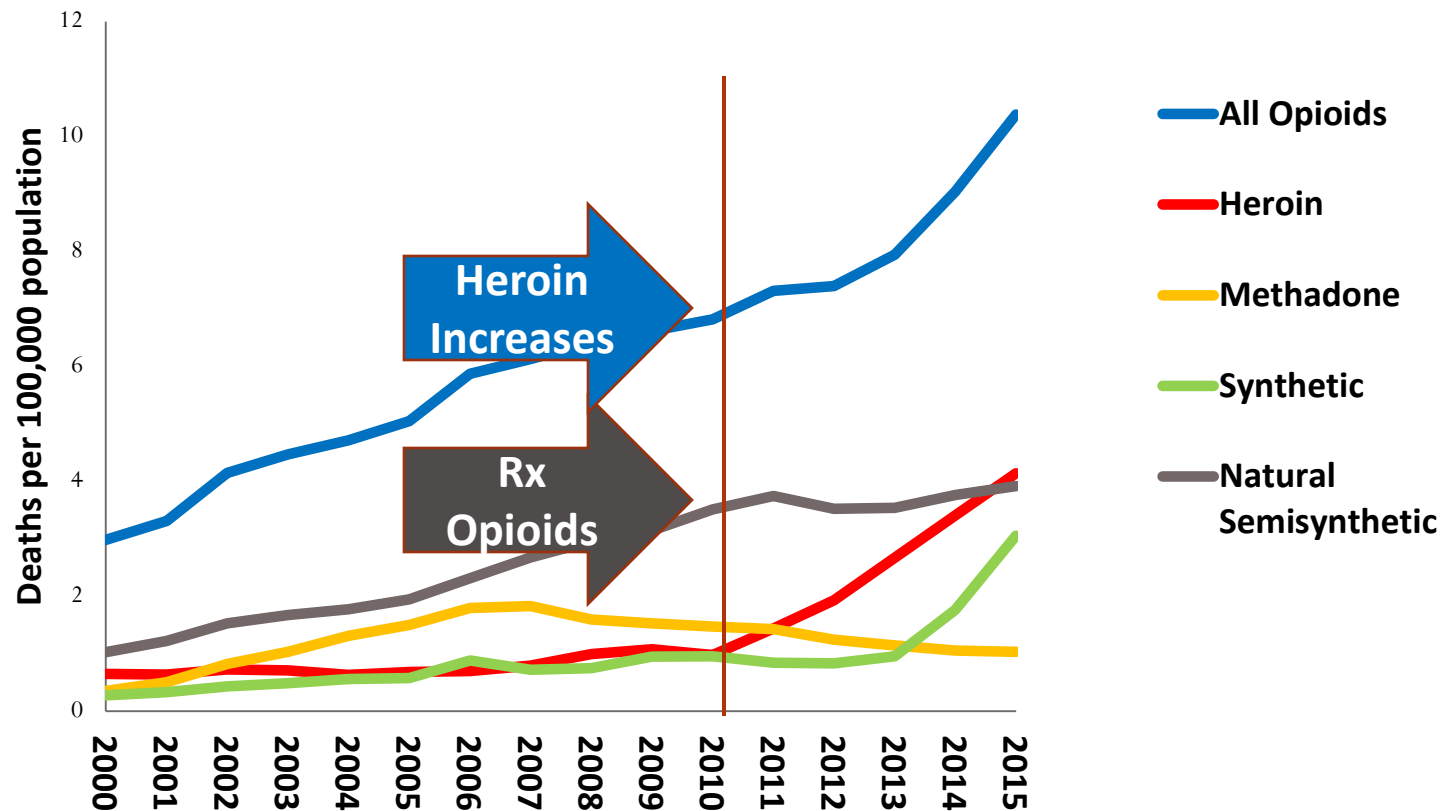
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2012 to 2014.

US: Use and NMU of Prescription Drugs

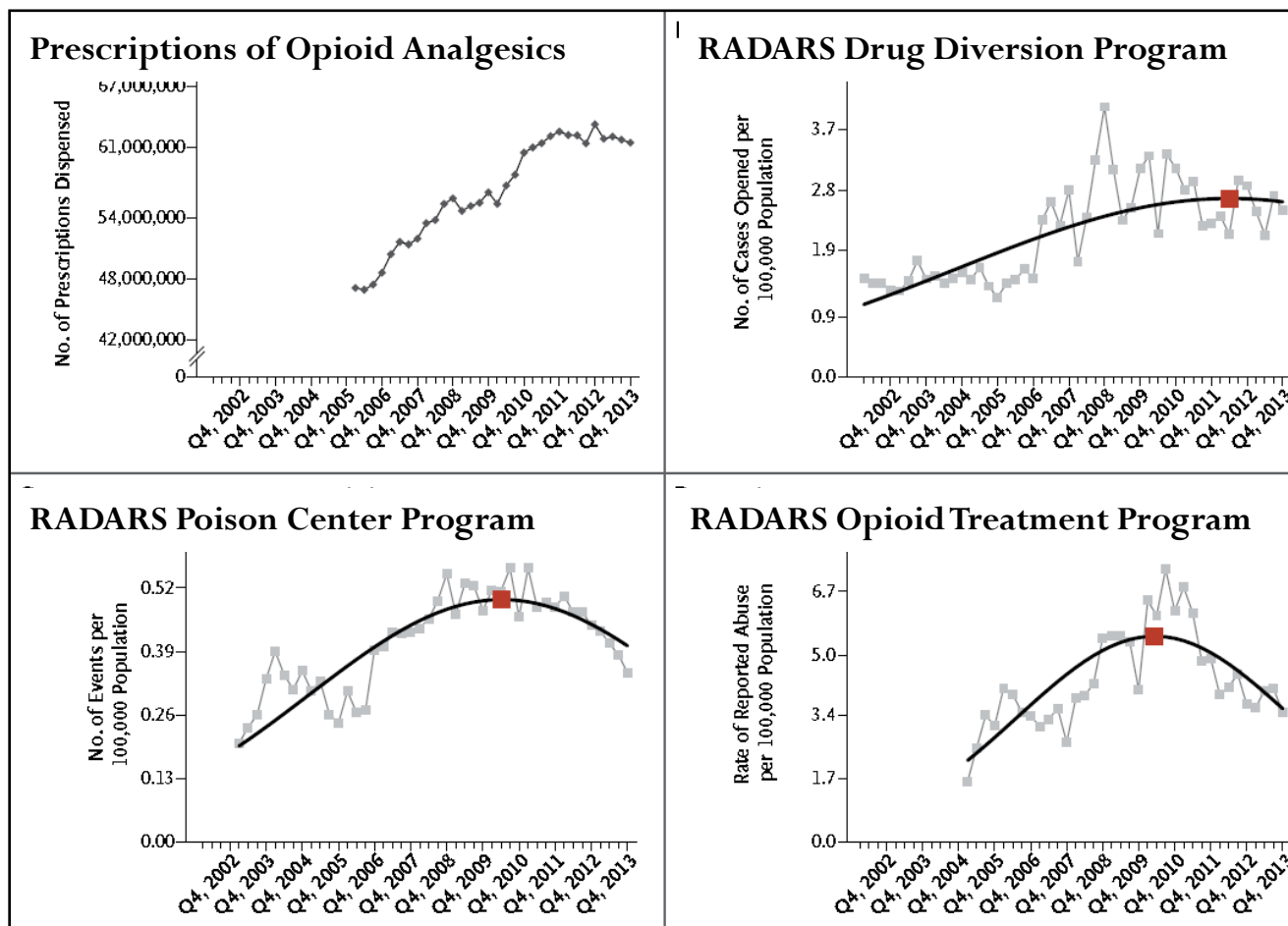


US: Heroin Deaths Are Intertwined With Prescription Opioid Deaths

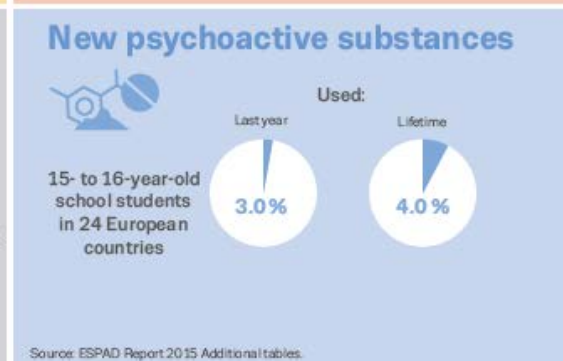
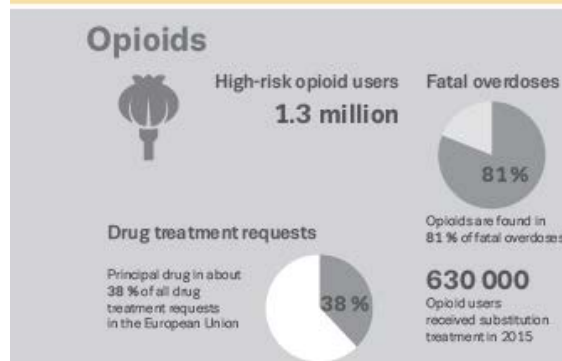
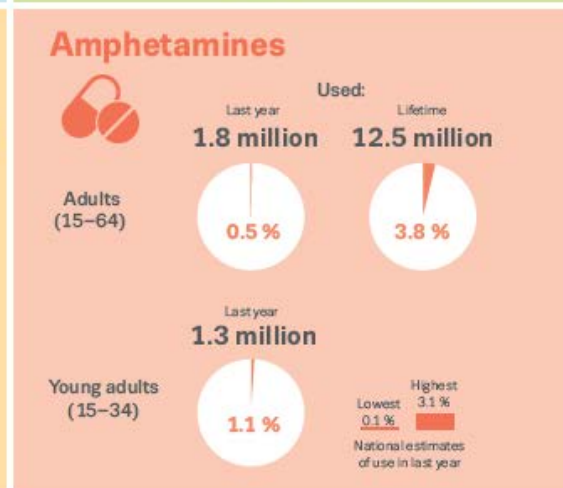
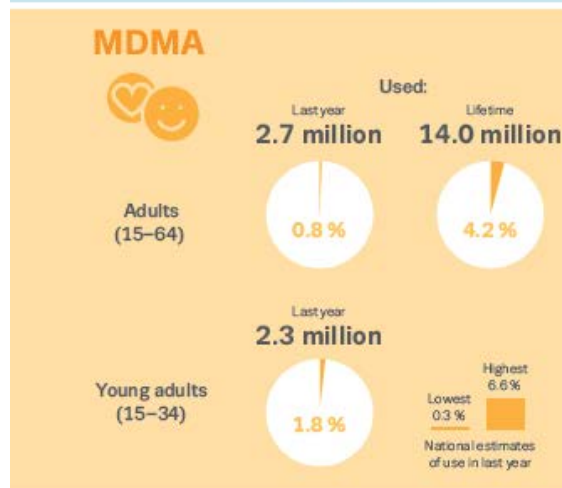
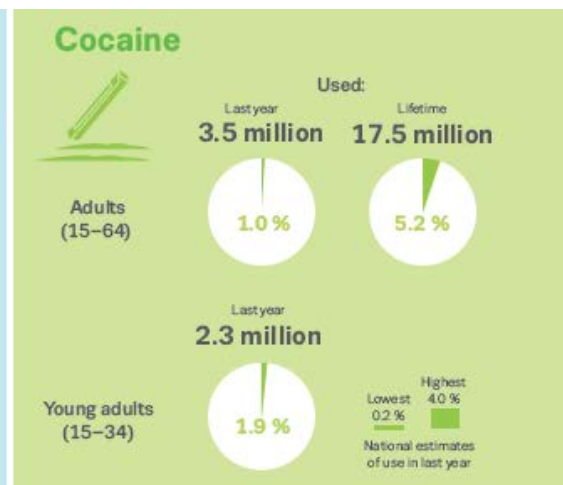
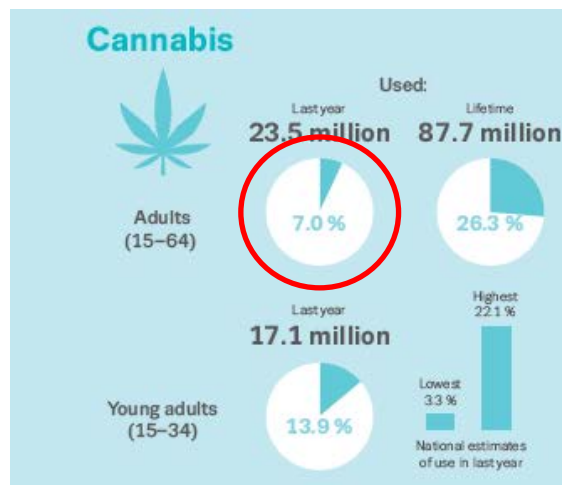
National Vital Statistics System, Mortality File



National Trends in Opioid Abuse and Diversion, United States

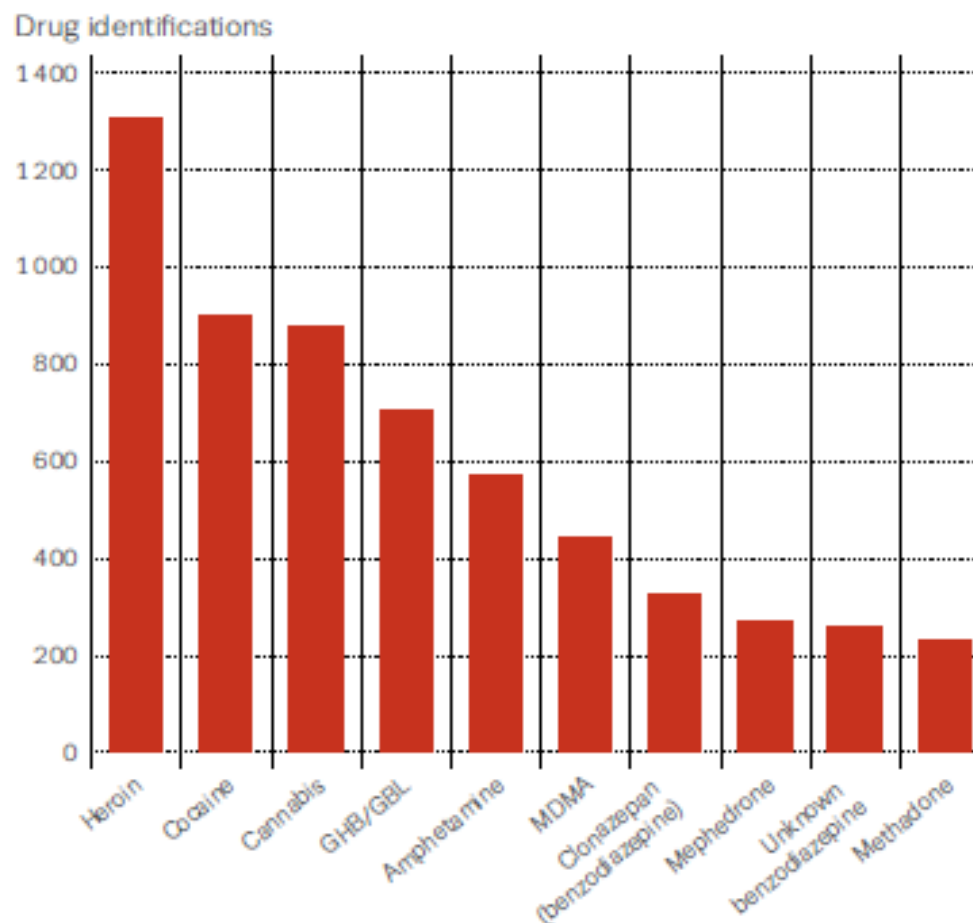


Europe



Source: ESPAD Report 2015 Additional tables.

Europe: Top 10 Drugs In Emergency Department Presentations, 2014



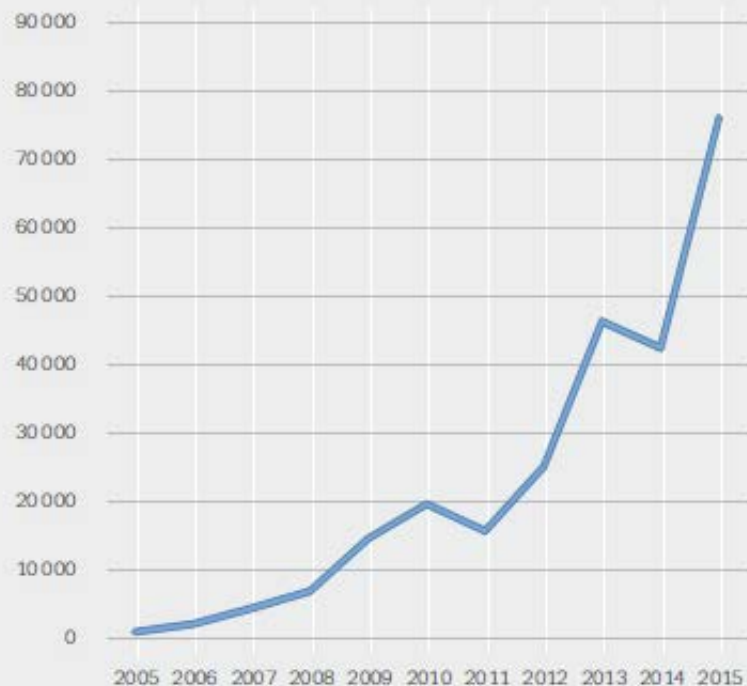
NB: Results from 5 409 emergency presentations in 16 sentinel sites in 10 European countries.

Source: European Drug Emergencies Network (Euro-DEN).

Number of Seizures, EU Member States

Number of seizures of new psychoactive substances reported to the EU Early Warning System: trends and distribution by category in 2015

Number of seizure cases



NB: Data for EU Member States, Turkey and Norway.



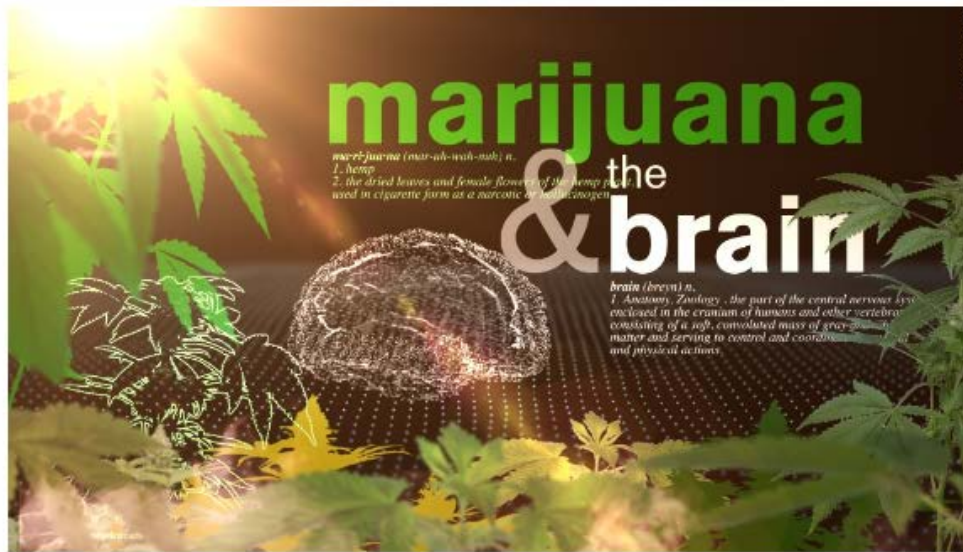
Burden of Drug Abuse

Drugged Driving Automobile Accidents Rising

'Drugged driving' surpasses drunken driving among drivers killed in crashes, report finds

By Robert Jimison, CNN

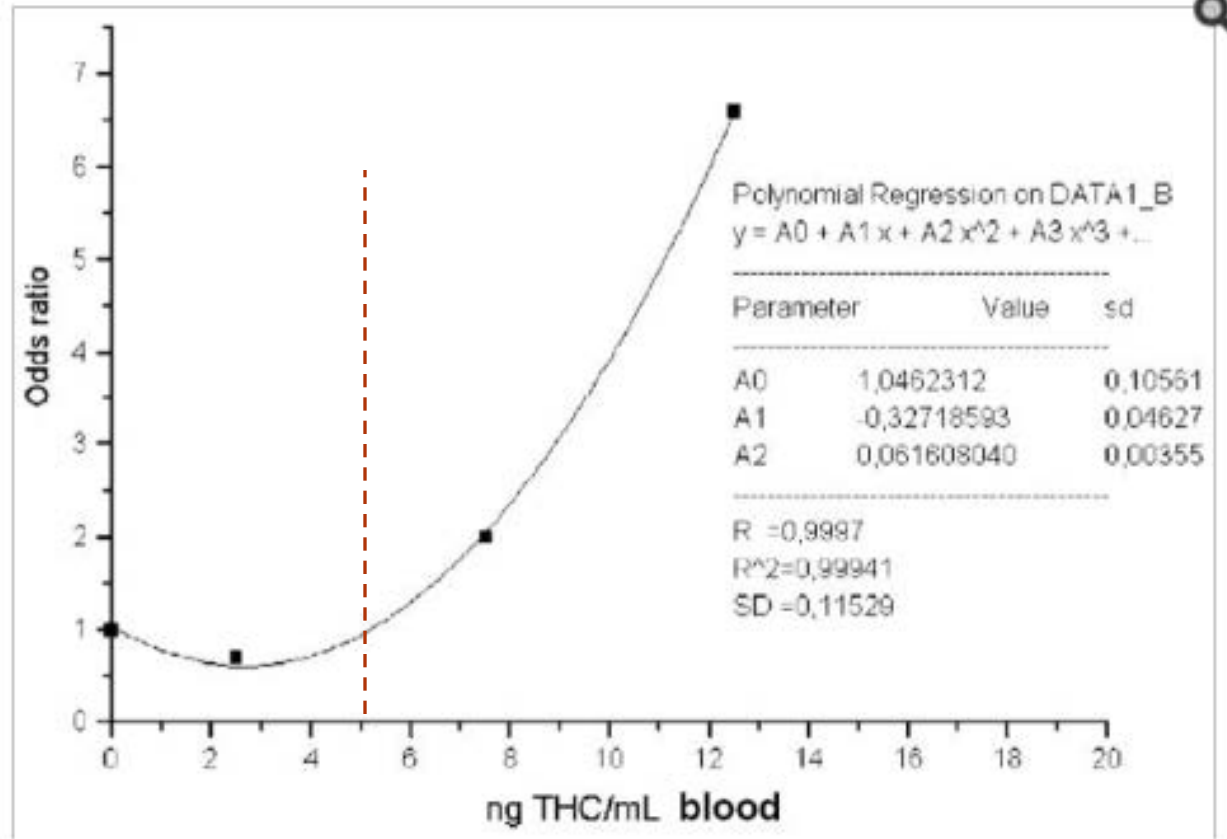
Updated 11:05 AM ET, Fri April 28, 2017



Your brain on weed 01:39

Cannabis Impaired Driving

Figure 2



Sewell RD, et al. The effect of cannabis compared with alcohol on driving. Am J Addict 2009;18:185

Risk of More Serious ED Outcome is Increased When Drug Are Combined

TABLE 2. Predicted risk (in percent) of a more serious outcome* from emergency department (ED) visits involving benzodiazepines alone or in combination with opioids or alcohol, 2005 through 2011, by drug combination and age (patients aged 12 and older)**

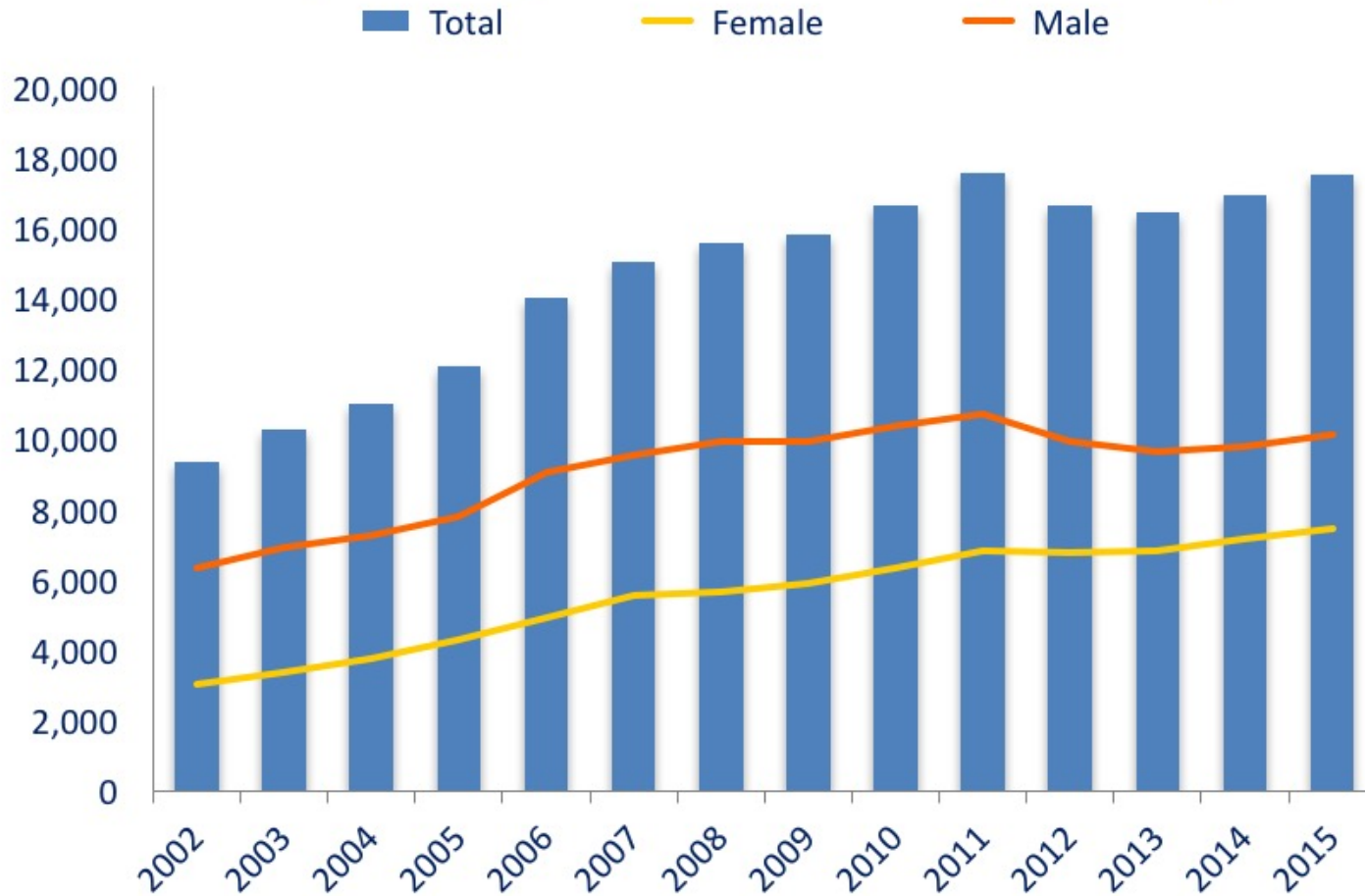
Drug combination	Aged 12 to 34	Aged 35 to 44	Aged 45 to 64	Aged 65 or older
Benzodiazepines alone	28%	30%	37%	39%
Benzodiazepines and opioids	37%	43%	47%	59%
Benzodiazepines and alcohol	35%	43%	51%	55%
Benzodiazepines, opioids, and alcohol	39%	47%	57%	70%

<https://www.samhsa.gov/data/sites/default/files/DAWN-SR192-BenzoCombos-2014/DAWN-SR192-BenzoCombos-2014.pdf>



National Overdose Deaths

Number of Deaths from Prescription Opioid Pain Relievers
(excluding non-methadone synthetics)

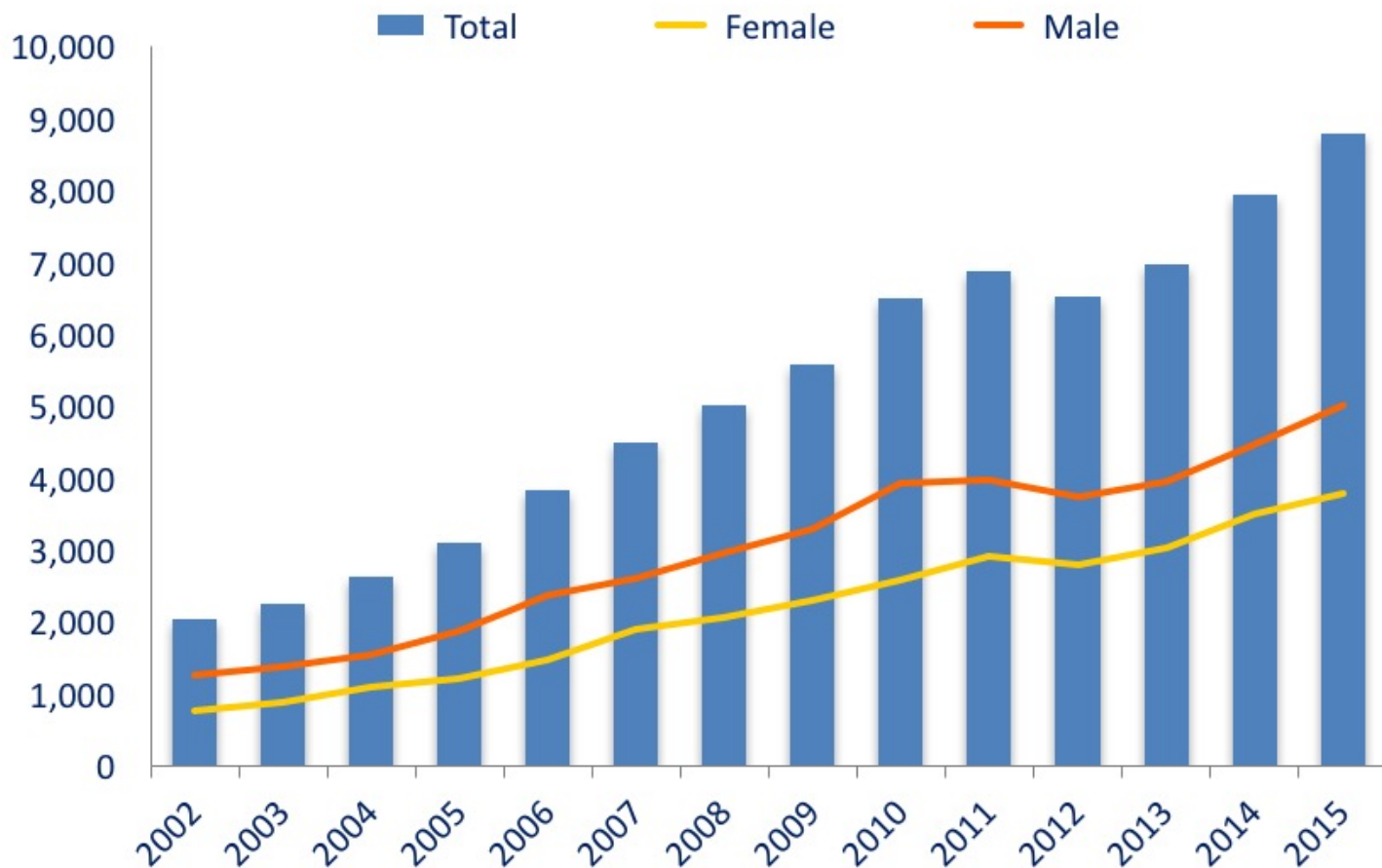


Source: National Center for Health Statistics, CDC Wonder



National Overdose Deaths

Number of Deaths from Benzodiazepines



Source: National Center for Health Statistics, CDC Wonder

Costs of Substance Abuse: National Institute on Drug Abuse

	Health Care	Overall	Year Estimate Based On
Tobacco ^{1,2}	\$168 billion	\$300 billion	2010
Alcohol ³	\$27 billion	\$249 billion	2010
Illicit Drugs ^{4,5}	\$11 billion	\$193 billion	2007
Prescription Opioids ⁶	\$26 billion	\$78.5 billion	2013

Total - Over \$800 billion

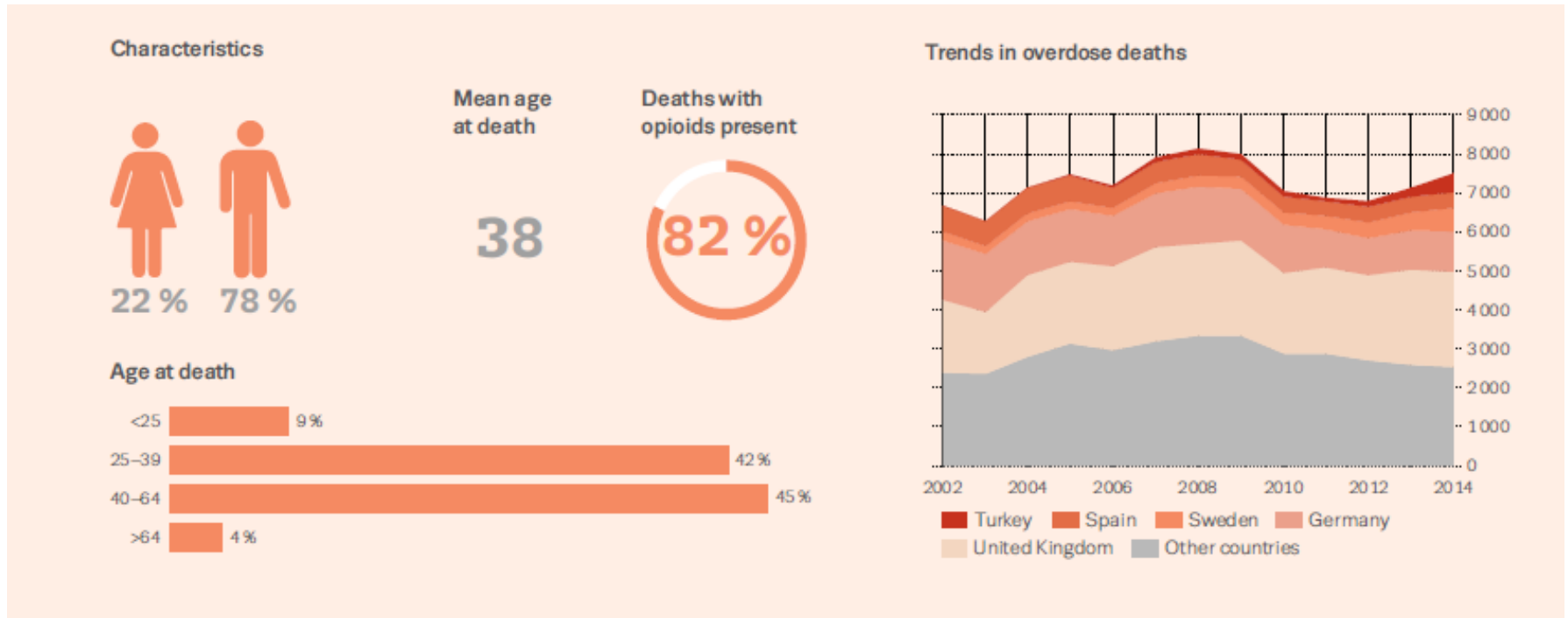
Presenteeism

HEALTH

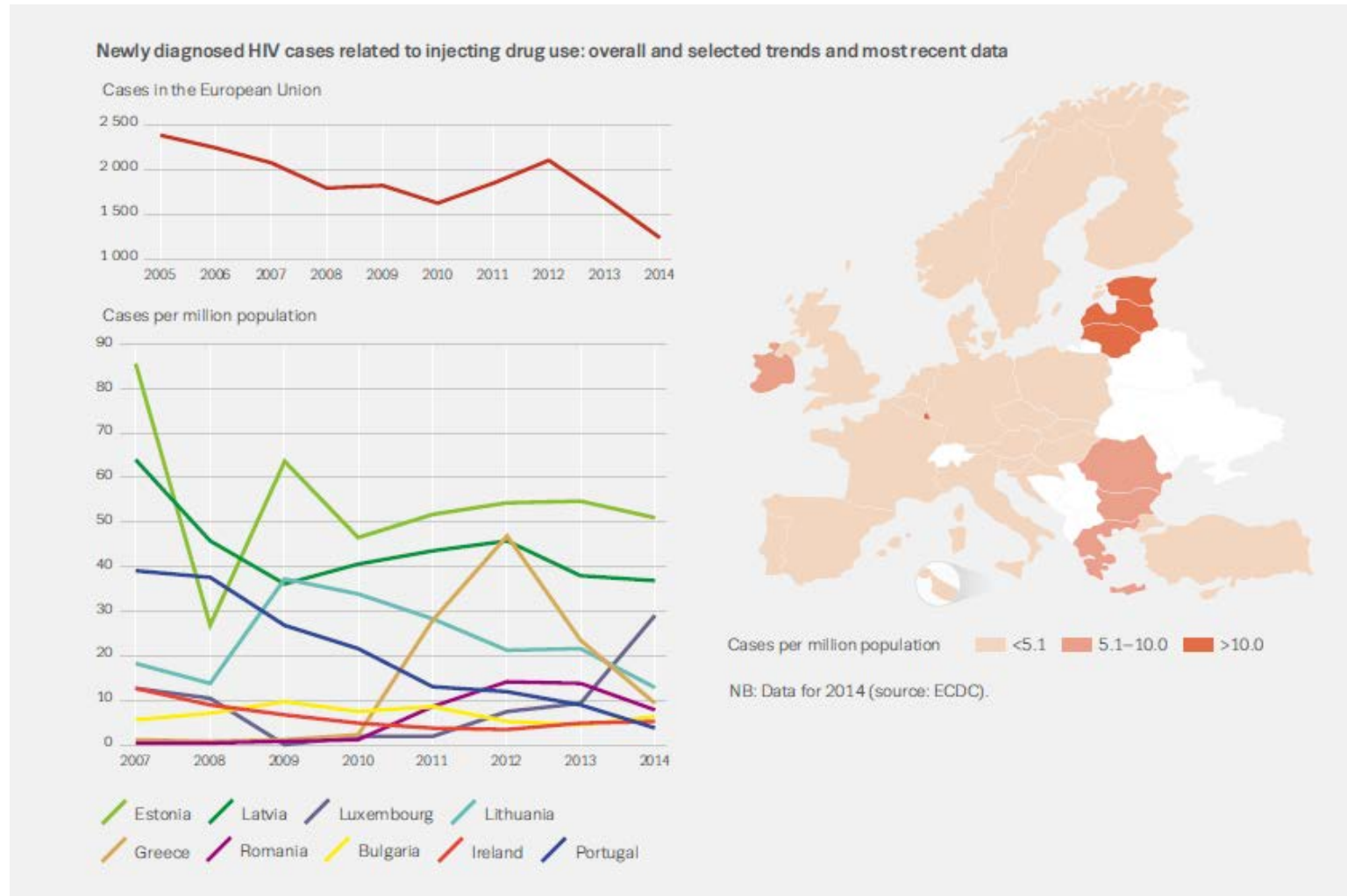
Drug Abuse Costs Employers \$81 Billion Per Year

Occupational health associations studying impact of drugs on the workplace. Drugs cost business \$81 billion. Most drug users are employed. Recent changes to marijuana laws have employers concerned.

Europe Trends in Overdose Deaths



Europe New HIV From IV Drug Injection, 2016



Summary

- Overall substance abuse in US is rising, primarily due to novel psychoactives and heroin
 - Prescription drug abuse is actually decreasing
 - Both genders, all age groups, all income brackets
- Substance abuse in Europe is probably increasing, but more difficult to measure than US
- Leading drugs of use/abuse in both US and Europe are alcohol and cannabis.
 - Leading opioid in both US and Europe is heroin.
- The costs in terms of human suffering as well as economic costs are staggering.
- In US, massive efforts underway to address the problem.

End
