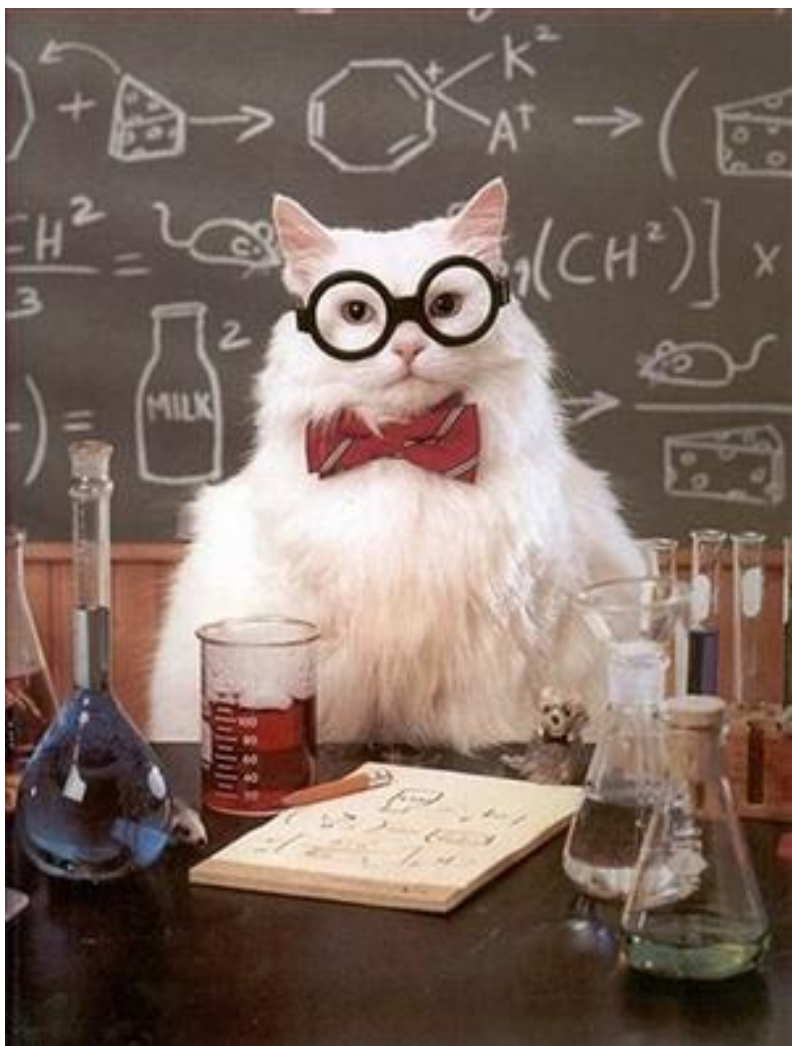


# The Polydrug Poisoning Epidemic and the Killer Heroin Meme





For every  
complex  
problem there is  
an answer that is  
clear, simple,  
and wrong.  
--H. L. Mencken

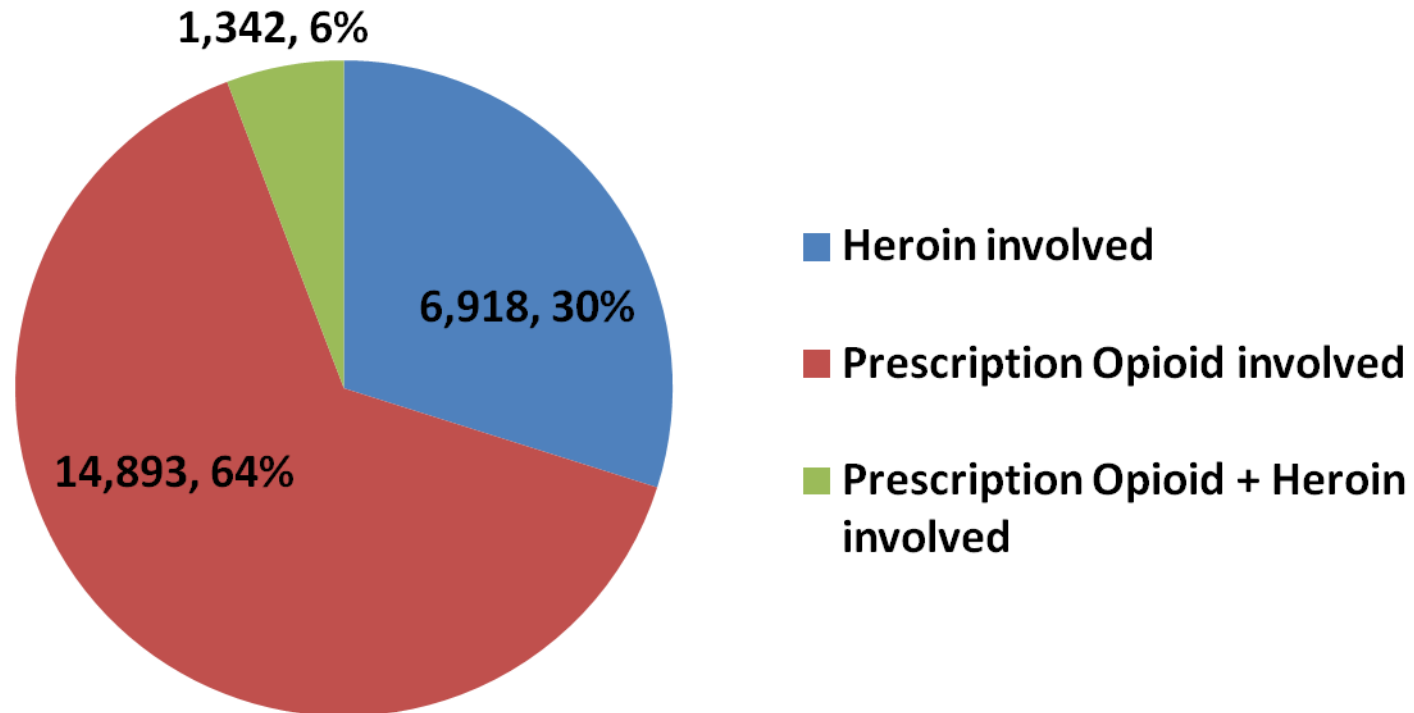
**For the media the answer is:**



**BLAME  
HEROIN!**

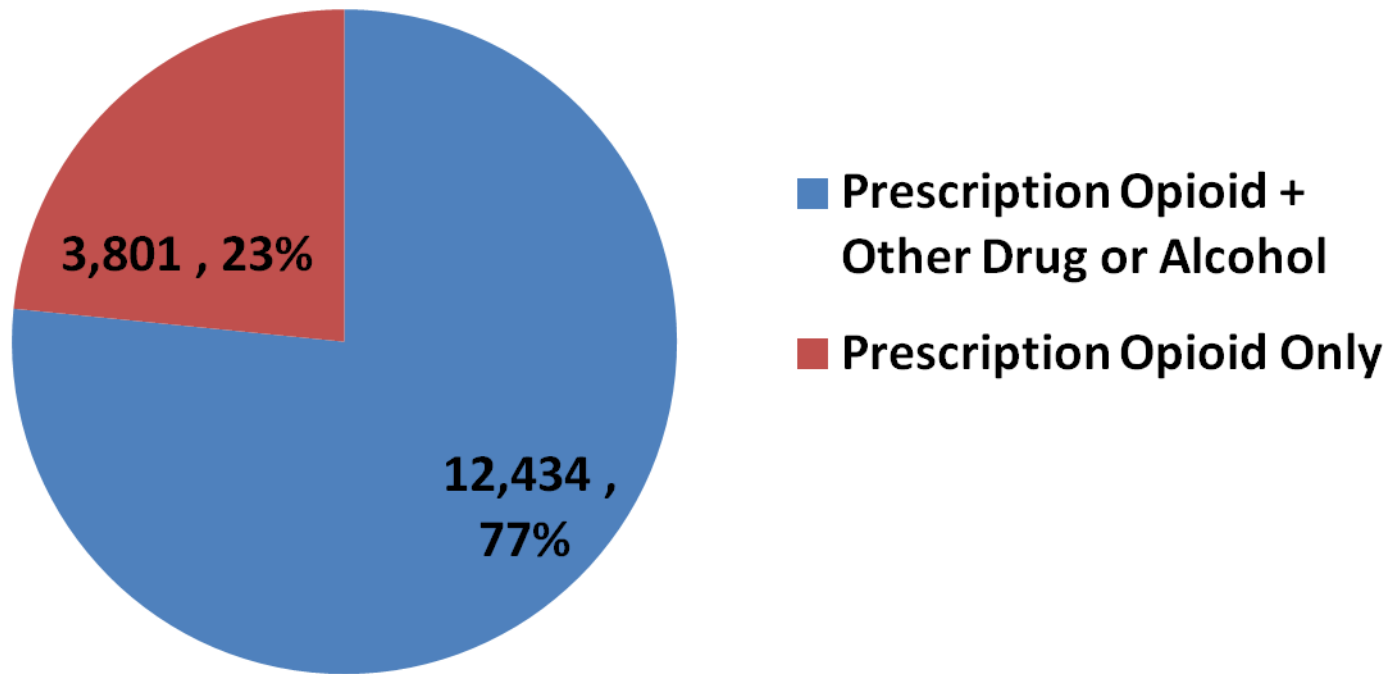
**BLAME  
HEROIN!**

# Opioid involved deaths USA 2013 (23,153 total)



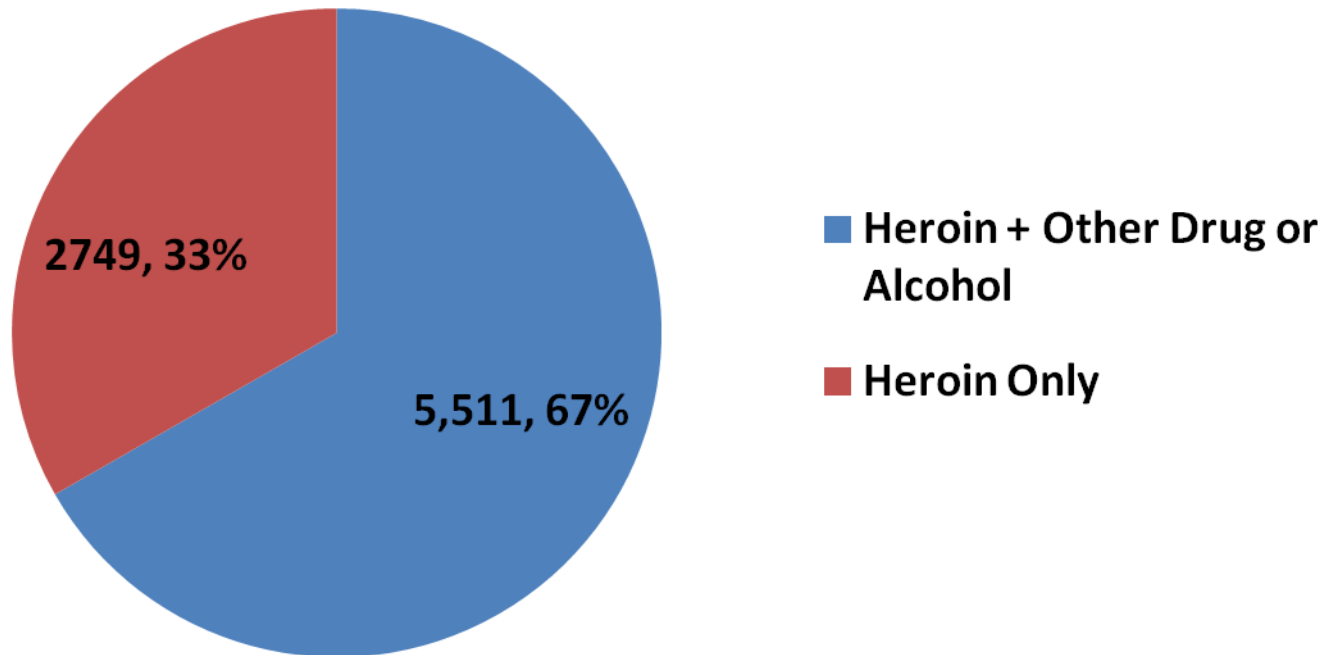
Underlying ICD-10 Codes X40-44 (Accidental) X60-64 (Self Harm) X 85 (Assault) Y10-14 (Unknown)  
MCD Codes for Prescription Opioids T40.2-4  
MCD Codes for Heroin T40.0-1

# Prescription Opioid deaths involving drug mixing USA 2013



Underlying ICD-10 Codes X40-44 (Accidental) X60-64 (Self Harm) X 85 (Assault) Y10-14 (Unknown)  
MCD Codes for Prescription Opioids T40.2-4  
MCD Codes for Other Drugs or Alcohol T36-T39, T40.0, T40.1, T40.5-9, T41-65

# Heroin deaths involving drug mixing USA 2013

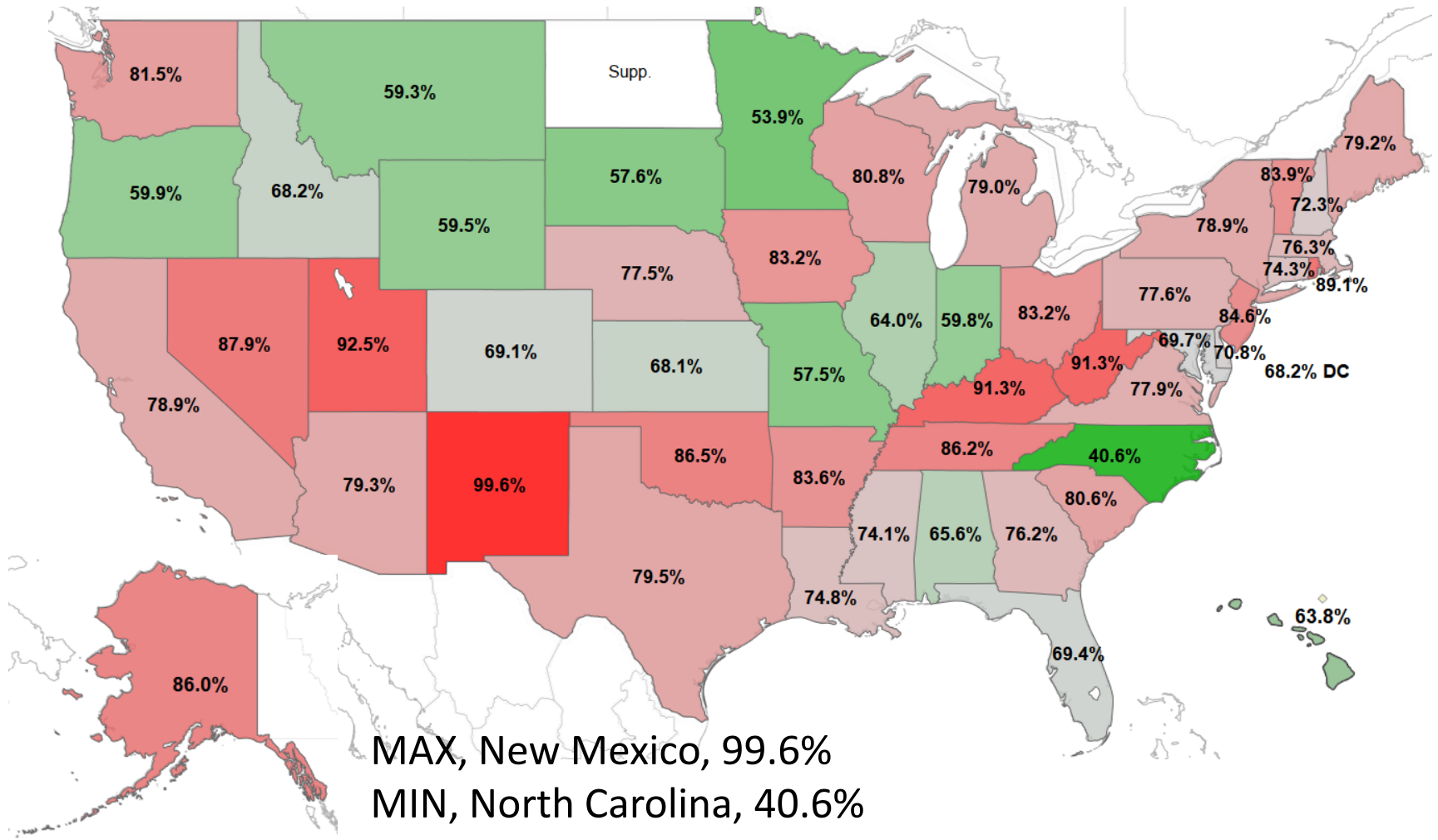


Underlying ICD-10 Codes X40-44 (Accidental) X60-64 (Self Harm) X 85 (Assault) Y10-14 (Unknown)  
MCD Codes for Heroin T40.0-1  
MCD Codes for Other Drugs or Alcohol T36-T39, T40.2-9, T41-65

# UNDERCOUNTING

- Jones et al. (2013) “Death certificate data have limitations, but they are the sole source for detailed death information at the national level. This analysis is limited by the 25% of death certificates in which the type of drugs involved was not specified, an omission due to lack of toxicological testing or failure to record the results of such tests on the death certificate. Therefore, the numbers reported in this analysis are undercounts. Additionally, the degree to which drugs are specified on death certificates might vary across the United States and therefore differentially undercount types of drugs more common in areas in which death certificates are less complete.”

# Percentage of Prescription Opioid deaths involving drug mixing as reported by state 2013



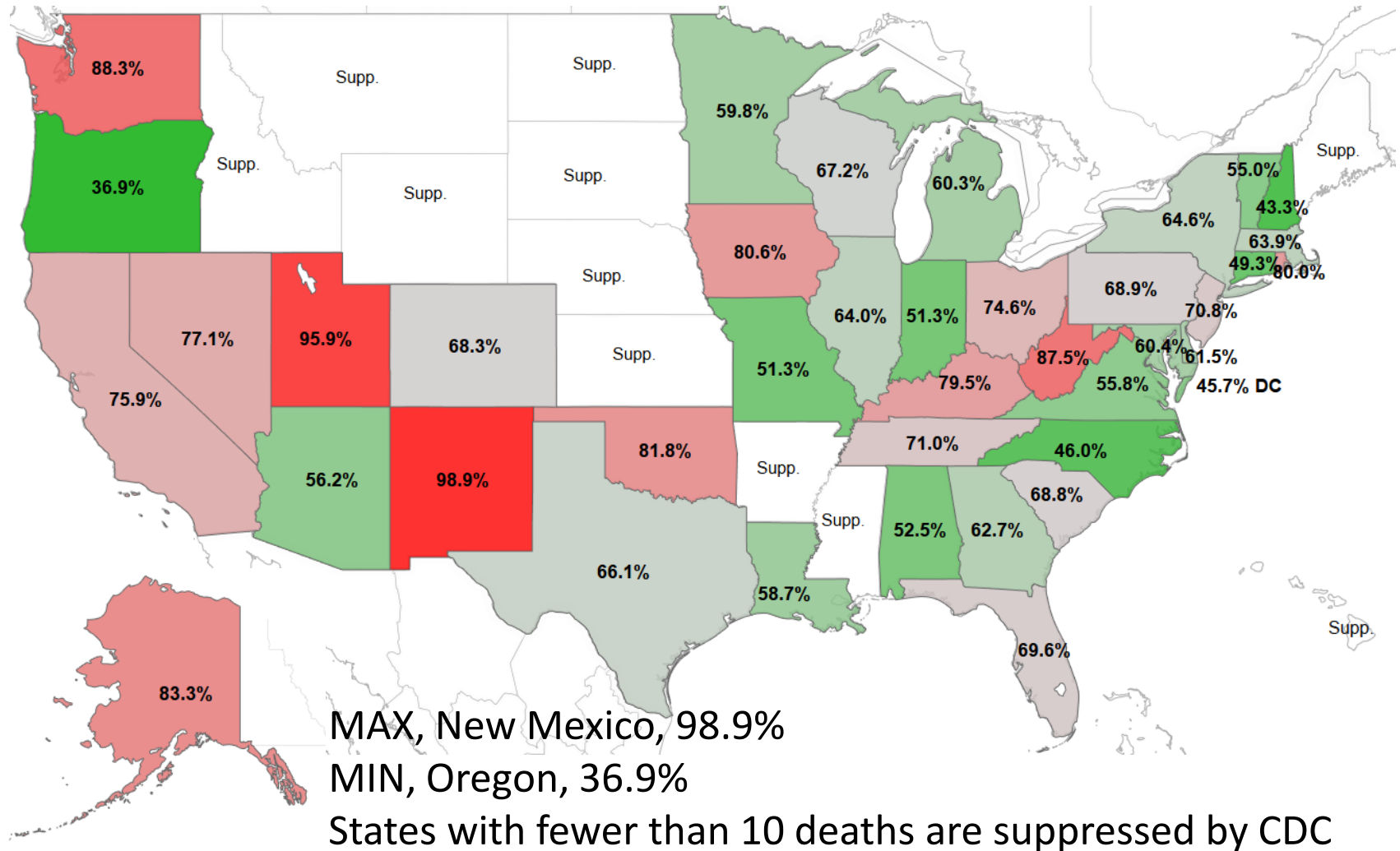
MAX, New Mexico, 99.6%

MIN, North Carolina, 40.6%

States with fewer than 10 deaths are suppressed by CDC

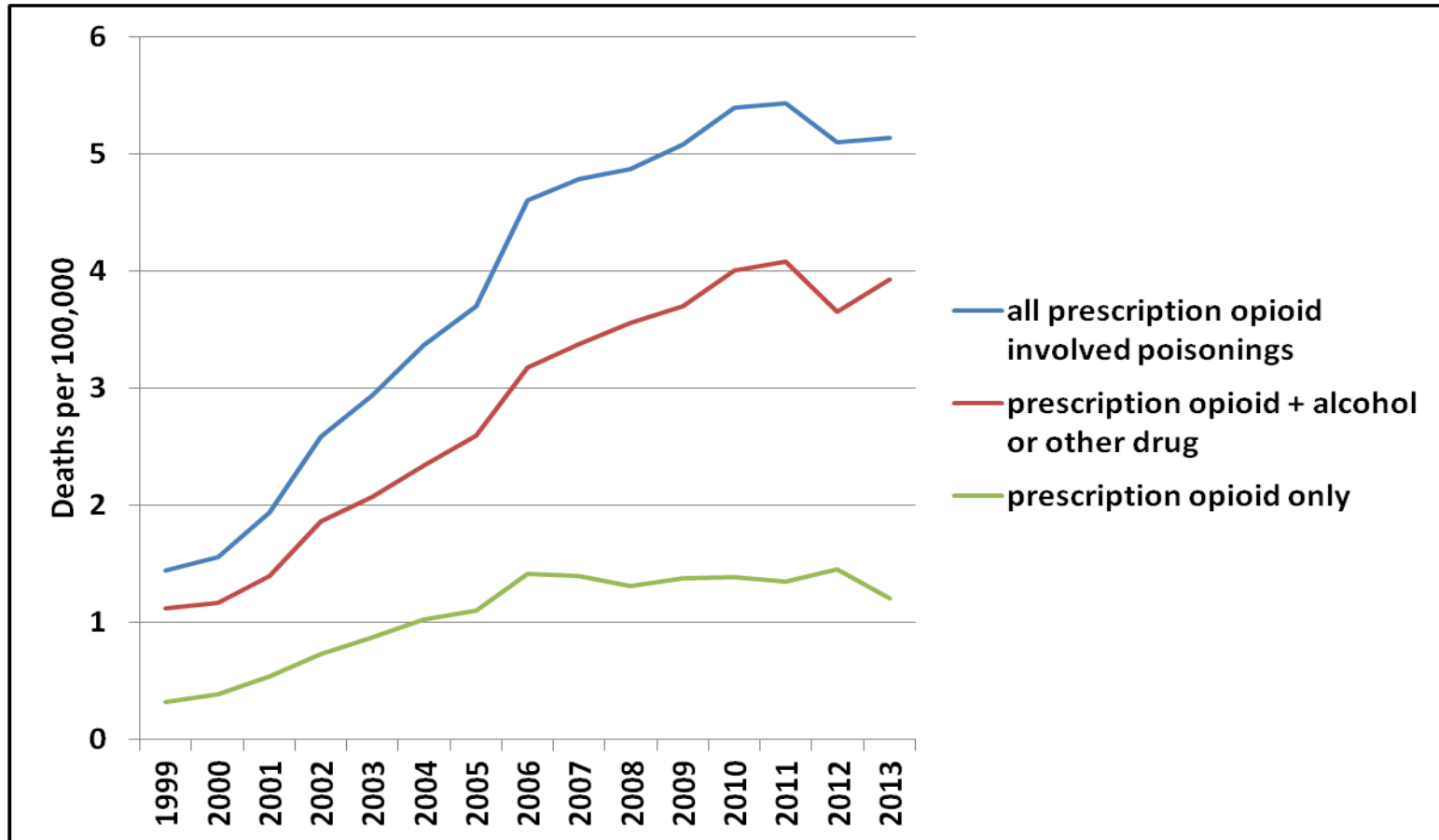


# Percentage of Heroin deaths involving drug mixing as reported by state 2013

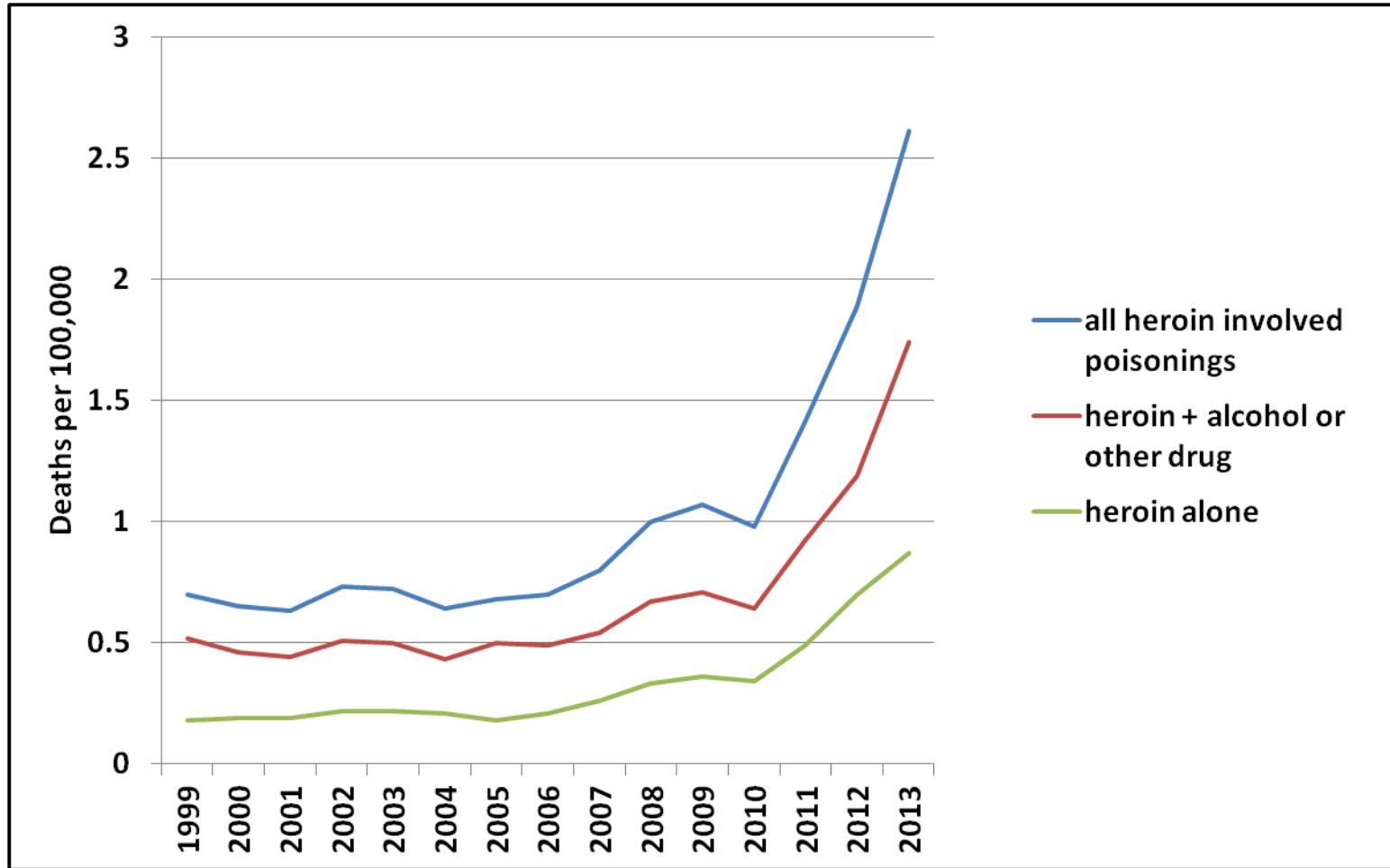


- Do these states actually have low rates of drug mixing or do they have lots of under-reporting of drug mixing deaths? We don't have any way to know for sure.

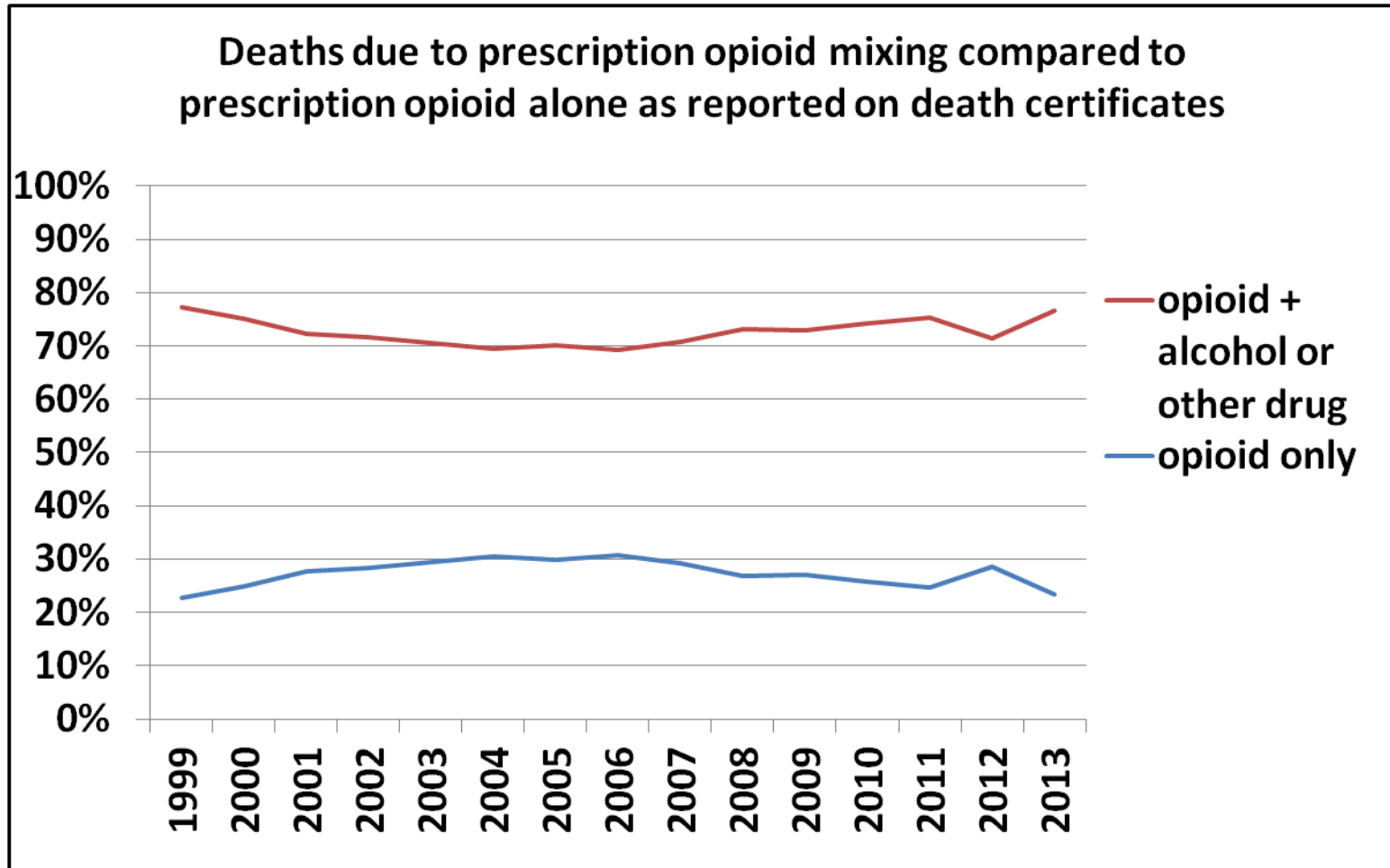
# Prescription opioid involved deaths USA 1999-2013



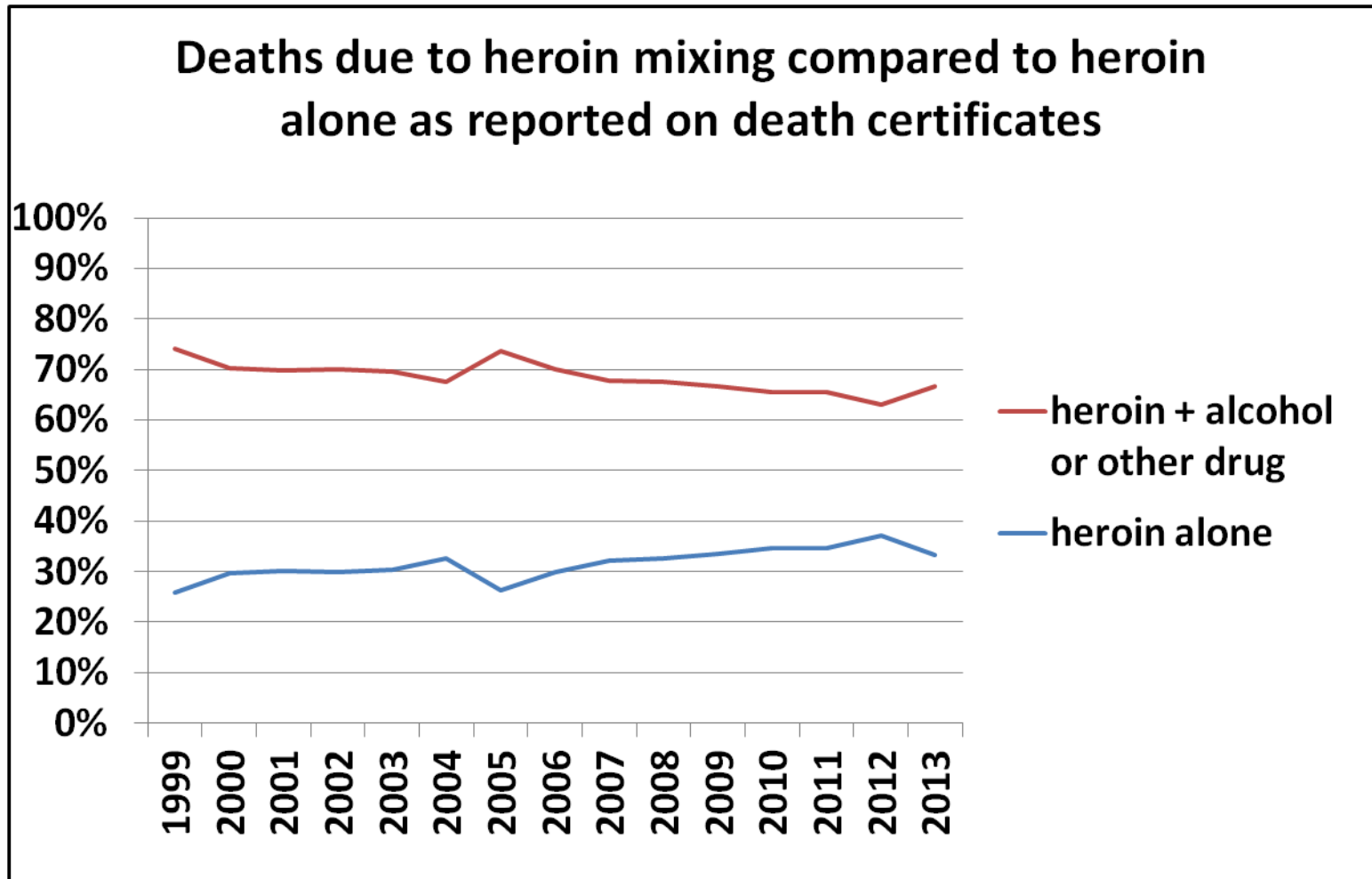
# Heroin involved deaths USA 1999-2013



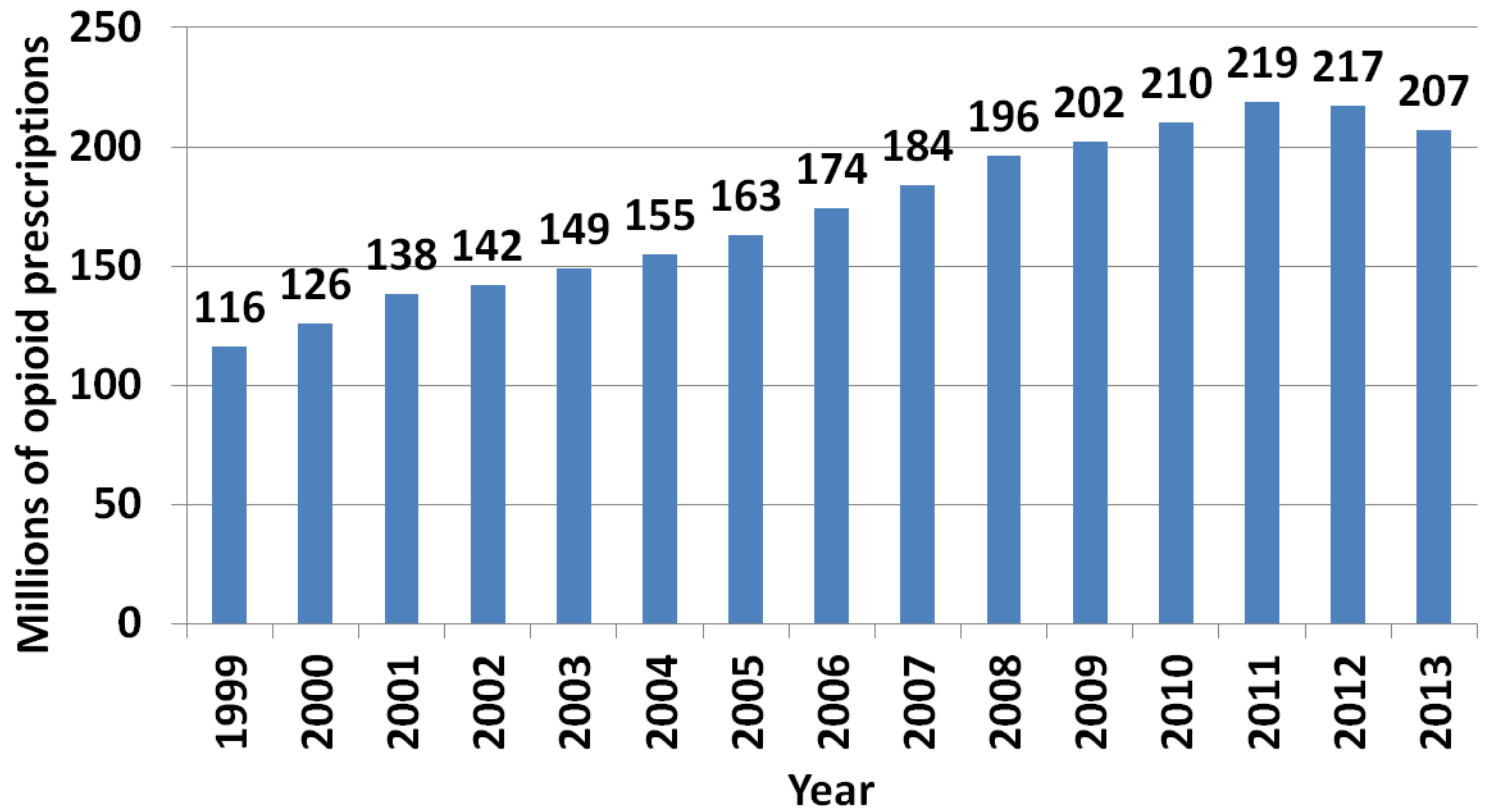
# Percentage of Prescription Opioid involved deaths involving drug mixing 1999-2013



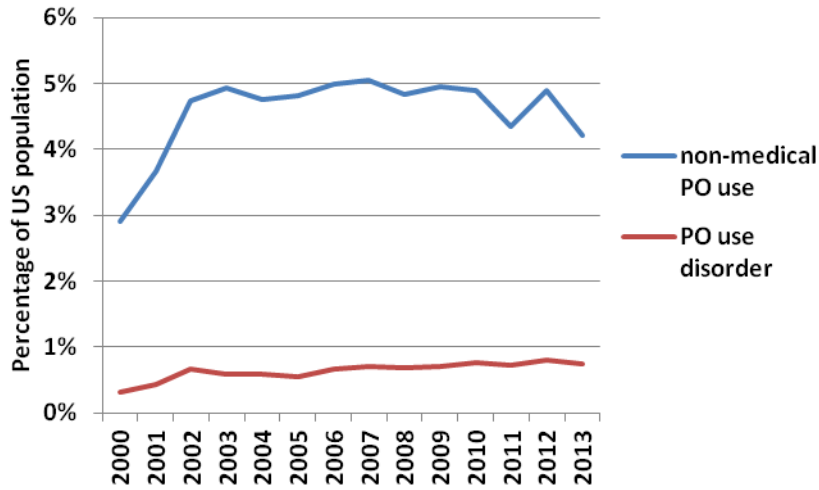
# Percentage of Heroin involved deaths involving drug mixing 1999-2013



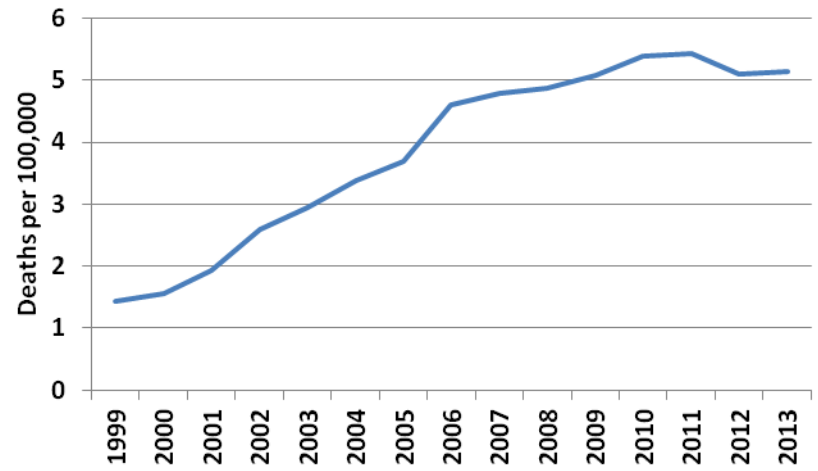
## Increase in opioid prescribing 1999 - 2013



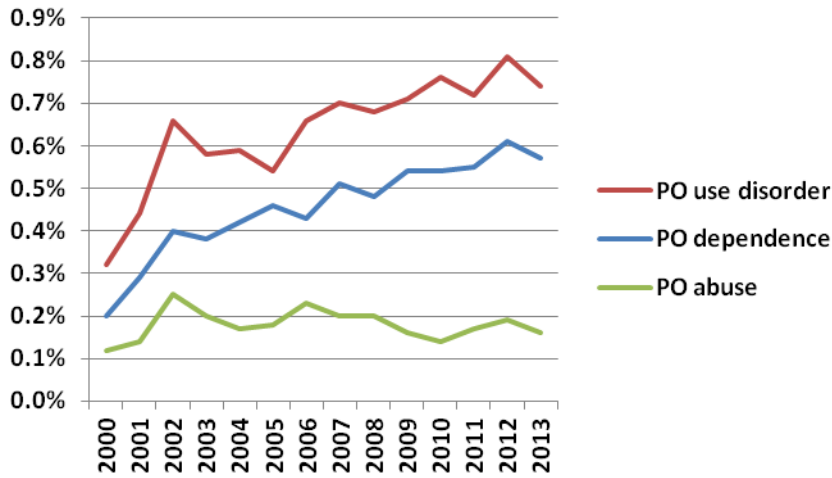
### PO non medical use & use disorder



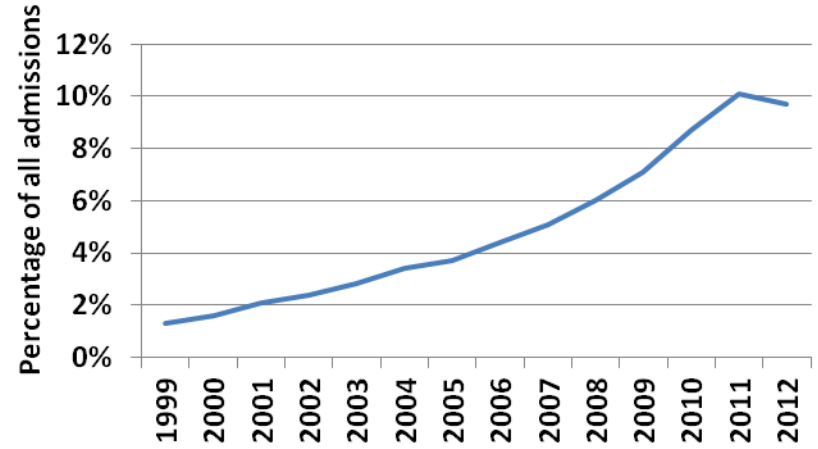
### PO poisoning deaths



### PO use disorder, abuse & dependence



### Prescription Opioid Treatment Admissions 1999-2012

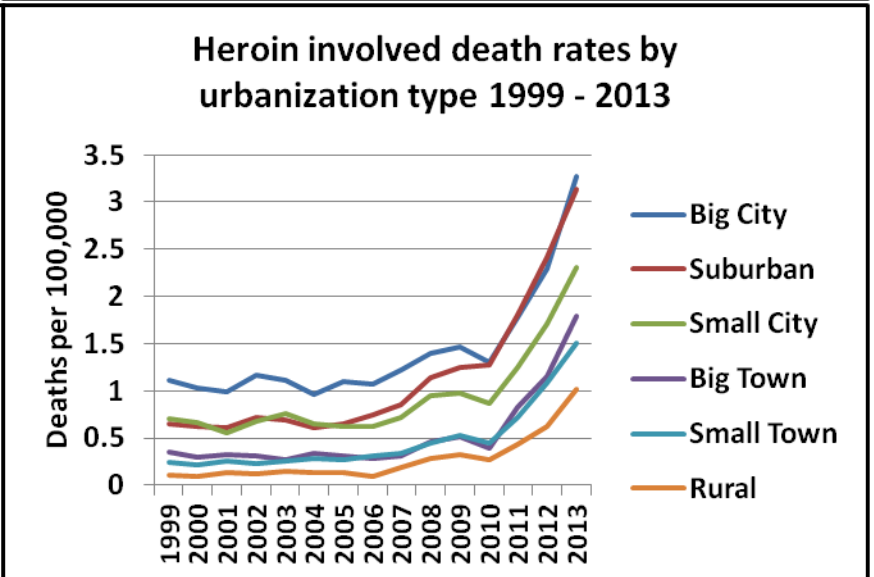
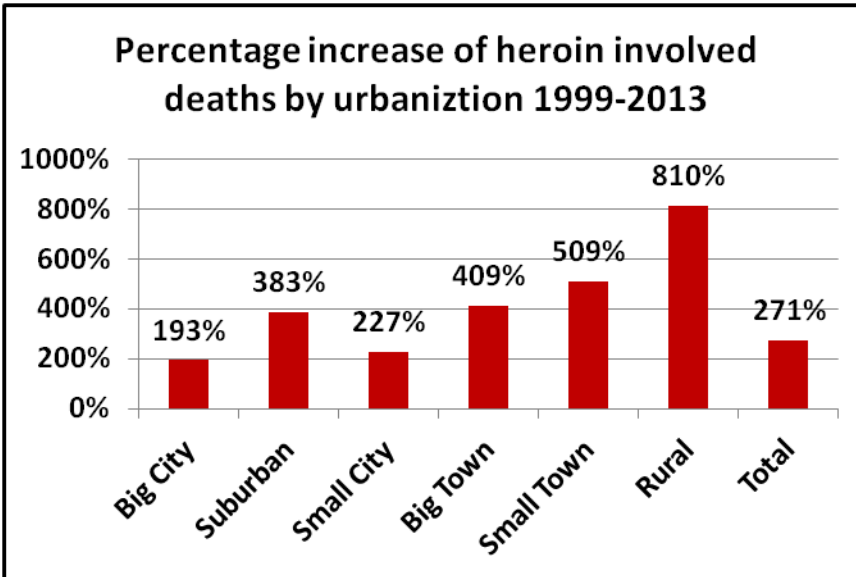
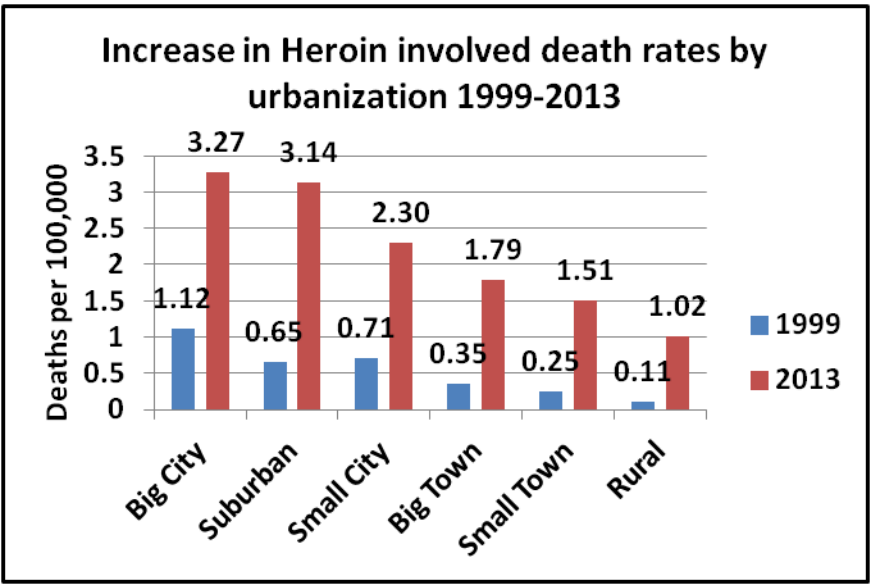




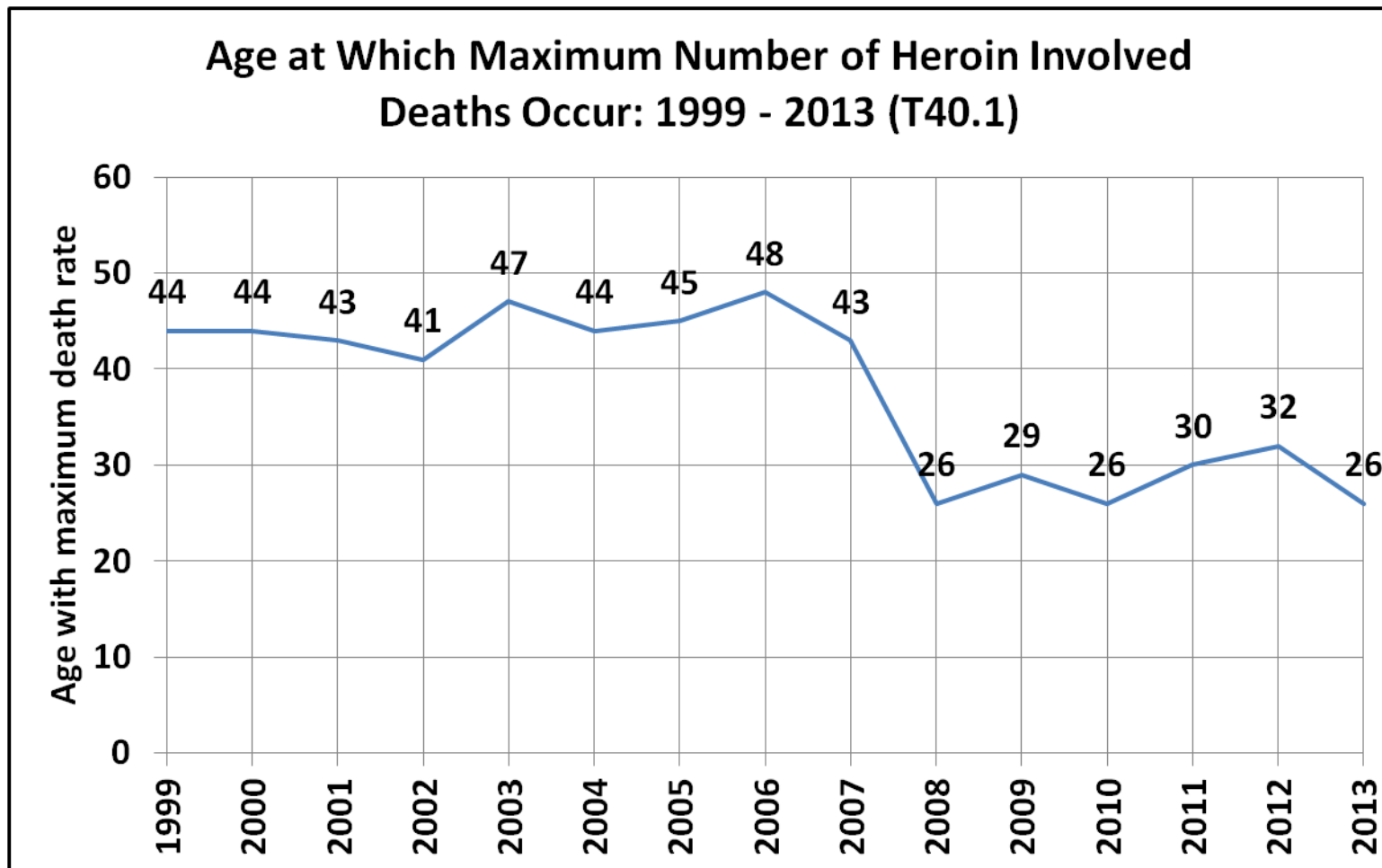
# What does the previous data suggest?

- It is likely that there is a generally increase in severity of Prescription Opioid Use Disorder
- It is also likely that people with Prescription Opioid Use Disorder are using bigger doses and/or more frequently
- There is a probable increase in the severity of PO withdrawal and tolerance due to consumption of large doses

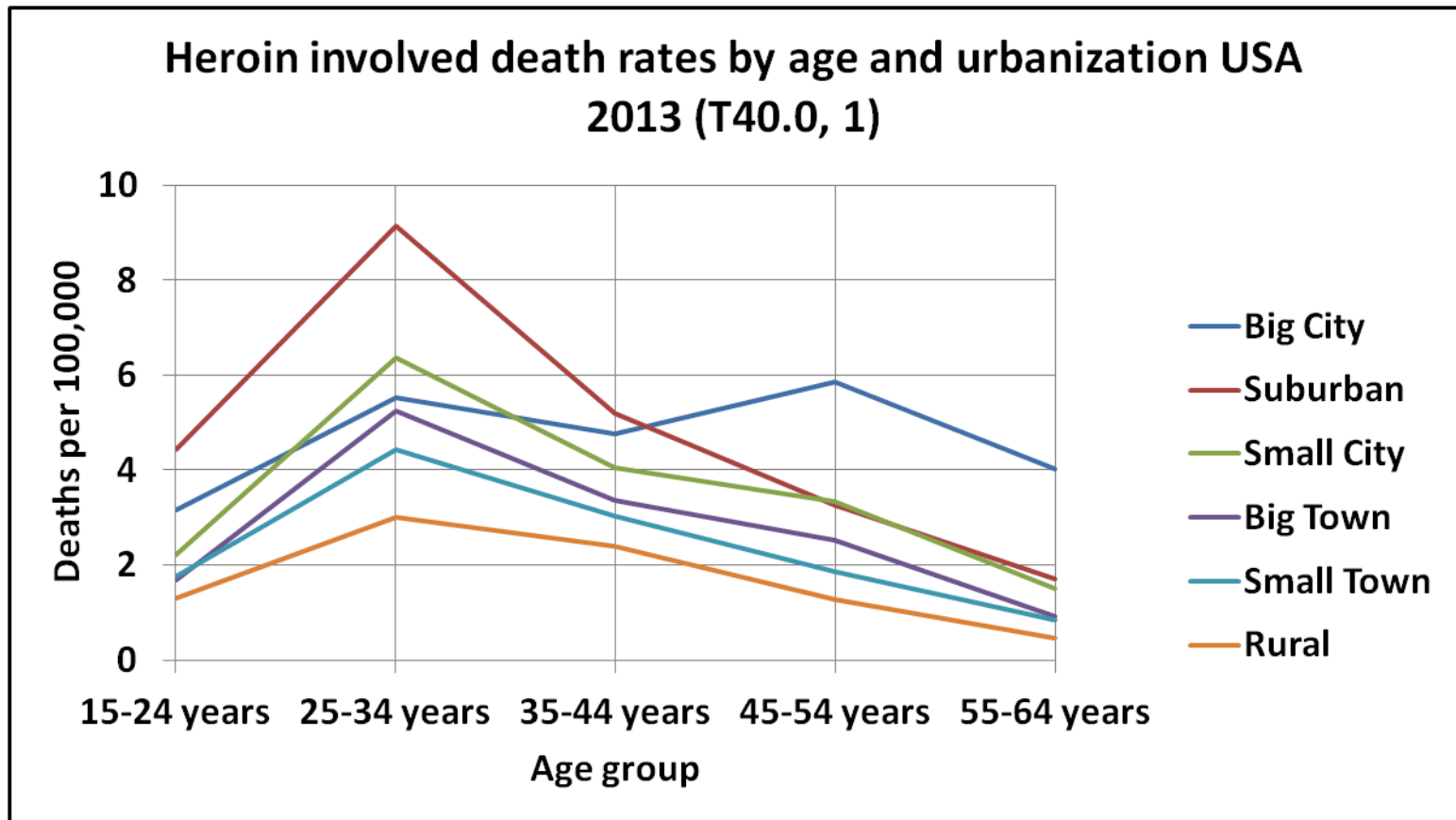
**Heroin is now making its way into many suburban and rural areas where naïve users have no clue about safe use practices and no access to harm reduction services--with devastating results (T40.0, 1)**



# Heroin poisoning used to primarily affect an older population



In big cities heroin poisoning still mainly affects an older population, but not in suburban, small town or rural areas



# Why hasn't anyone talked about the drug mixing problem before?

- Actually they have
- As early as 1973 Brecher pointed out that most so-called heroin overdoses are polydrug poisonings
- The NYC Dept of Health has published several reports stating over 90% of NYC opioid deaths are due to drug mixing
- Jones et al. (2013) and a couple of other researchers have published scholarly articles on the topic

But the media remains totally clueless about the polydrug poisoning epidemic



- Are non medical users of prescription opioids on the rise?—No
- Are some prescription opioid users taking much bigger doses whether they mix or not?-- Probably yes
- Is heroin use on the rise?—Yes
- Are the numbers of young, inexperienced, and non-urban heroin users increasing?—Yes
- Is the percentage of users who mix drugs on the rise?--?????

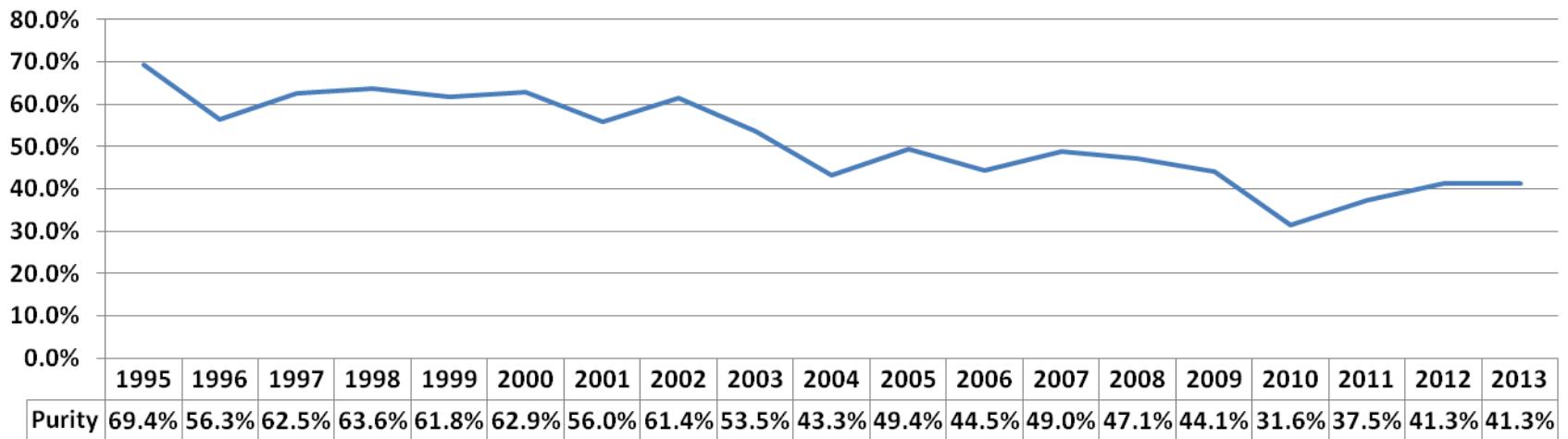
# The Heroin Purity Myth



In a story in the New York Post about the death of Philip Seymour Hoffmann, New York City DEA agent John Hunt blames killer heroin and says that the heroin in New York City today is many times stronger than it was 20 years ago.



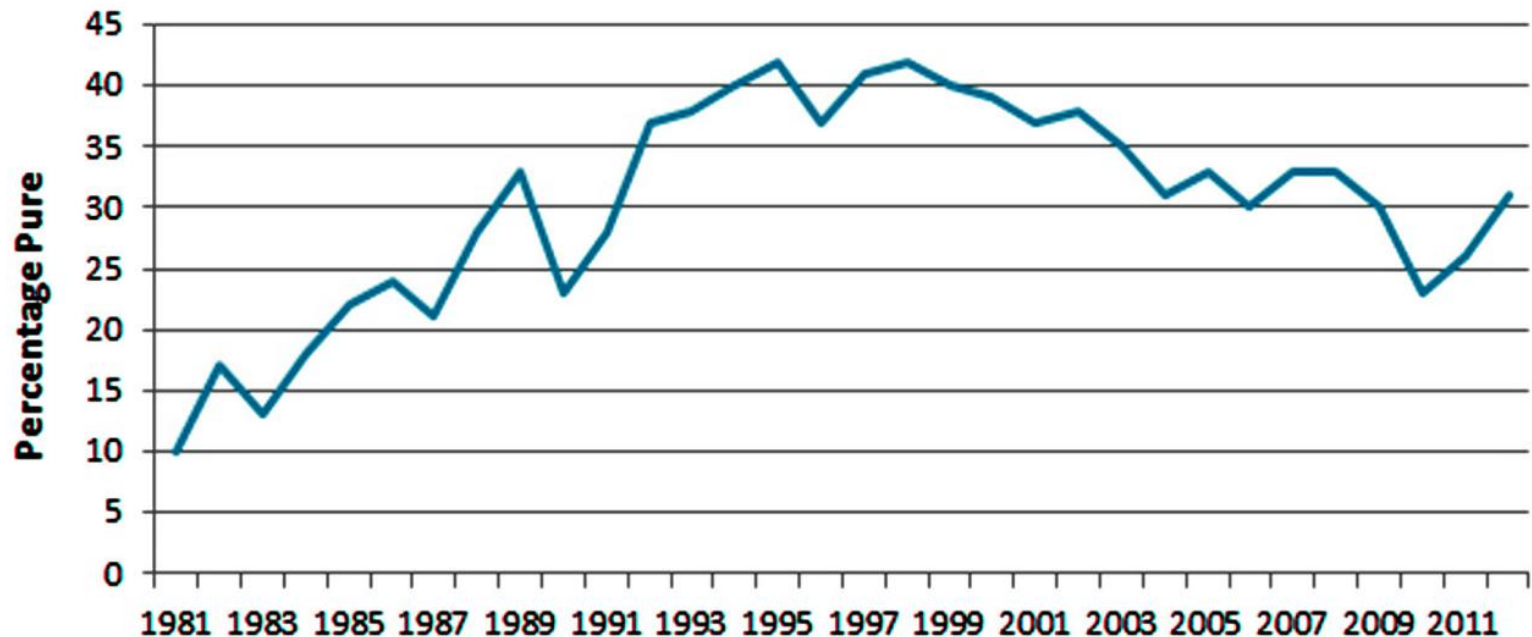
Heroin Purity in New York City, 1995-2013 (data from DEA archives)



- “New York City Heroin Weaker Than 20 Years Ago!” is not a great soundbite
- Hoffman actually died of a drug cocktail involving Heroin, Cocaine, Benzos, and Amphetamine—not “KILLER HEROIN”

# Heroin purity nationally (source DEA)

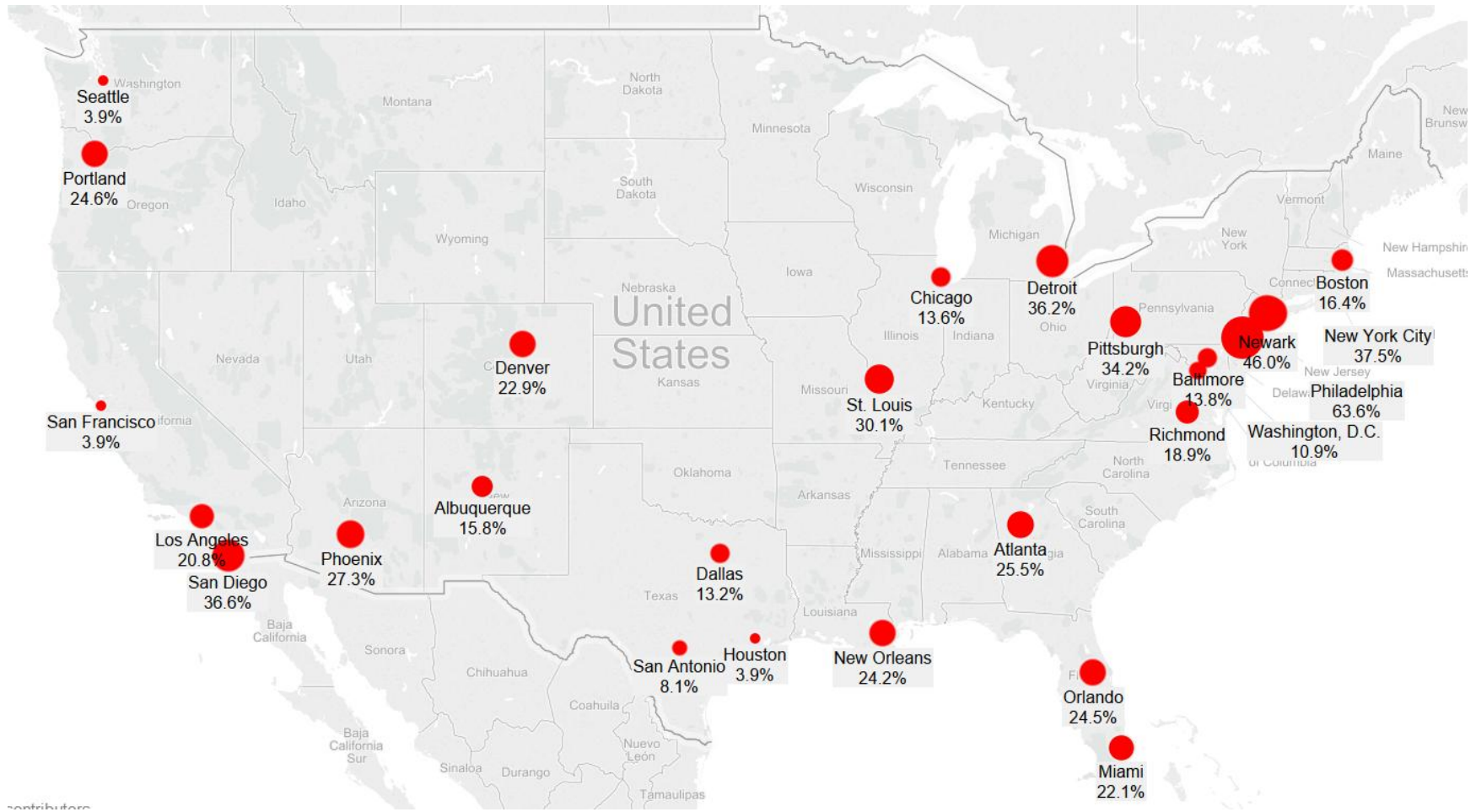
Retail-level Average Purity of Heroin in the United States, 1981 to 2012



# The safest heroin is pure heroin

- Uncertain heroin purity is a HUGE problem because it makes it impossible to measure your dose accurately. But the safest heroin is 100% pharmaceutically pure heroin because then you can measure your dose accurately. There have been zero fatalities at the Swiss heroin maintenance treatment program which uses 100% pure heroin.

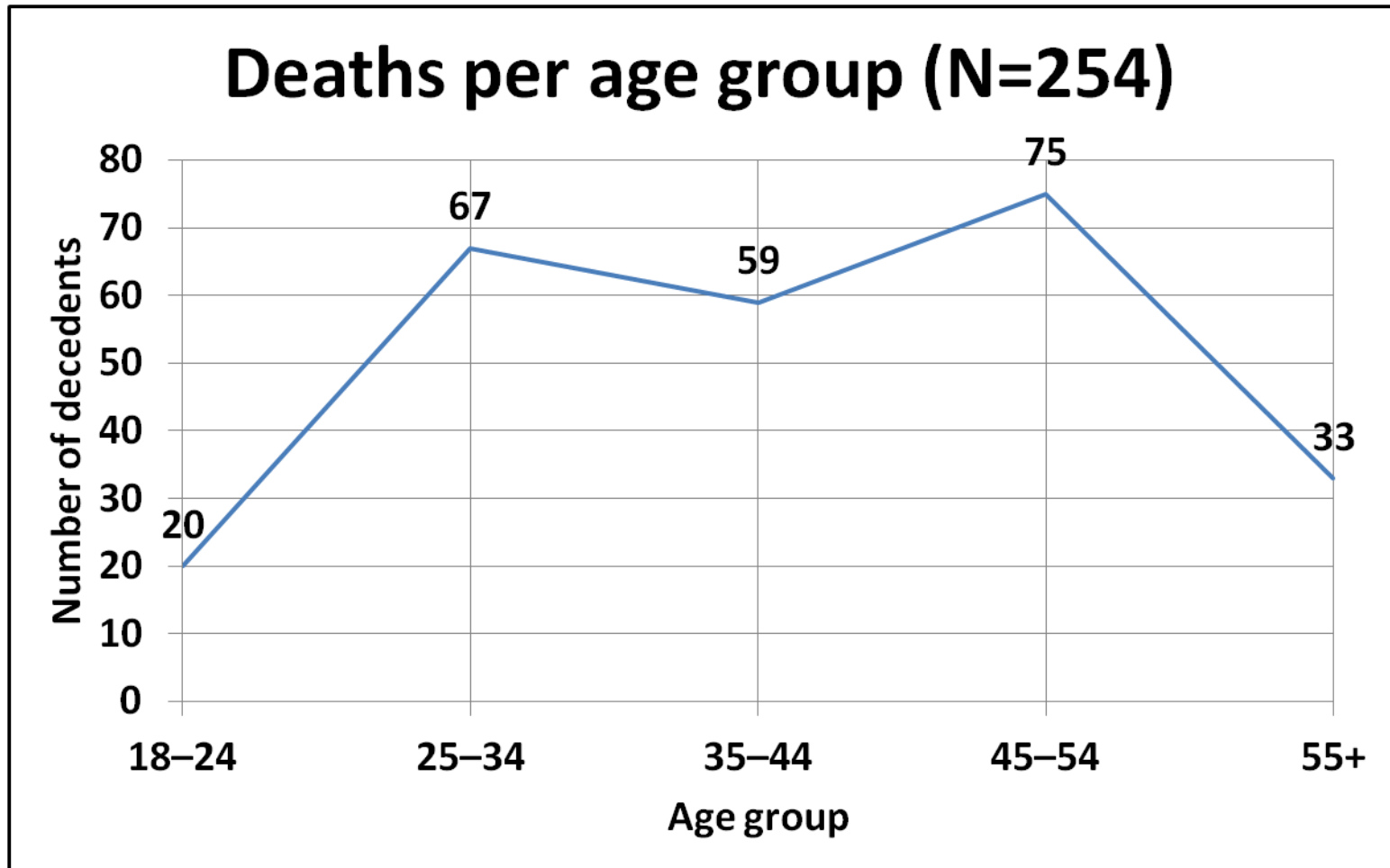
Heroin purity in 2011 ranged from a low of 3.9% in Seattle, San Francisco, and Houston to a high of 63.6% in Philadelphia



# Two Hypotheses

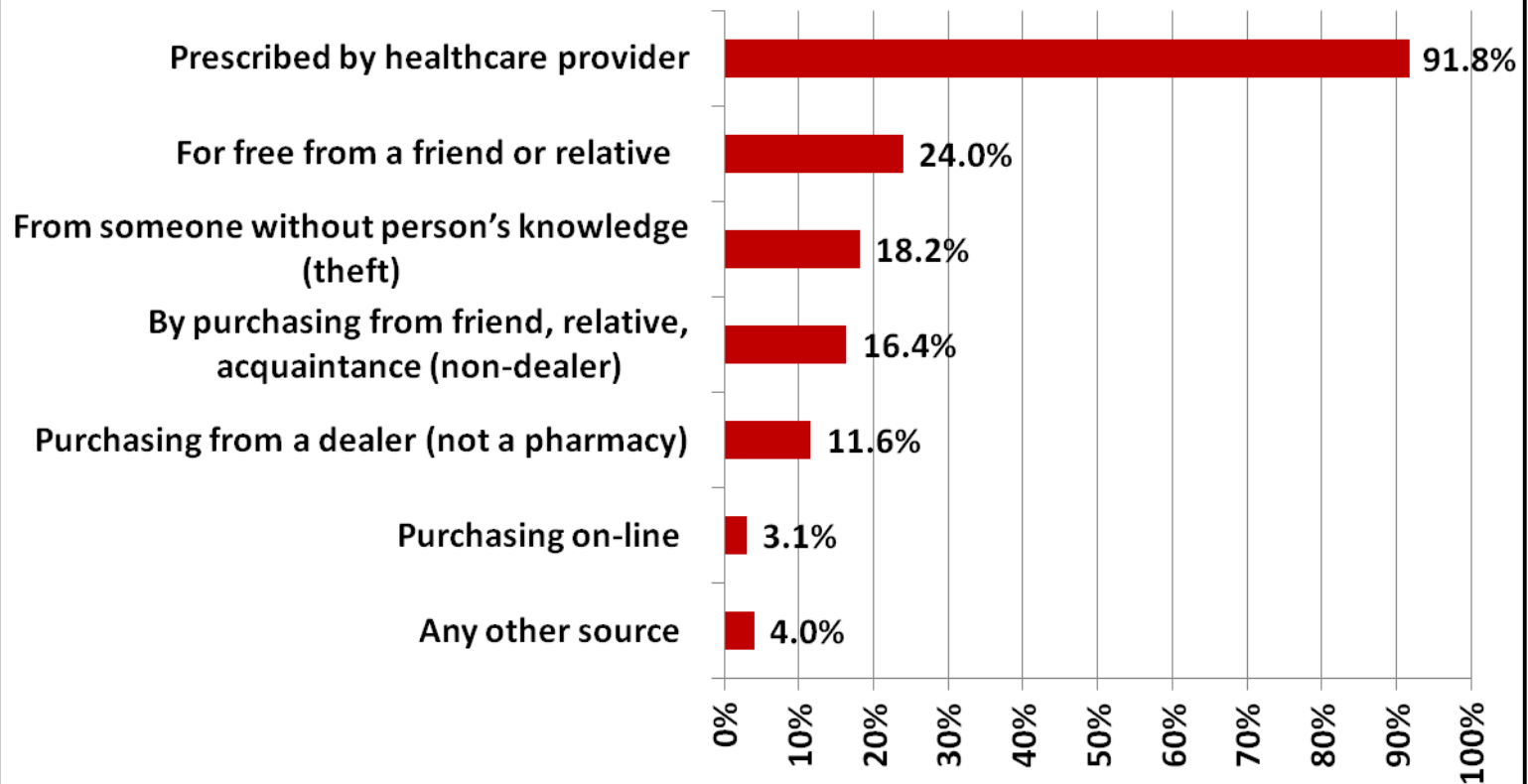
1. Prescription Opioid involved deaths are up because of people using much larger doses than before whether they mix or not
2. Heroin involved deaths are up because of inexperienced users switching from Prescription Opioids to Heroin who are unaware of the difference in Therapeutic Index

# Utah study (Oct 2008 – Oct 2009)



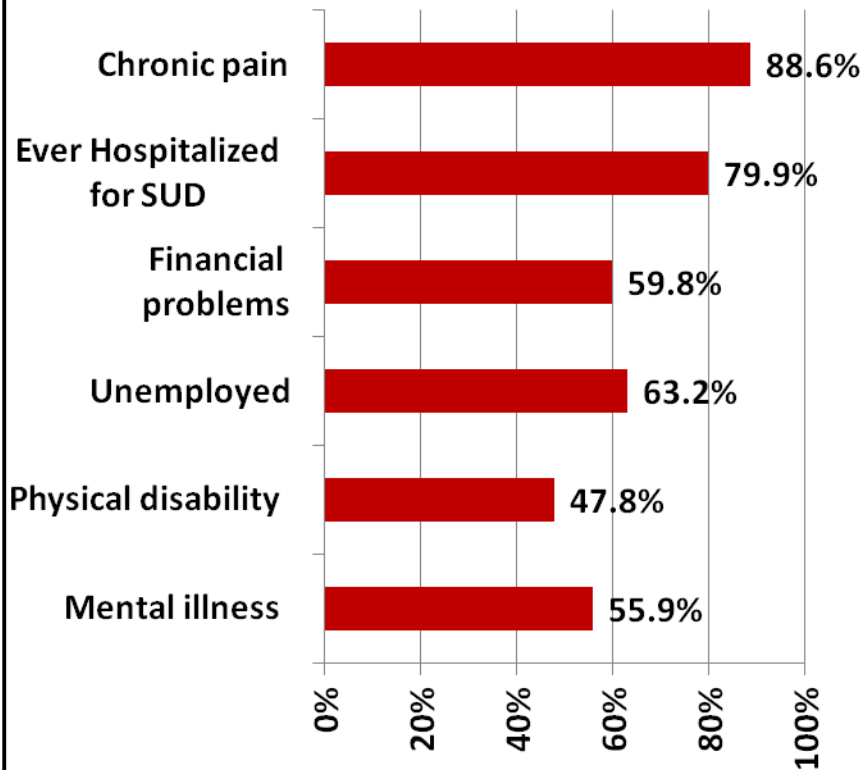
# Utah Study

## Source of Prescription Opioids (N=222)

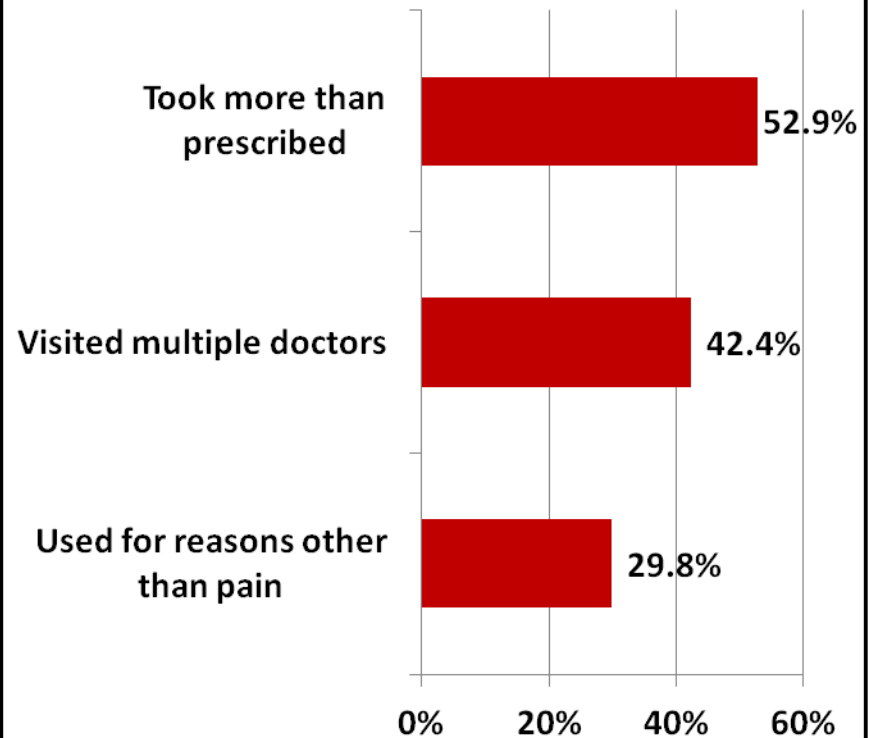


# Utah study

## Conditions (N = 254)

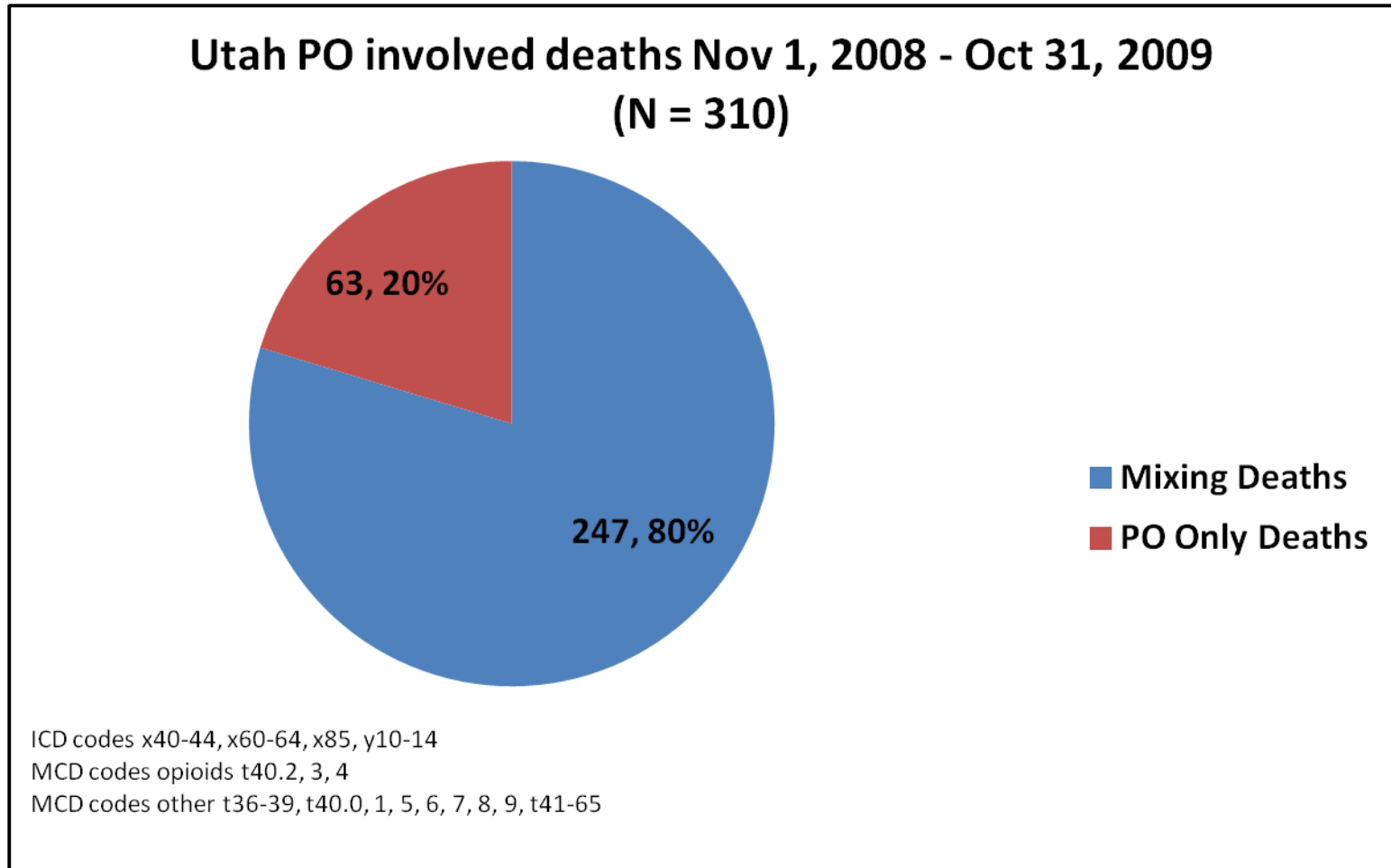


## Types of non-medical use (N = 254)

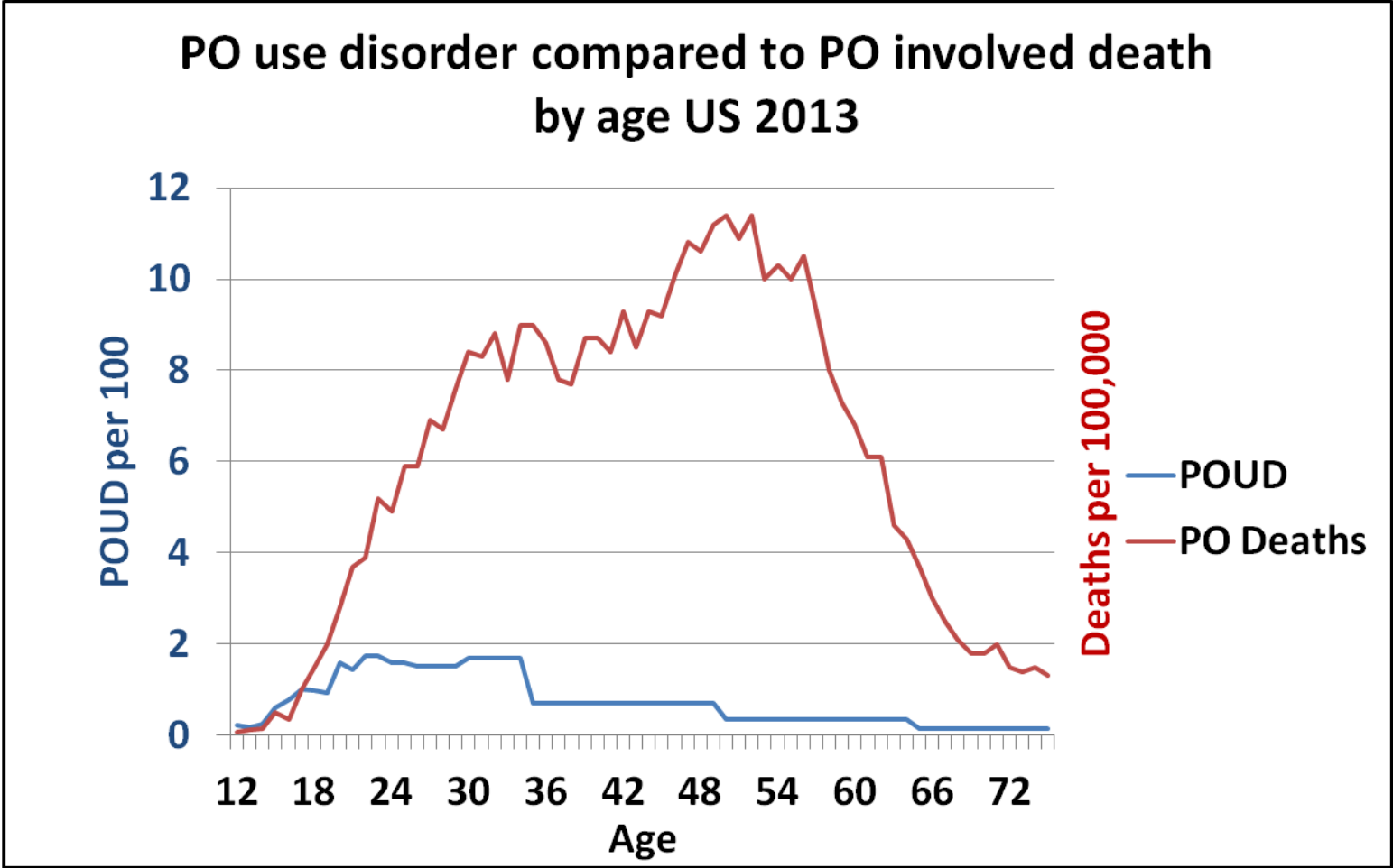




# Utah PO involved deaths Nov 1, 2008 – Oct 31, 2009



There is NOT a simple correlation between PO use disorder and PO involved death by age

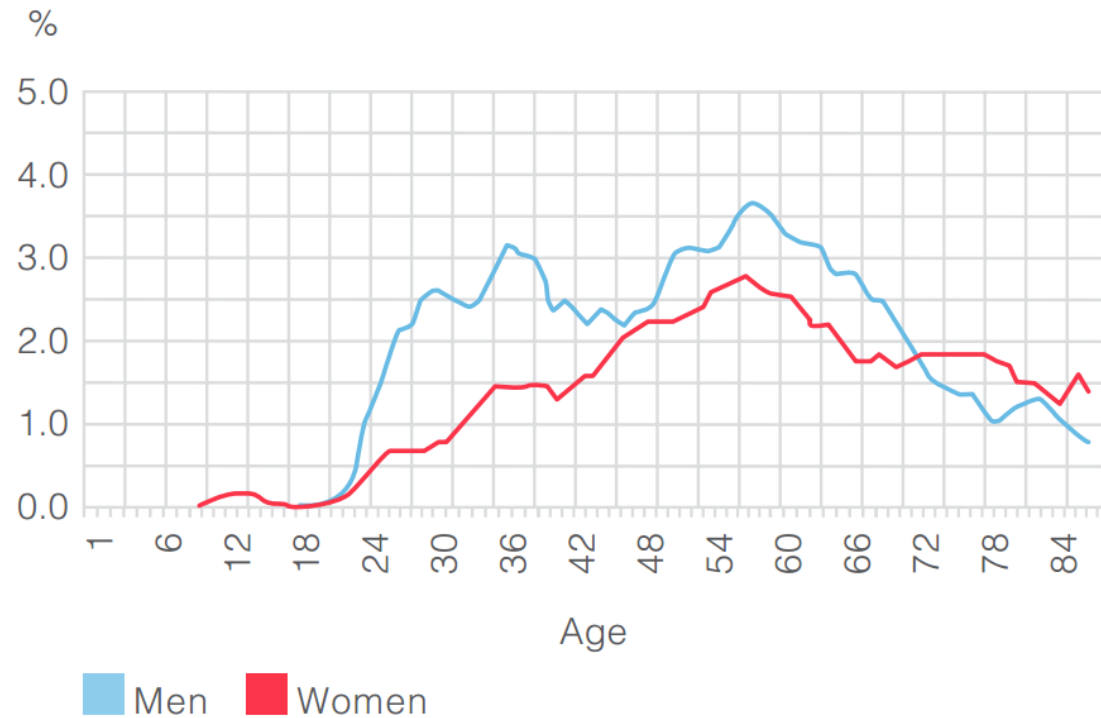


# High octane opioid prescribing

**PATIENTS WITH MED  $\geq$  120 MG MORE THAN 50% OF THE TIME**

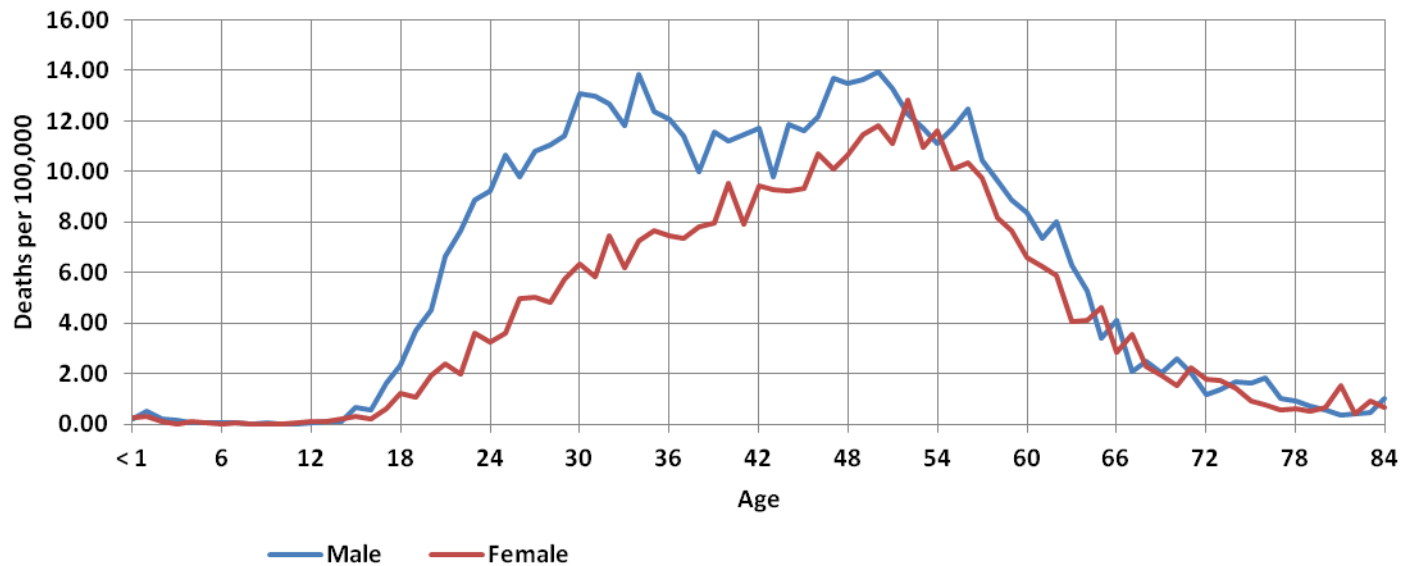
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**BY GENDER 2013**



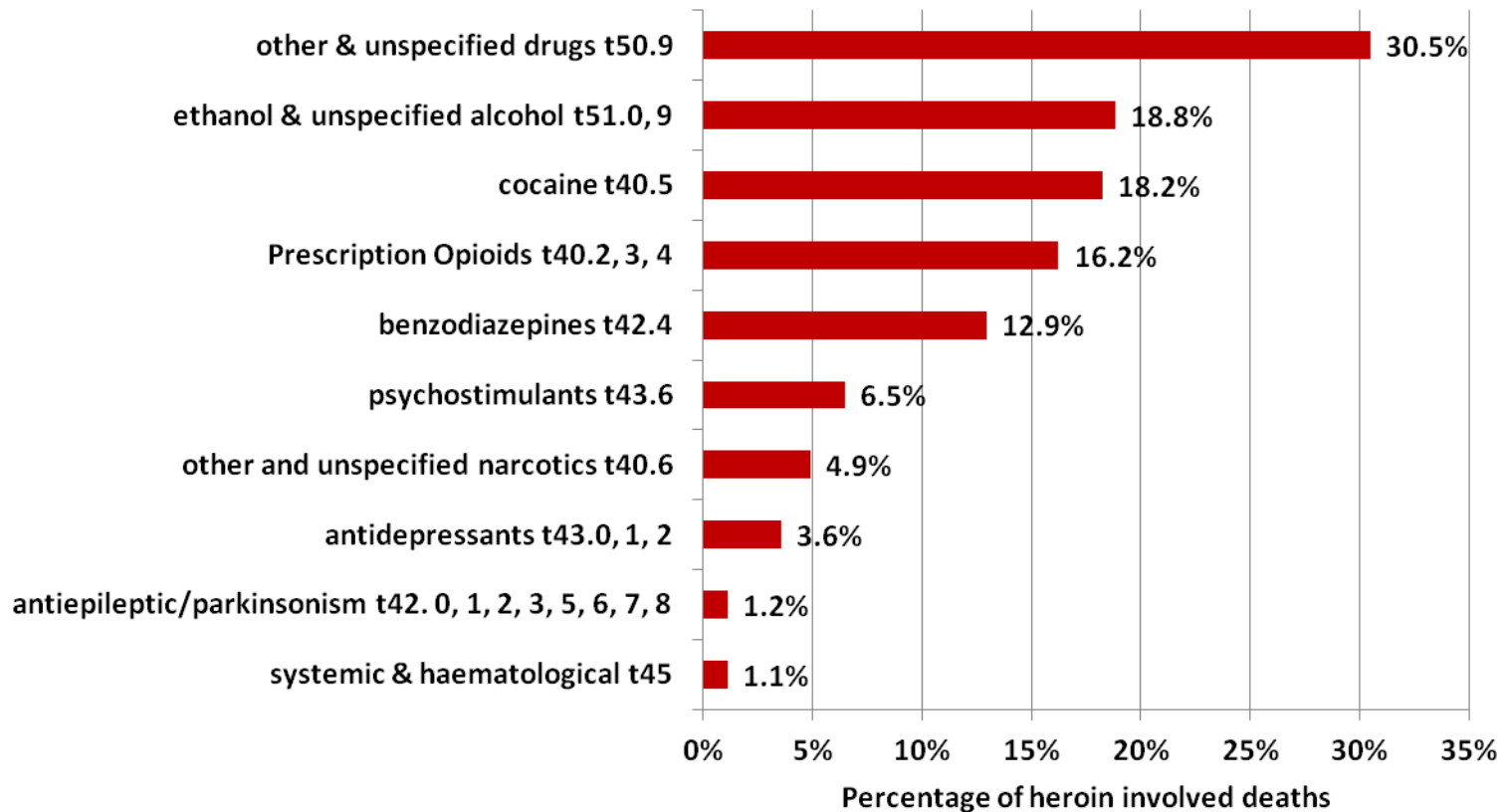
# Corresponds almost exactly with high death rates

Prescription Opioid Poisoning Deaths by Age and Gender - 2013



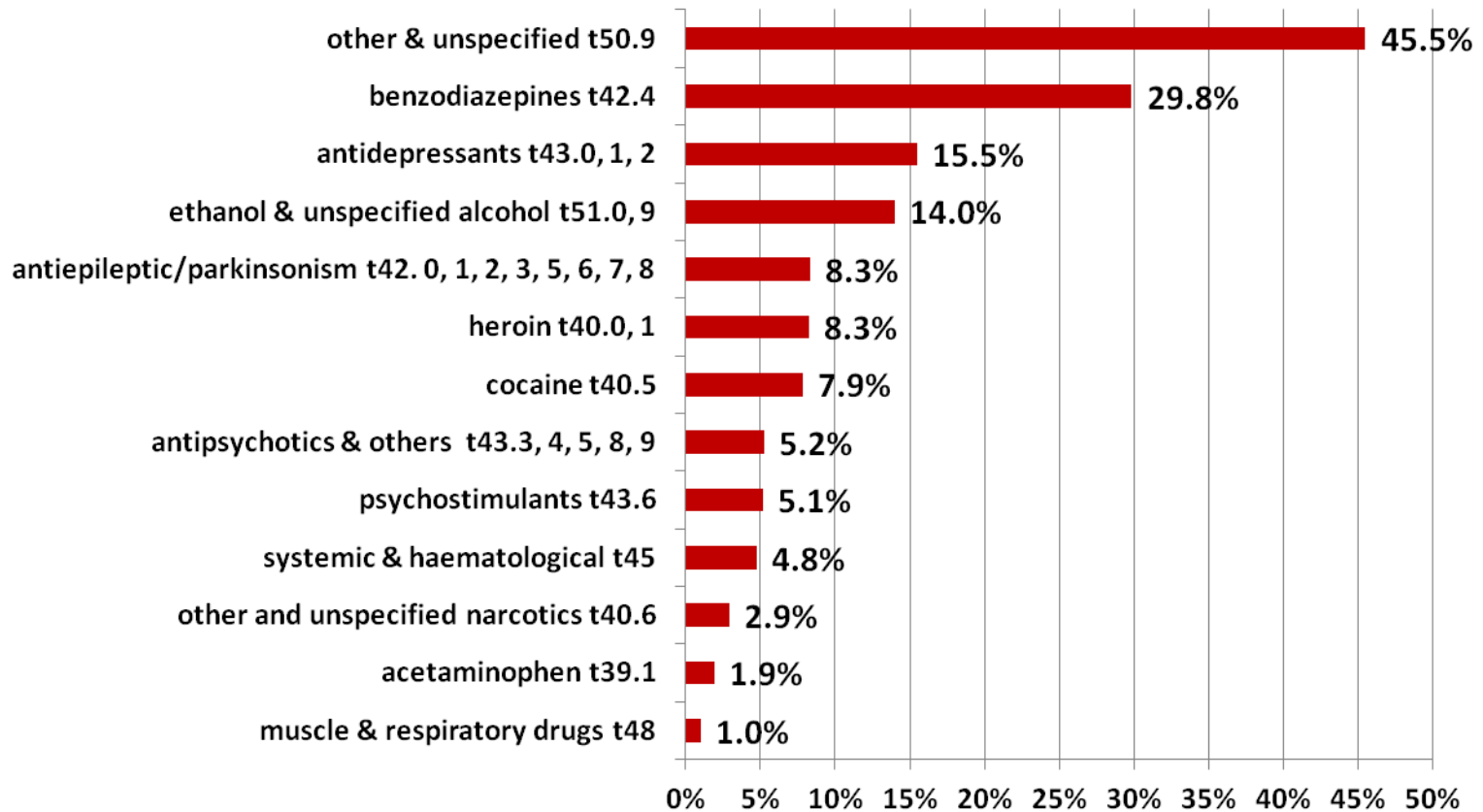
Underlying Cause of Death (UCD) ICD-10 codes set to X40-X44, X60-X64, X85, Y10-Y14. Multiple Cause of Death (MCD) ICD-10 codes set to T40.2 (Other opioids), T40.3 (Methadone), T40.4 (Other synthetic narcotics), T40.6 (Other and unspecified narcotics).

## Deadliest heroin mixes of 2013 (t40.0, 1)



UCD codes x40-44 (accidental), x60-64 (suicide), x85 (homicide), y10-14 (unknown)

## Deadliest Prescription Opioid mixes of 2013 (t40.2, 3, 4)



UCD codes x40-44 (accidental), x60-64 (suicide), x85 (homicide), y10-14 (unknown)

# How to prevent polydrug poisoning

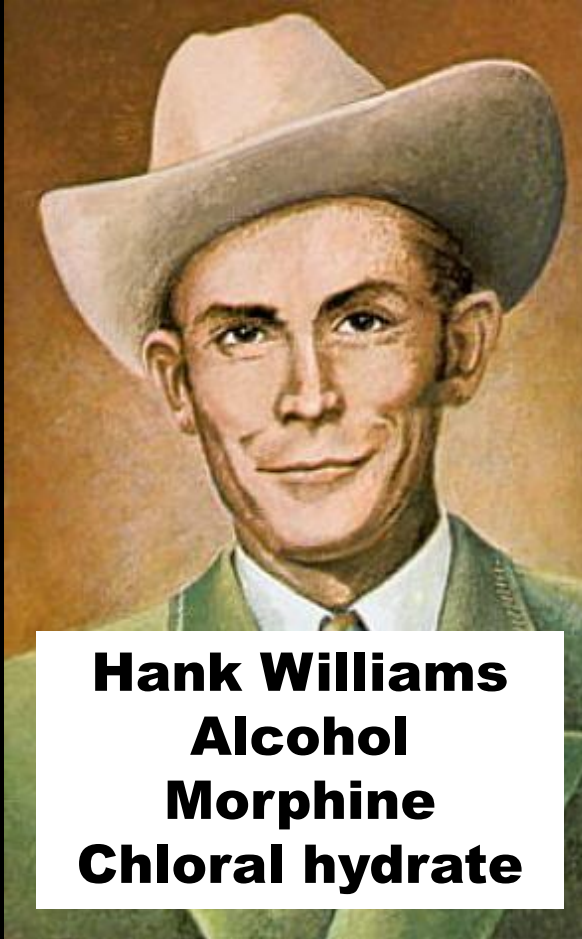
- We need a comprehensive drug poisoning prevention program
- We need to start removing the word "overdose" from our vocabulary
- We need a media blitz to talk about polydrug poisoning
- Naloxone—works even with opioid cocktails
- Safe use education for young and non urban folks

# Continued

- Teach about synergy
- Education about reduced tolerance
- Maintenance!
- Not just methadone, but maintenance with heroin, oxycontin, etc., too
- Accurate information in the press and schools
- Better prescribing practices



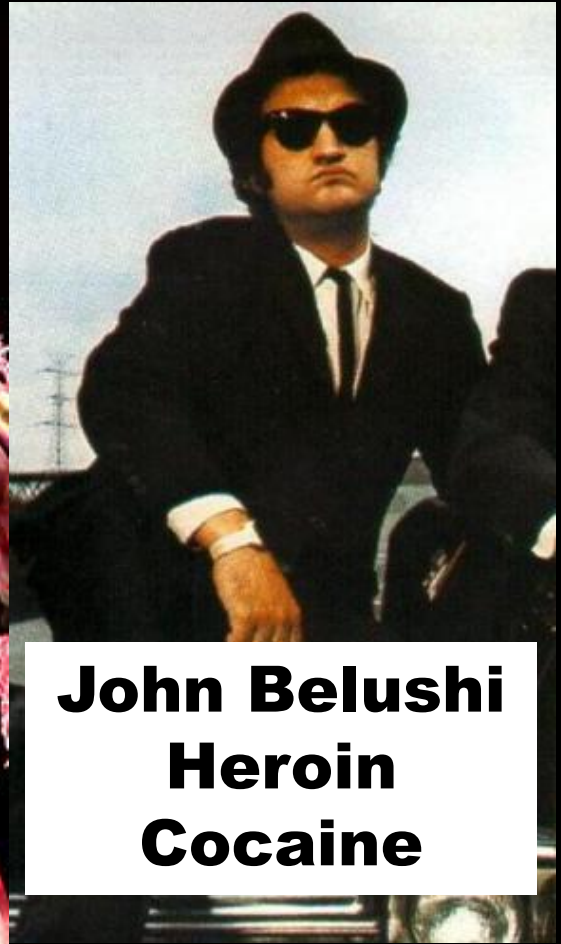
# Famous Drug Mixing Deaths



**Hank Williams**  
**Alcohol**  
**Morphine**  
**Chloral hydrate**



**Janis Joplin**  
**Heroin**  
**Alcohol**



**John Belushi**  
**Heroin**  
**Cocaine**



**Cory Monteith**  
**Heroin**  
**Alcohol**  
**Codeine**



**Amy Winehouse**  
**Alcohol**  
**Librium**



**Philip Seymour Hoffman**  
**Heroin**  
**Cocaine**  
**Benzos**  
**Amphetamine**



**River Phoenix**  
**Heroin**  
**Cocaine**  
**Benzos**



**Chris Farley**  
**Morphine**  
**Cocaine**



**Heath Ledger**  
**Prescription**  
**opioids**  
**Benzos**

# RIP

- **If you are concerned about drug mixing:**
- **Join our facebook drug mixing group**
- **[www.facebook.com/groups/drugmixing](http://www.facebook.com/groups/drugmixing)**
- **Visit our web page**
- **<http://drugmixing.org>**