

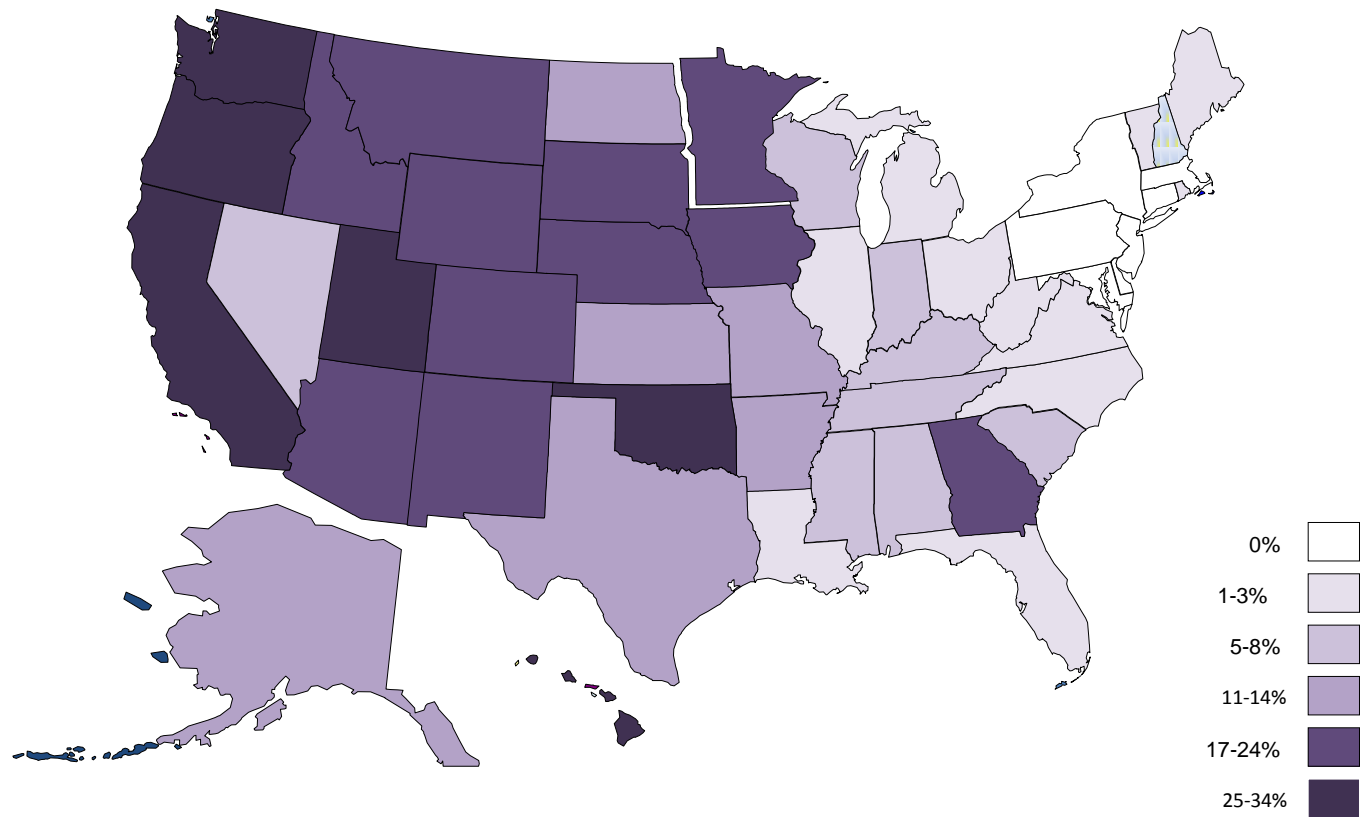


Current Drug Trends: New Every Day

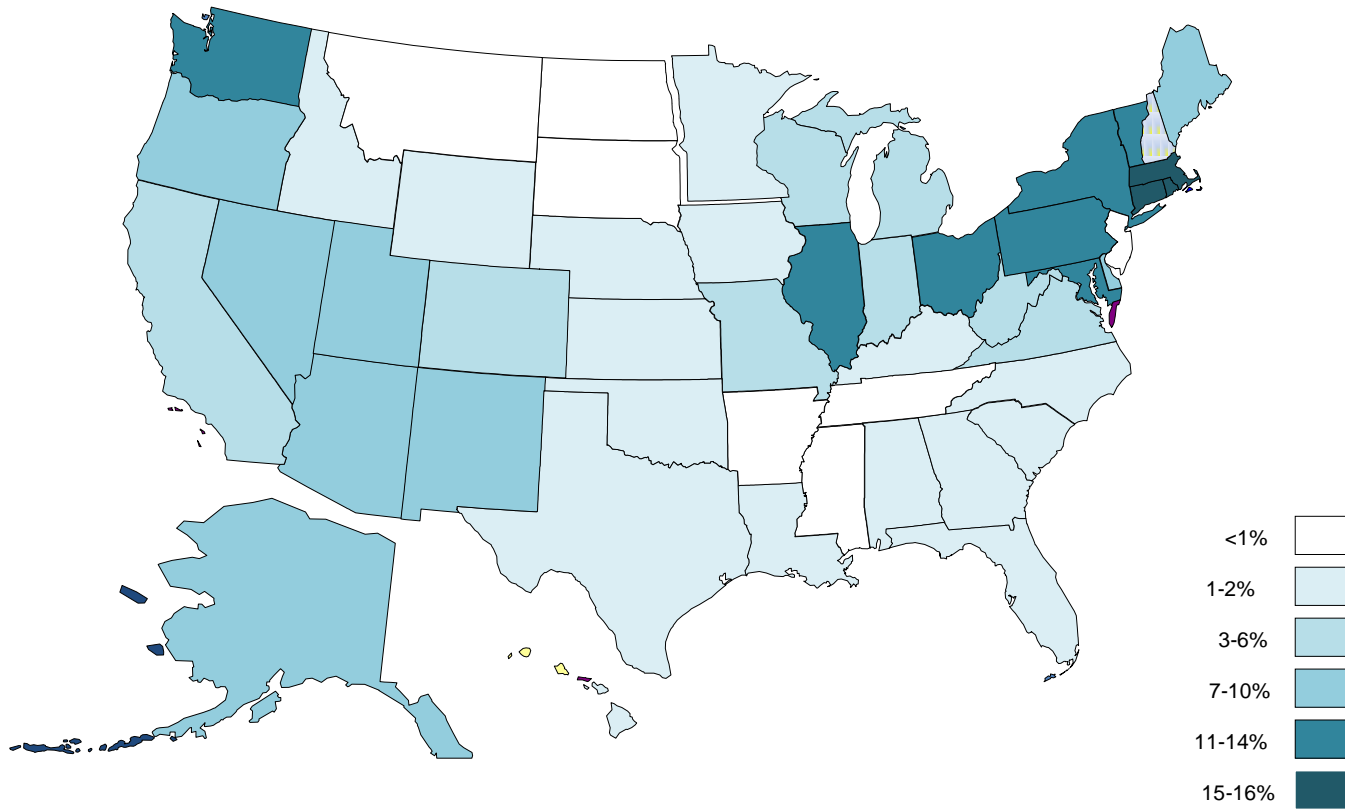
Jane C. Maxwell, Ph.D.
Addiction Research Institute
The University of Texas at Austin
www.utattc.net

Drug Use Patterns Vary
over Time and Space

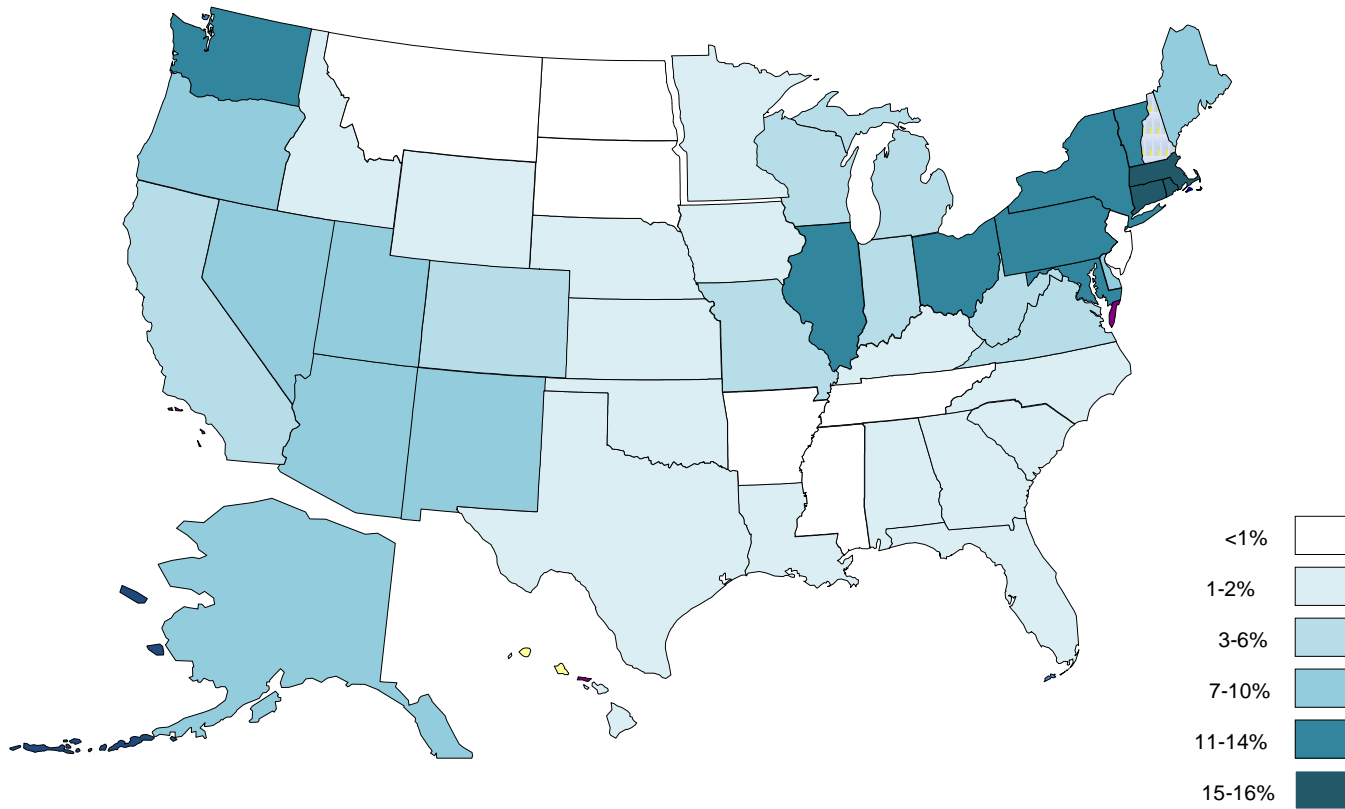
Percentage of Drug Items Identified as Methamphetamine by Tox Labs: NFLIS 2010



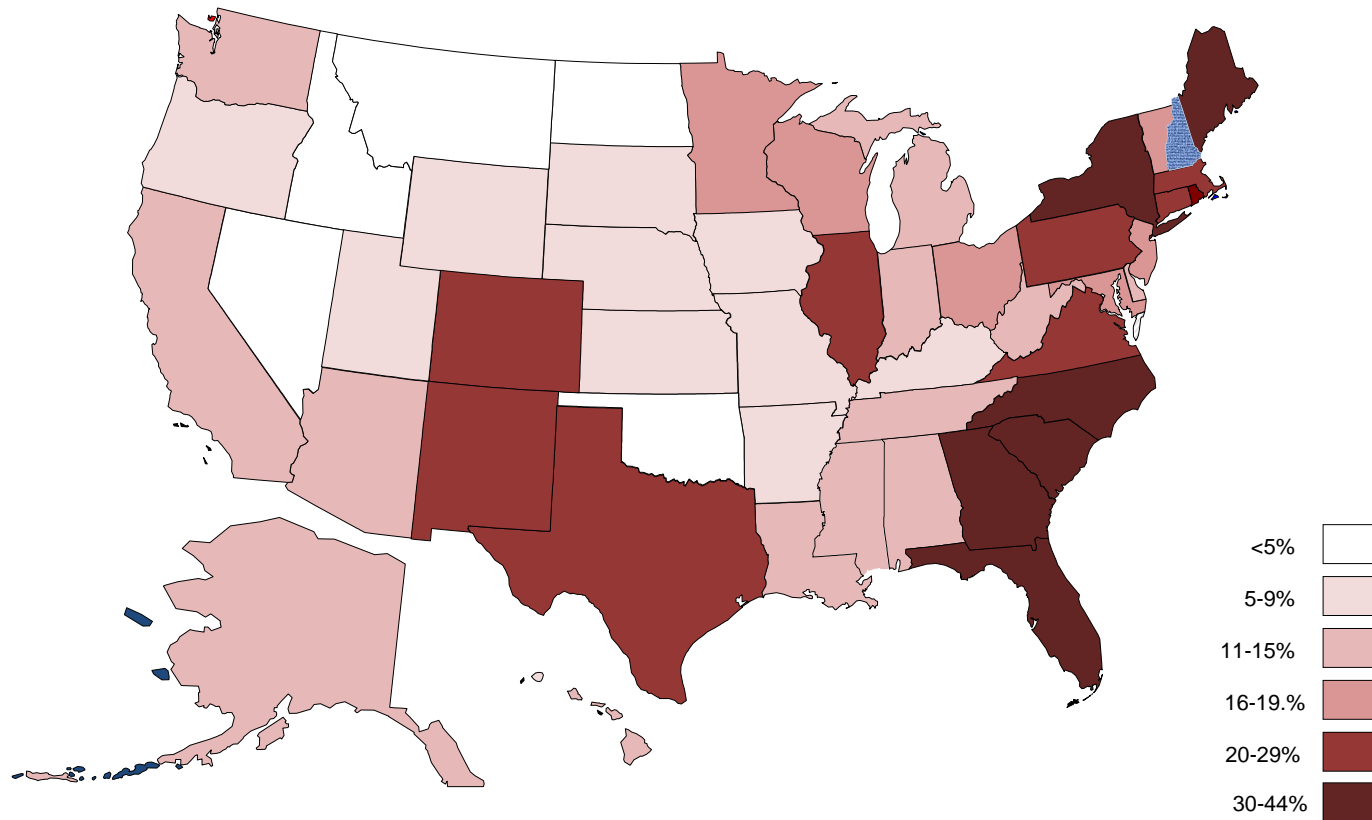
Percentage of Drug Items Identified as Heroin by Tox Labs: NFLIS 2010



Percentage of Drug Items Identified as Heroin by Tox Labs: NFLIS 2010



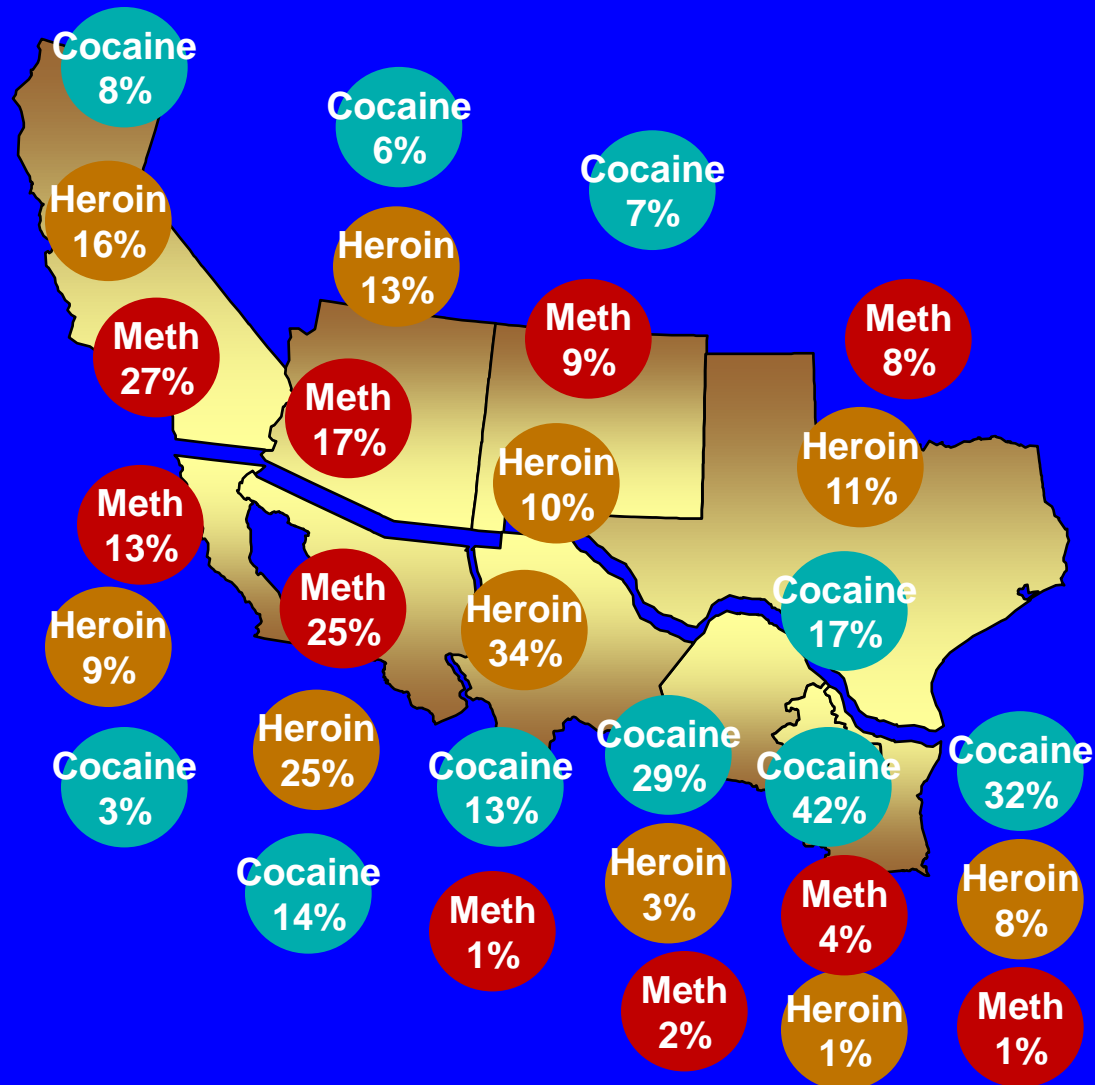
Percentage of Drug Items Identified as Cocaine by Tox Labs: NFLIS 2010





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Austin American-Statesman
Universal Uclick

Primary Drug of Abuse at Admission to Treatment: 2009



Heroin Sources and Supply Routes





Mexican Black Tar Heroin

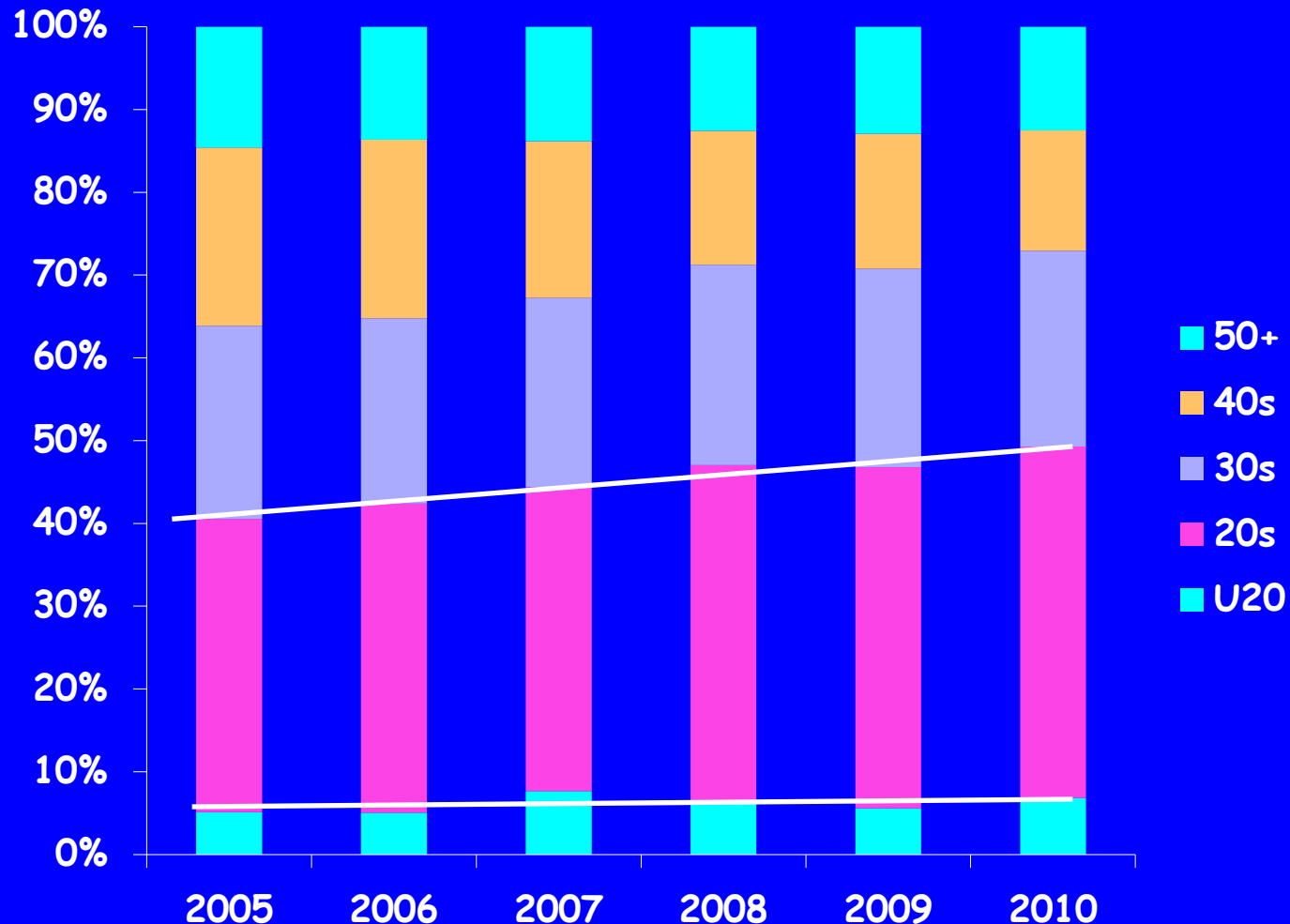


Mexican Brown Heroin



South American Heroin

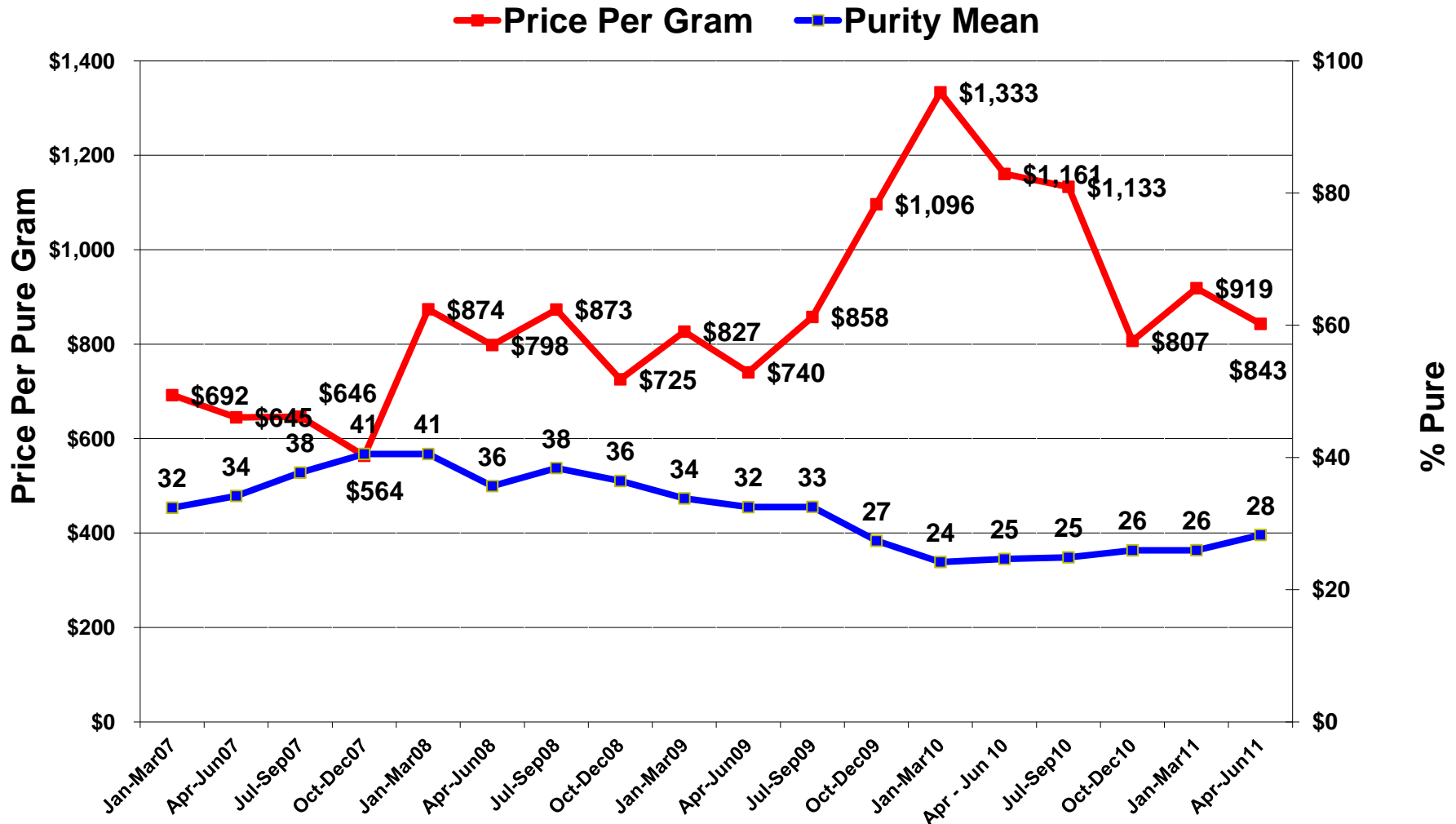
Texas Heroin Admissions by Age Group: 2005-2010





All Heroin Purchases Domestic STRIDE Data January 2007 – June 2011

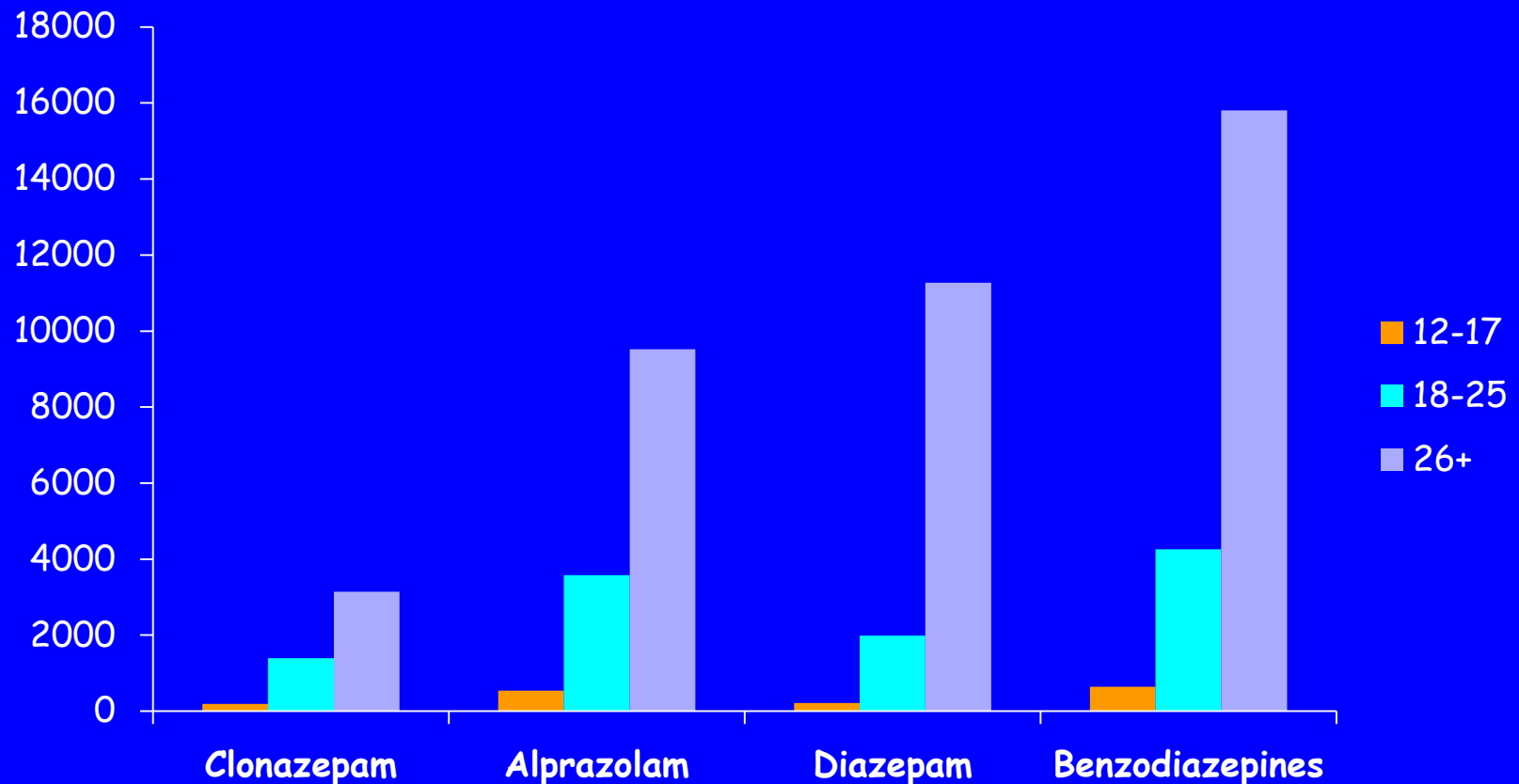
From October 2007 through June 2011, the price per pure gram of heroin increased 49.6%, from \$563.57 to \$842.96, while the purity decreased 30%, from 41% to 28%.



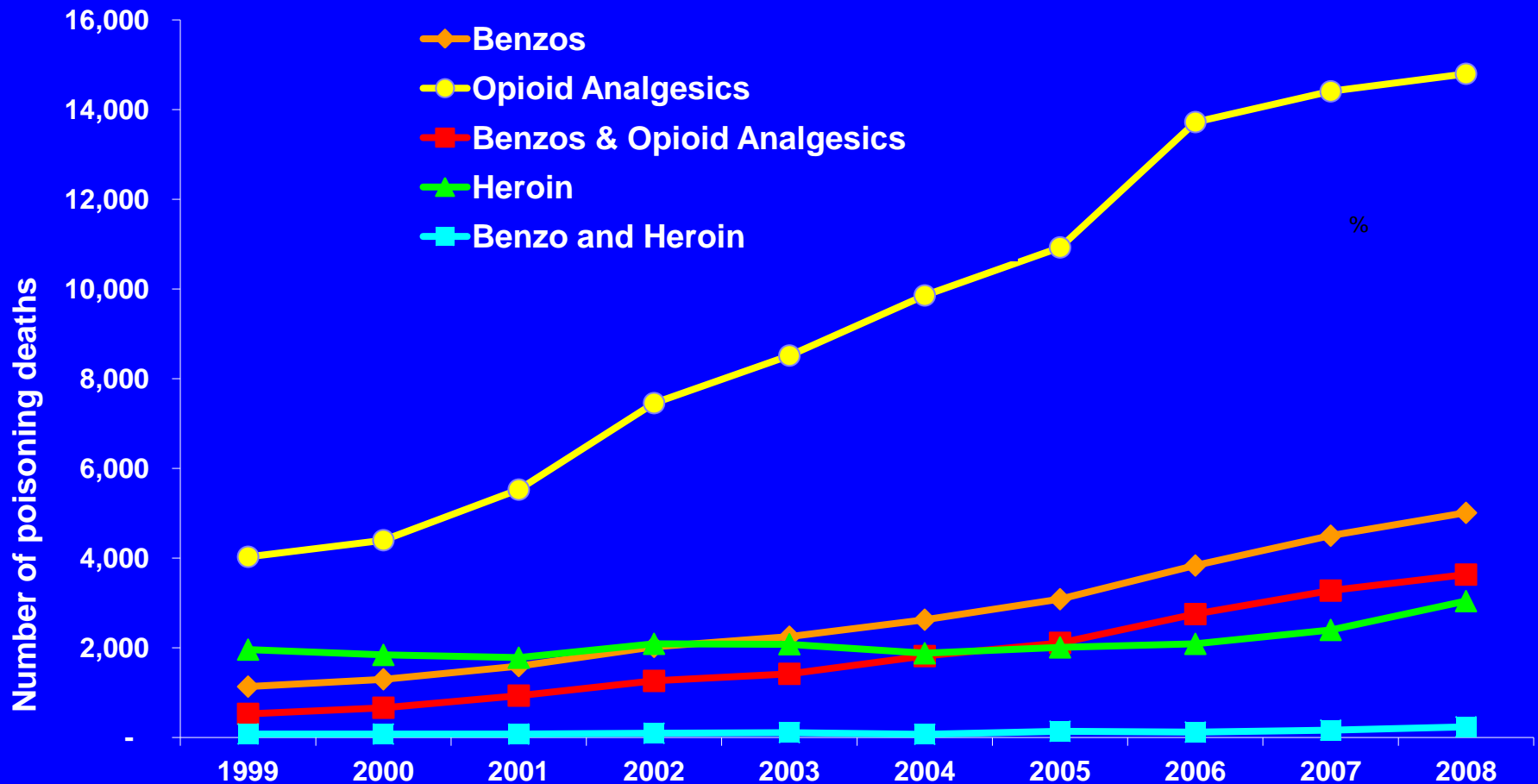
Prescription Opiates

- Favorites vary by region
(oxycodone vs. hydrocodone)
- Shifts back and forth between
Rx Opiates and Heroin

Nonmedical Use of Tranquilizers: Numbers in Thousands, NSDUH 2010



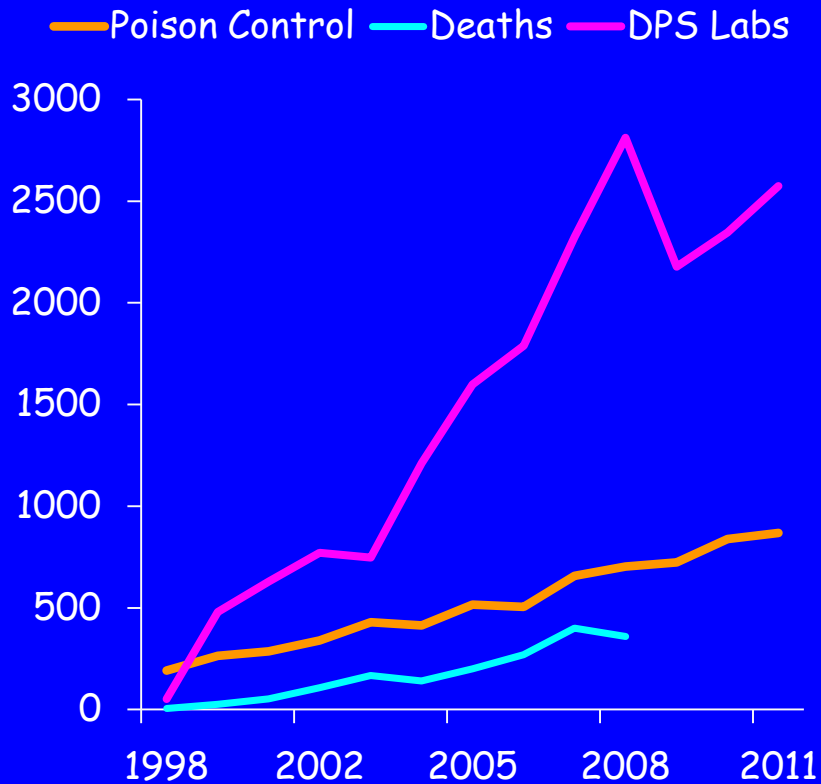
Poisoning Deaths with Benzodiazepine and Opioid Analgesics Mentioned: NCHS 1999-2008



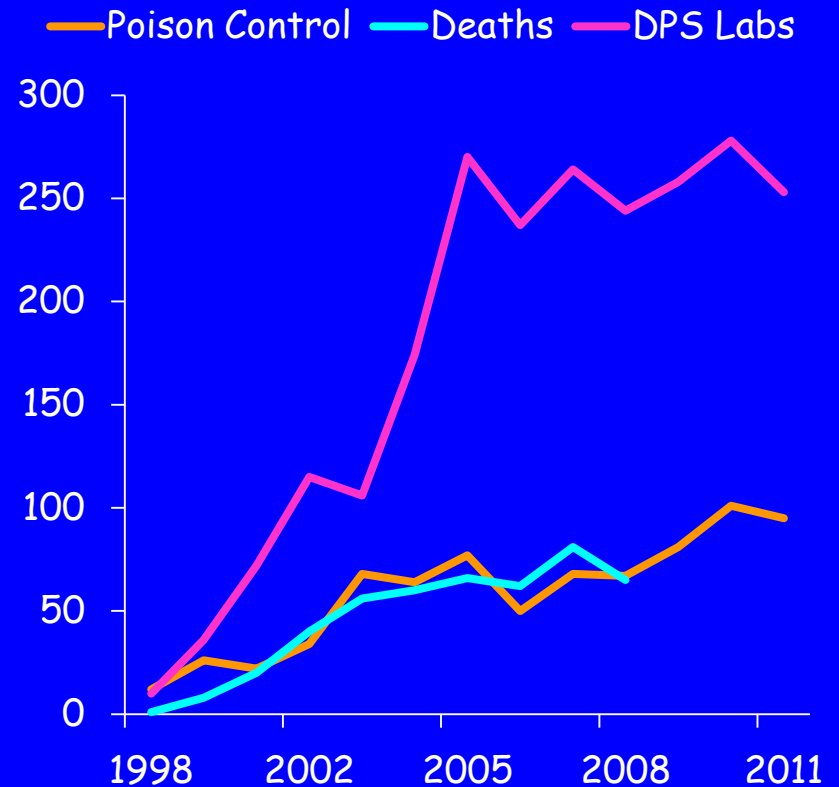
Major “Other Opiates” in Texas

Hydrocodone 10X Higher

Hydrocodone/Vicodin
Schedule III




Oxycodone
Schedule II



“Holy Trinity”

- “Houston Cocktail”
- Hydrocodone, alprazolam, and carisoprodol
- 6 Houston “pain clinic” doctors each wrote between 23,907 and 43,383 scripts in a 15-month period.
- Some rogue doctors are writing scripts to try to avoid detection.

Codeine Cough Syrup in Texas

- Codeine cough syrup continues to be abused.
- Cut with Karo syrup, jolly ranchers, and  soft drink.
- Rap music on syrup continues.
- Prepackaged to introduce to youths or ready to add the syrup?

Codeine Promethazine Cocktail



New "Relaxation" Drinks: Drank and *Lean*

Valerian Roots

Melatonin

Rose Hips

"Slow Your
Roll"

"Slow Motion
Potion"



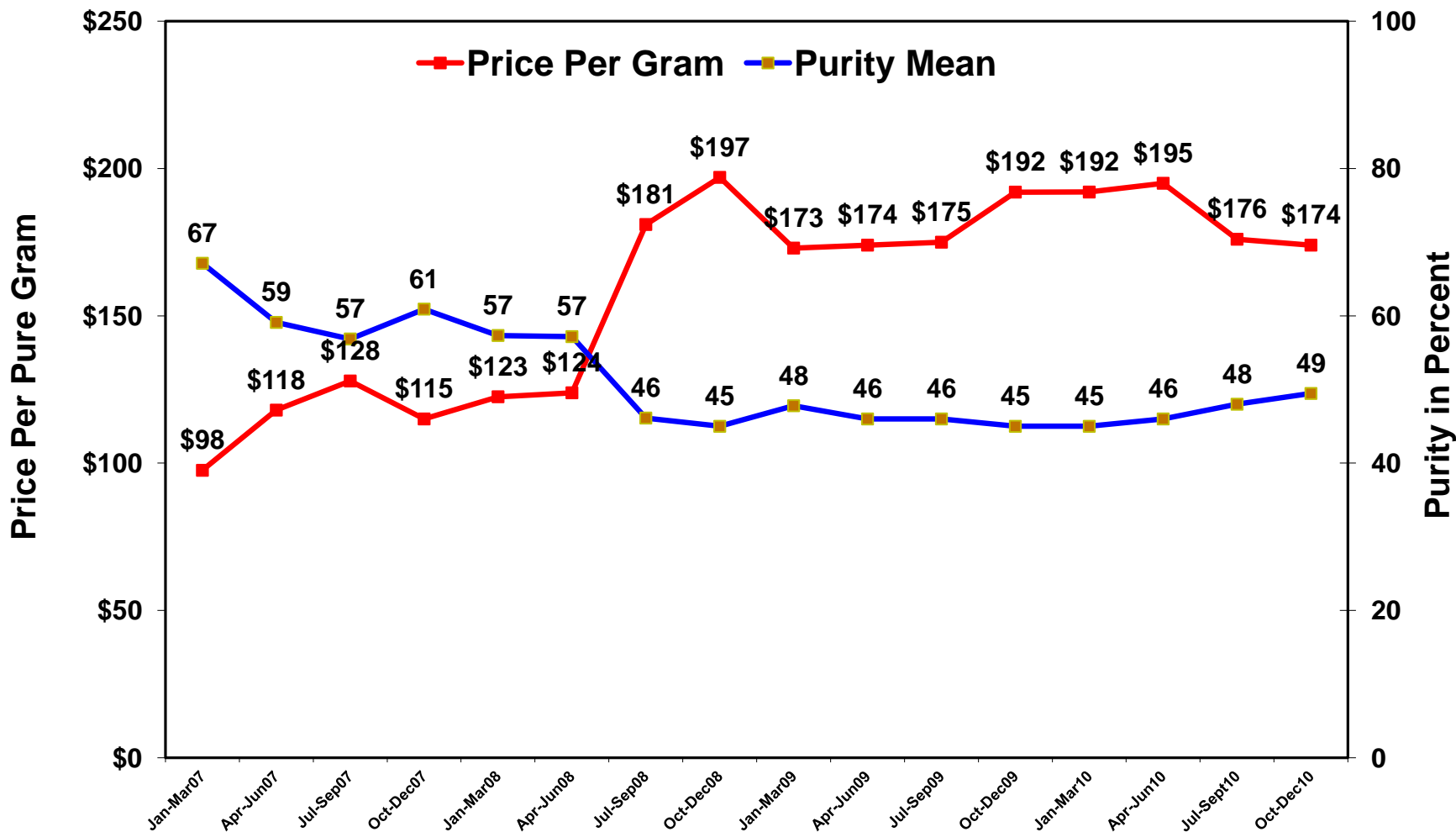
Cocaine: What's going on?

- Poison control, treatment, death, tox lab, and purity indicators down; price up.
- Impact of the Border wars?
- Demand in Europe for cocaine.
- Andean production down and purity down
- Use of Levamisole as a filler.



All Cocaine Purchases Domestic STRIDE Data January 2007 – June 2011

From January 2007 through June 2011, the price per pure gram of cocaine increased 71%, from \$98 to \$167, while the purity decreased 27%, from 67% to 49%.



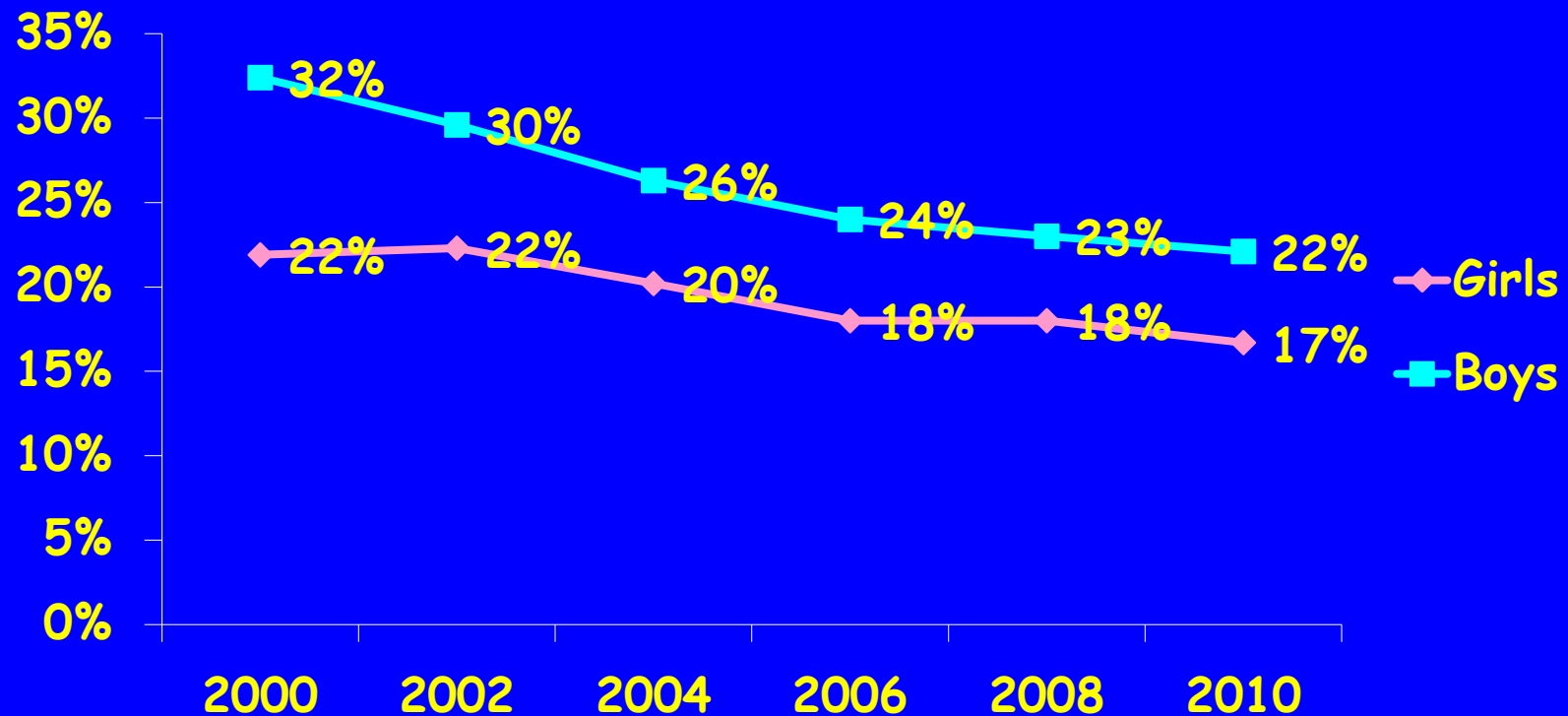
New Problems with Cocaine



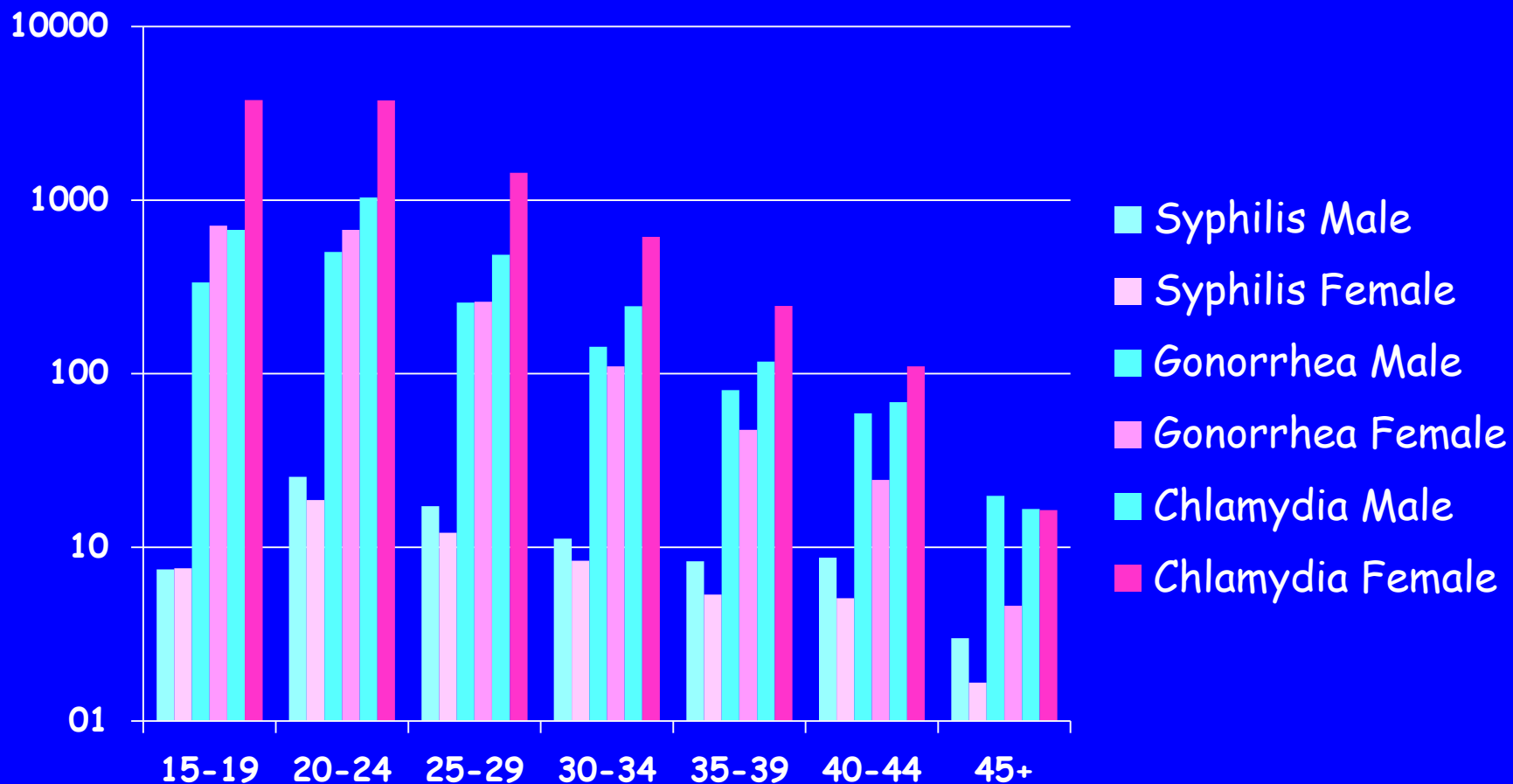
- Levamisole is cancer medication also used in de-worming animals.
- Can result in agranulocytosis (discoloration of skin, beginning in ears—sign of skin cell death)
- Results in neutropenia (bone marrow does not make enough white blood cells)

ALCOHOL

Percentage of Texas Secondary Students Who Reported They Normally Consumed Five or More Drinks at One Time, by Gender: 2000-2010



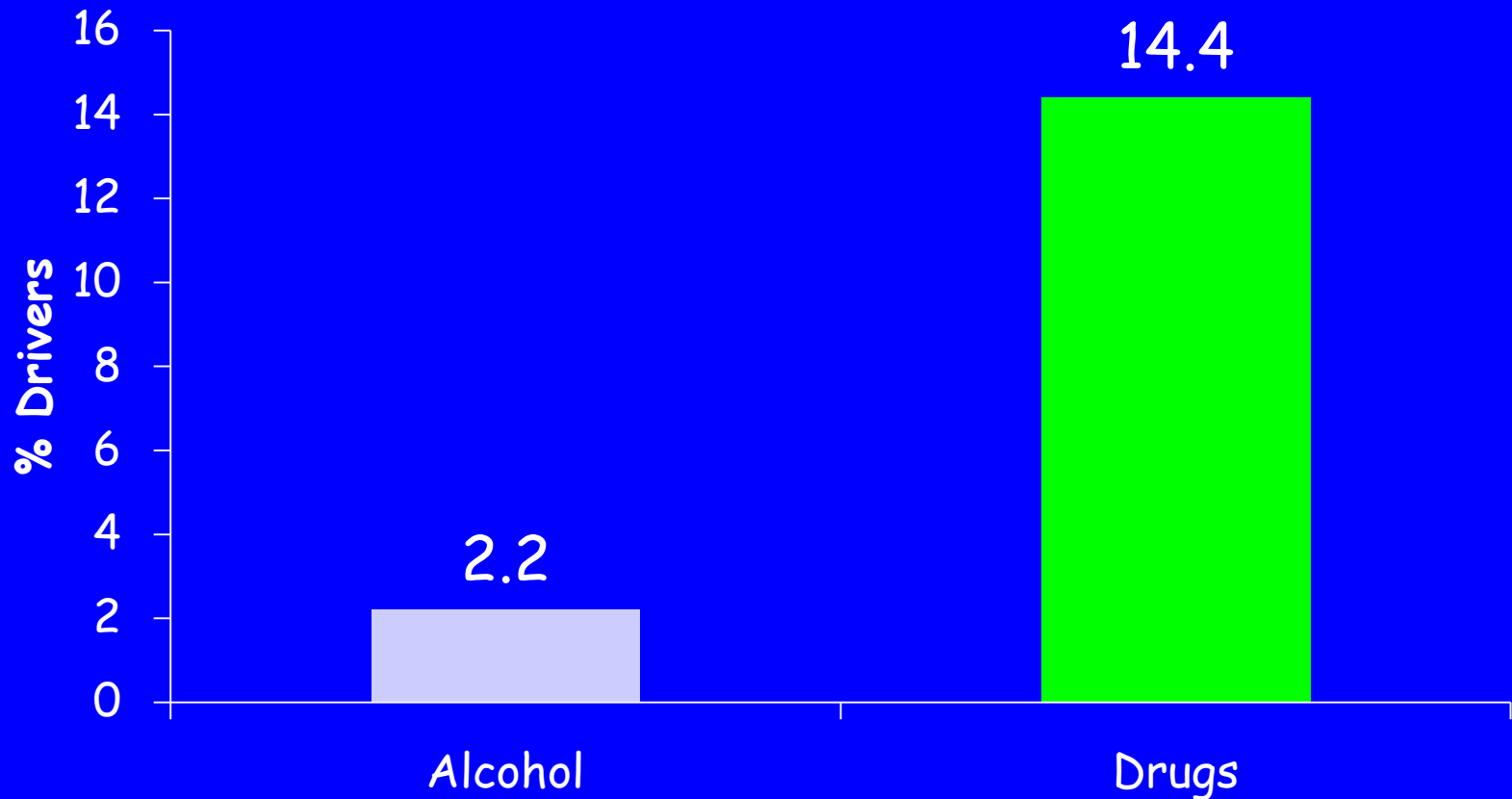
Texas STD Case Rates: 2010



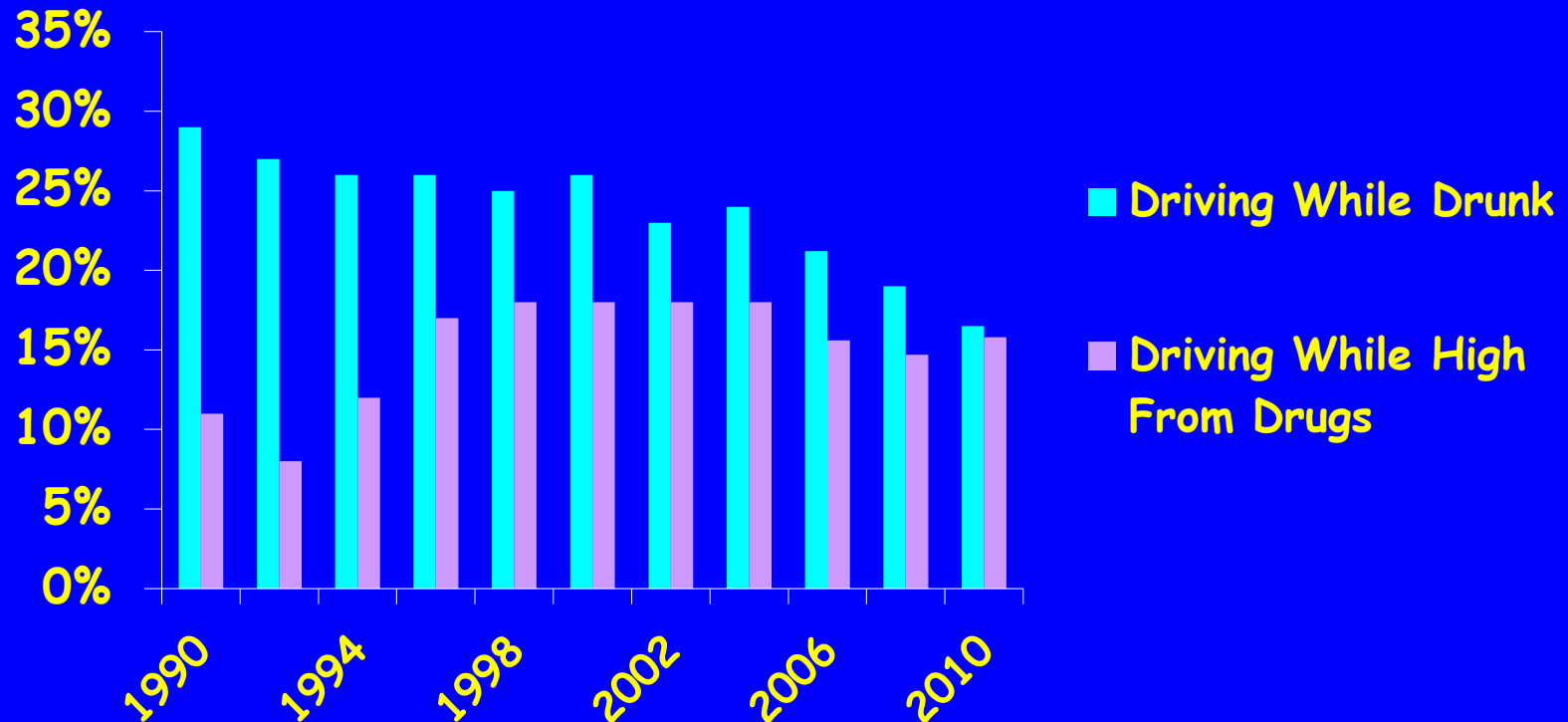
Binge Drinking and Women

- Having multiple sex partners was more than twice as common among women binge drinkers than women abstainers (41% vs. 17%).
- Gonorrhea was nearly 5 times higher among women binge drinkers compared to women abstainers (11% vs. 2%).
- Women binge drinkers engaged in anal sex more often than women who drank alcohol without binges (33% vs. 16%) and 3 times the rate of women who abstained from alcohol (11%).
- Among men, rates of risky sexual behaviors/STDs were high, but did not differ by alcohol use.
- The findings support the need to routinely screen for binge drinking as part of clinical care in STD clinics.
- **Women binge drinkers may benefit from interventions that jointly address binge drinking and risky sexual behaviors.**
- **Developing gender-specific interventions could improve overall health outcomes in this population.**

% of Weekend Nighttime Drivers with BACs > 0.08g/dL or Positive for Drugs in the 2007 National Roadside Survey

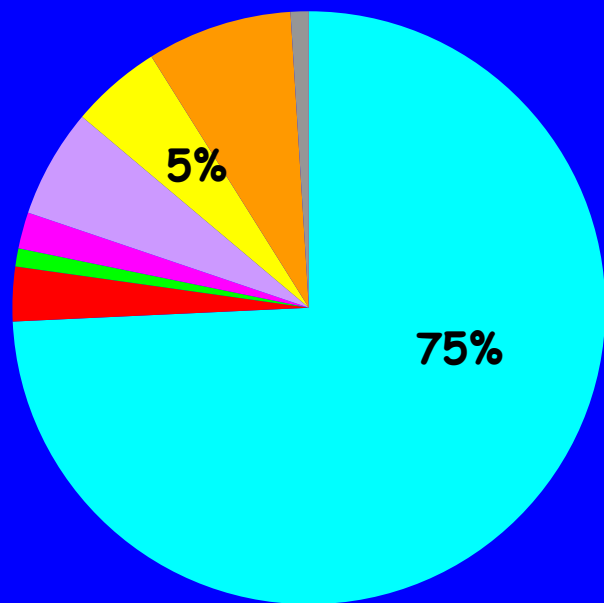


Percentage of Texas Seniors Who Had Driven While Drunk or High from Drugs: 1990-2010

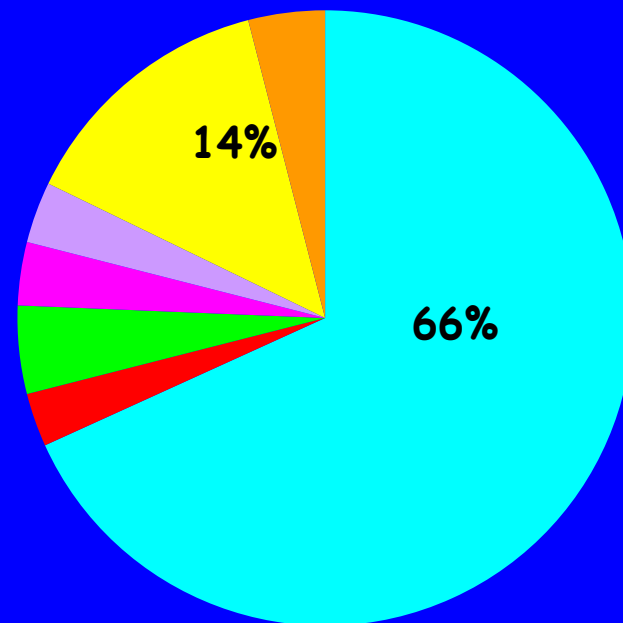


Primary Problem of Texas Past-Year DUI Arrestees Entering Treatment

1996



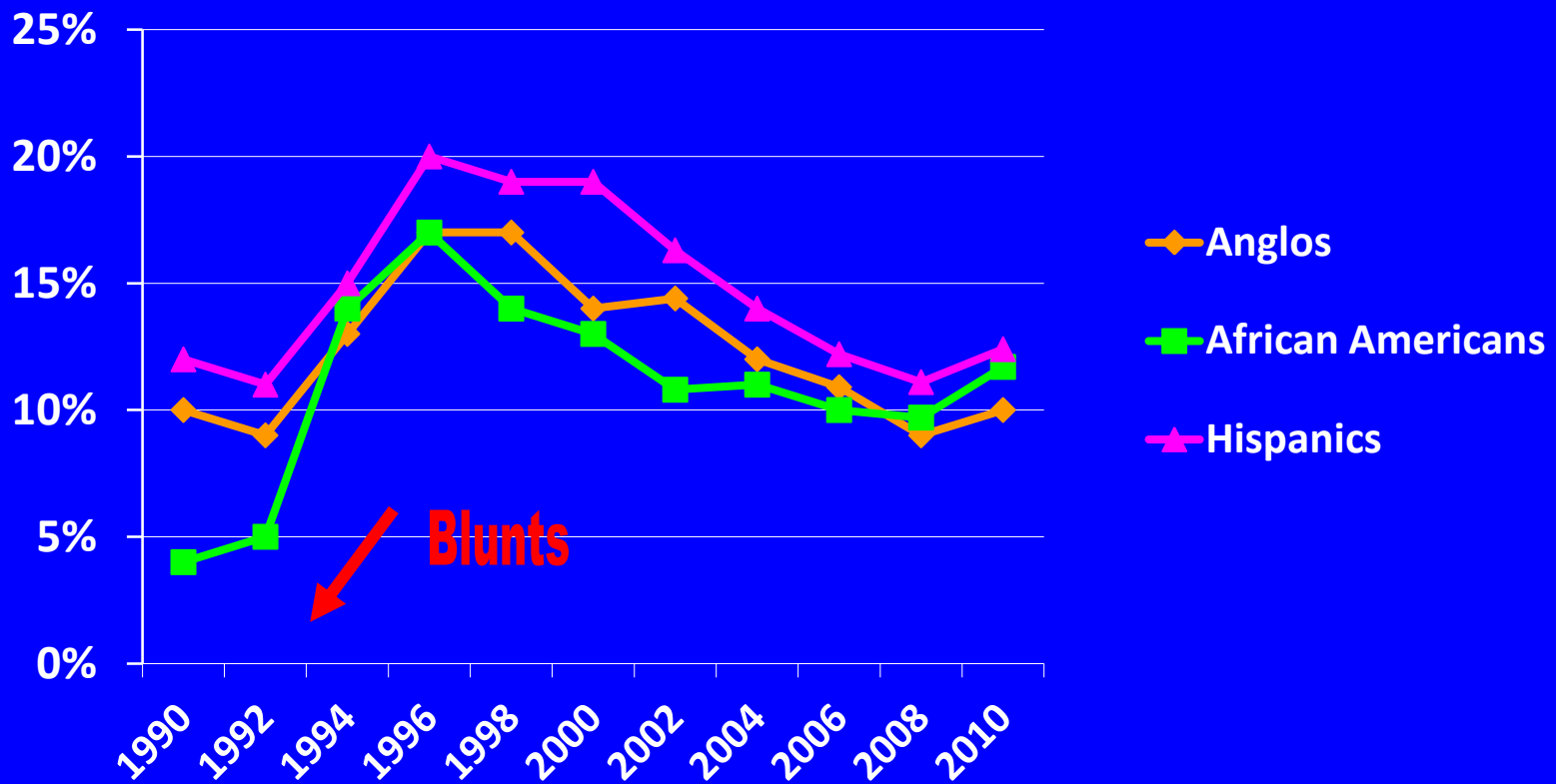
2009



Marijuana

Impact of New Way of Using
Cannabis

% Texas Secondary Students Who Had Used Marijuana in the Past Month, by Ethnicity: 1990-2010



Consequences of Marijuana Abuse

Acute (present during intoxication)

- Impairs short-term memory
- Impairs attention, judgment, and other cognitive functions
- Impairs coordination and balance
- Increases heart rate
- Psychotic episodes

Persistent (lasting longer than intoxication, but may not be permanent)

- Impairs memory and learning skills
- Sleep impairment

Long-Term Cumulative Effects of Chronic Abuse

- Can lead to addiction
- Increases risk of chronic cough, bronchitis
- Increases risk of schizophrenia in vulnerable individuals
- May increase risk of anxiety, depression, and amotivational syndrome

National Institute on Drug Abuse, Research Report Series,
Marijuana Abuse, updated 9/2010.

www.nida.nih.gov/ResearchReports/Marijuana/default.html



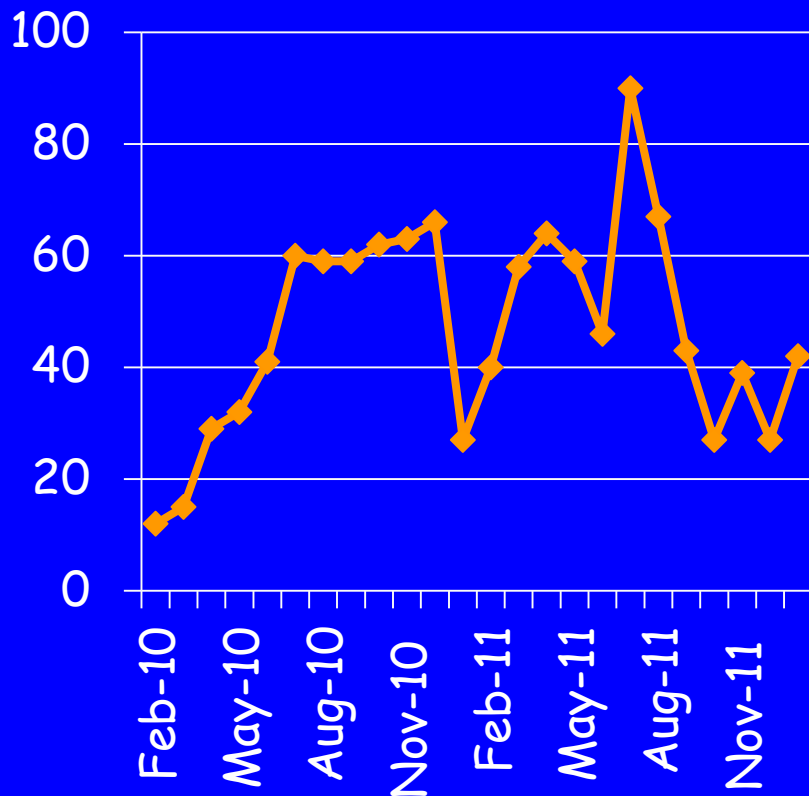
Spice "Gold" package and its Contents

Photo by Erowid. © 2008 Erowid.org

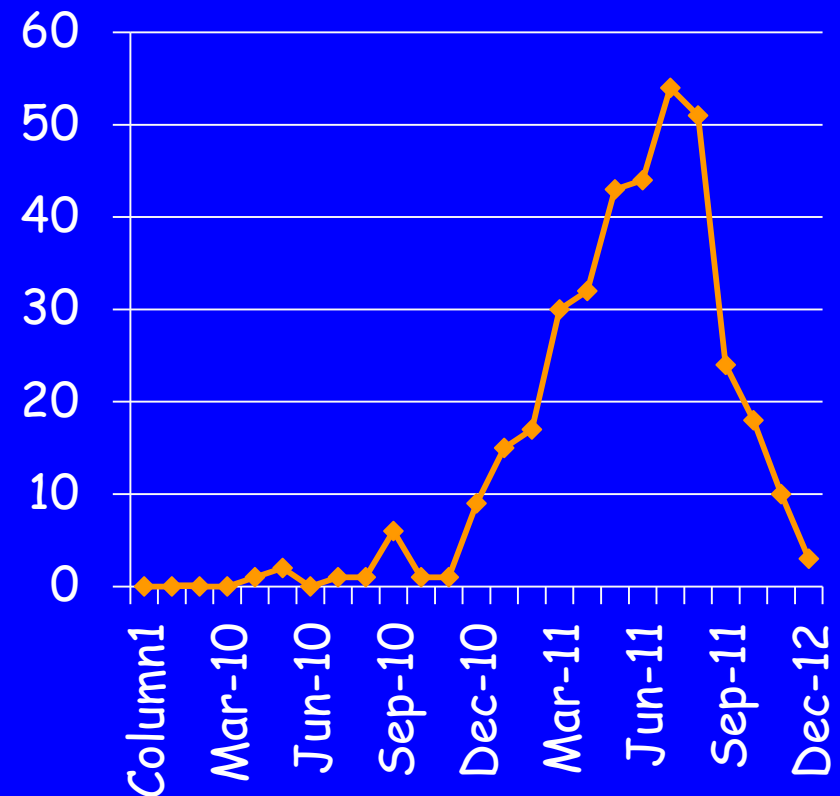


Texas Poison Control Exposures

Synthetic Cannabis



Synthetic Cathinones



Texas Poison Control Center Calls of Exposures

Synthetic Marijuana

- 75% male, ages 12-67, 57% over age 19.
- 89% intended to misuse or abuse.
- 39% reported tachycardia, 16% vomiting, 23% agitation, 10% confusion, 19% drowsiness.

Synthetic Cathinones

- 74% male, ages 12-67; 85% over age 20.
- 90% intended to abuse.
- 46% tachycardia, 5% vomiting, 39% agitation, 18% hallucinations, 13% confusion, 7% drowsiness, 21% hypertension.

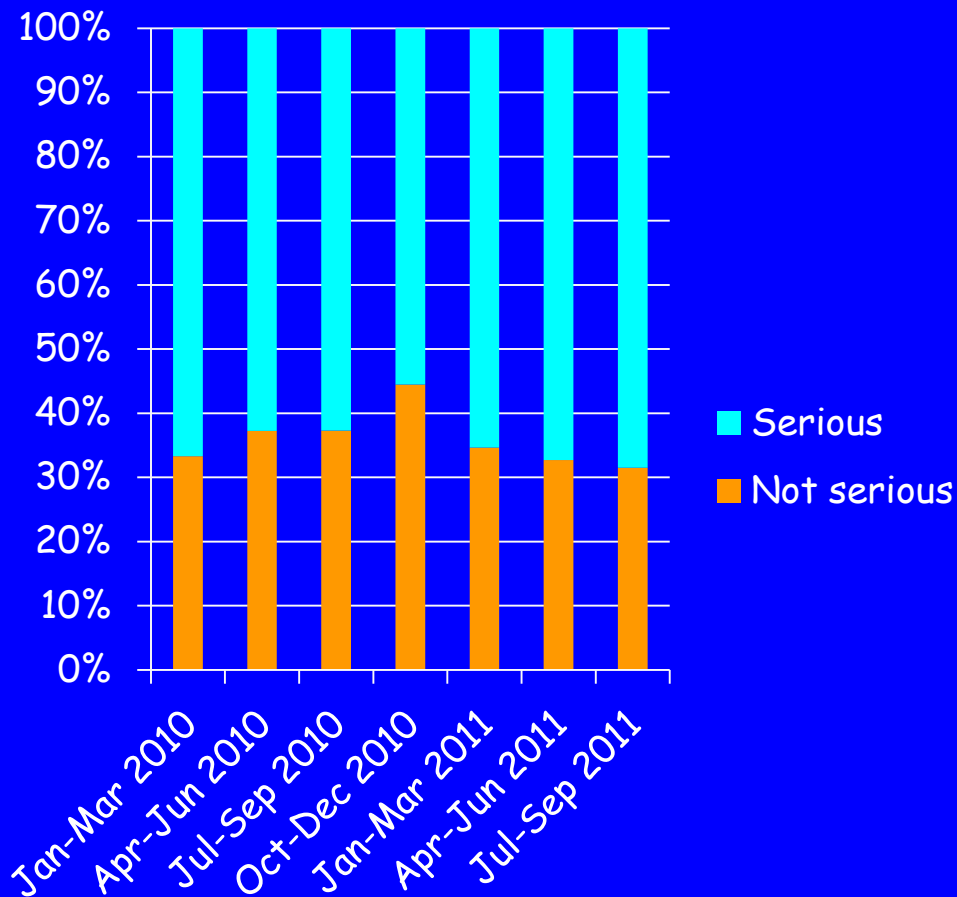
Synthetic Cathinones: Bath Salts

- Could be MDPV, 4-MMC, mephedrone, or methyldone.
- Sold on-line or in smoke shops or head shops with little info on ingredients, dosage, etc.
- Advertised as Legal Highs, Legal Meth, Legal Cocaine, Legal Ecstasy.
- Taken orally or by inhaling.
- Serious side-effects to self or others with prolonged or use of large amounts.

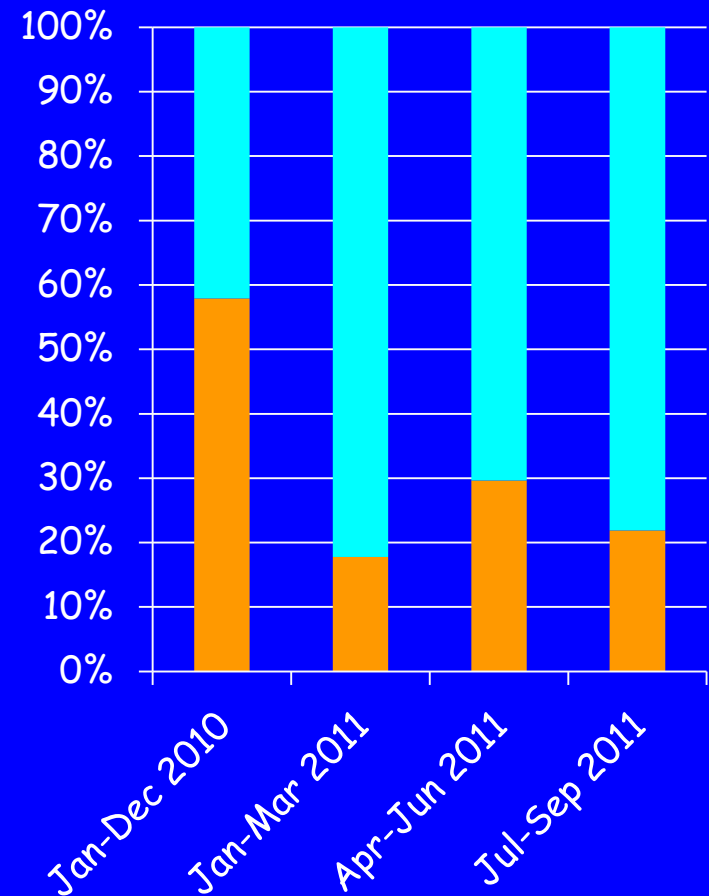


Medical Outcomes: Texas Poison Control Data

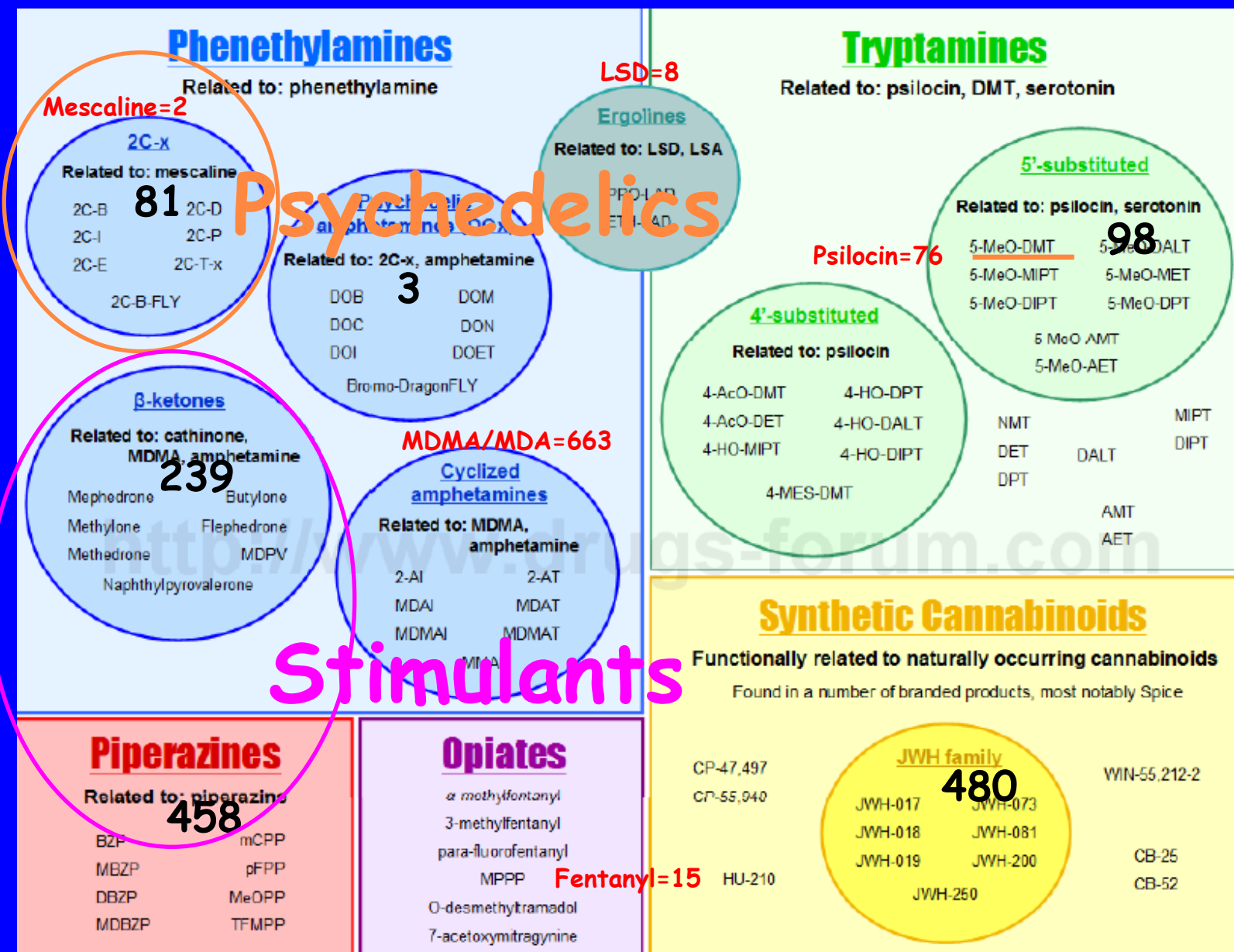
Synthetic Cannabinoids



Bath Salts



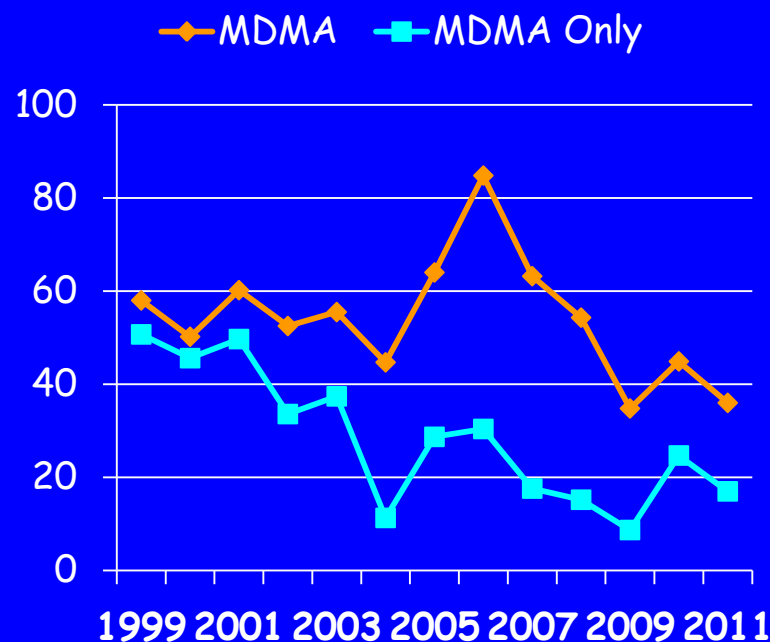
Emerging Psychoactive Drugs in Texas: NFLIS Items $\frac{1}{2}$ 2011



The MDMA Situation

- Australian EDRS reports drop in MDMA use from 52% in 2003 to 27% in 2011.
- Both Australia and UK report MDMA “drought” and US CEWG reports down.
- Shift from PMK to safrole to make MDMA.
- Winstock predicts return of high quality MDMA but from China, not BeneLux sources.

Results of Pill Tests Containing MDMA*



*http://www.ecstasydata.org/stats_substance_by_year.php

BZP & TFMPP

- Identified in Texas laboratories..
- "A2", "Frenzy", "Nemesis," "Pure".
- Stimulants combined as alternative to Ecstasy & methamphetamine.
- BZP is Schedule 1 but TFMPP is legal in US.

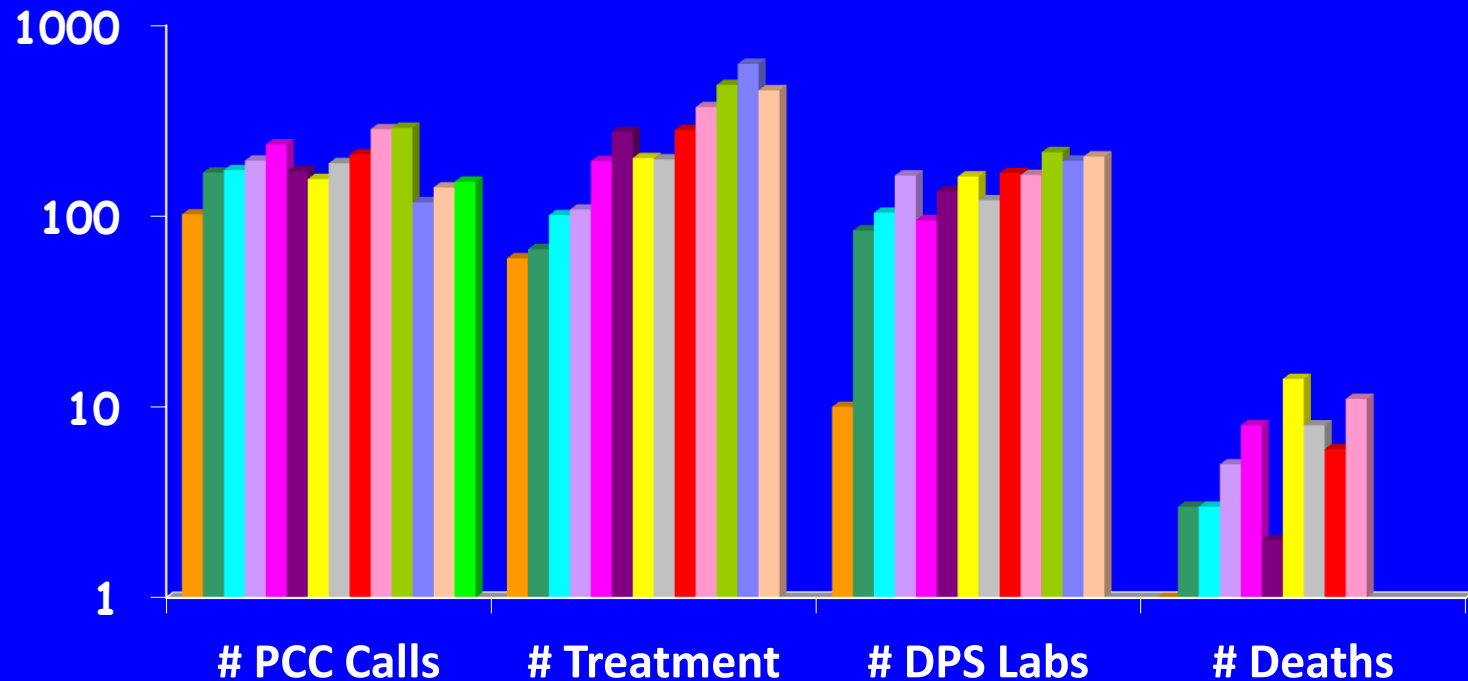
	BZP	TFMPP
2007	19	2
2008	312	66
2009	436	87
2010	528	138
$\frac{1}{2}$ 2011	458	38

Phencyclidine

- PCP, Angel Dust, Killer Weed
- Dissolved in embalming fluid ("Fry," "Amp," "Water, Water").
- Swallowed, sniffed, smoked on joints dipped in "Fry".
- Out-of-body strength.

PCP Indicators in Texas: 1998-2011

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011



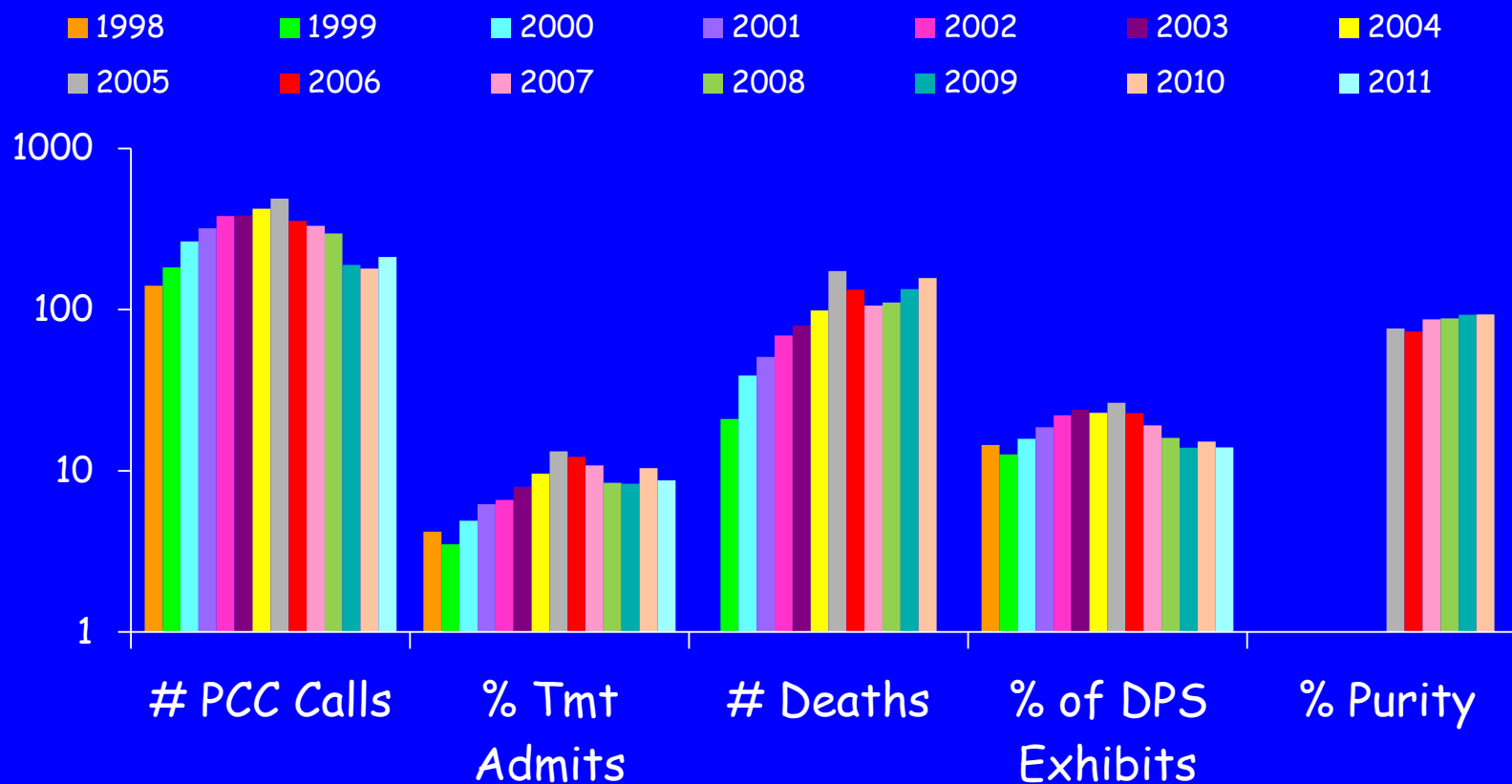
Salvia Divinorum



- Family : Lamiaceae (mint)
- **Most potent natural hallucinogen (dose 0.2-1mg)**
- Clinical: Visual distortions; feeling of unreality; depersonalization, dissociation; motor in coordination.
- **Many Salvia users try it only once because of unpleasant effects.**
- Route: chewed or smoked; onset 1 minute; duration 1 hour.
- **73 calls to Texas Poison Centers in 2008; 7 in 2009; 16 in 2010; 15 in 2011.**

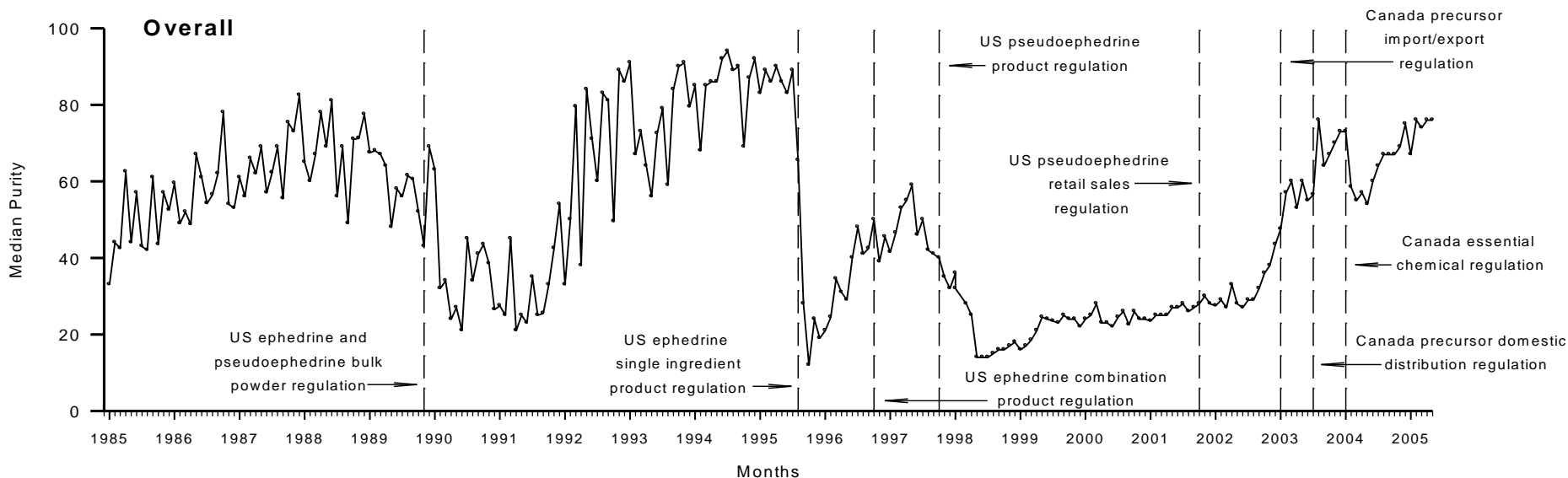
Methamphetamine: It's Back
(It never went away)

Methamphetamine & Amphetamine Indicators in Texas: 1997-2011*



*2011 is $\frac{1}{2}$ year NFLIS and Treatment; full year PCC

Median Methamphetamine Purity in the Continental United States (1985-2005)

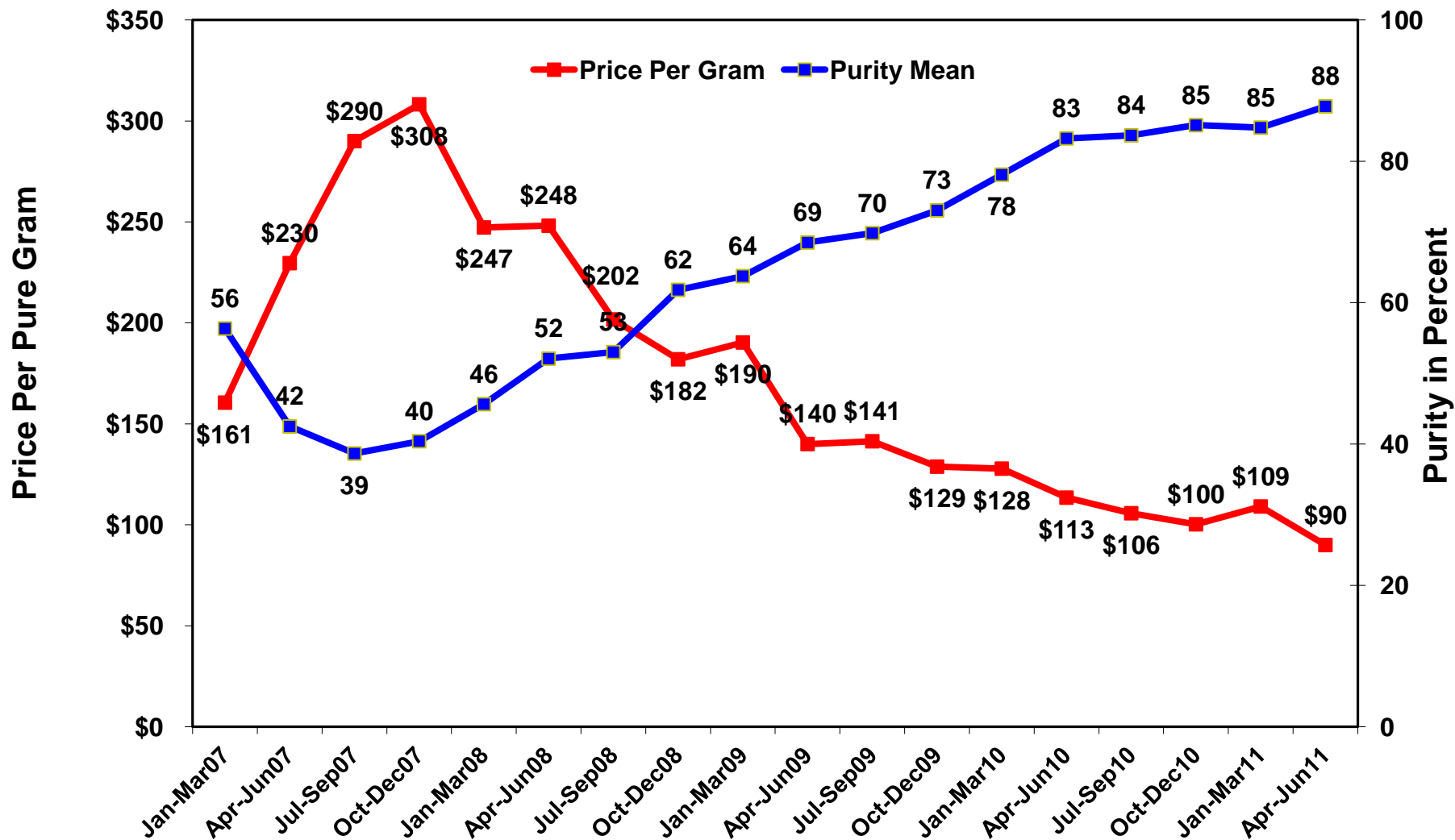


Impact of US and Canadian precursor regulation on methamphetamine purity in the United States. (2009)
Cunningham JK, Liu L-M, Callaghan R. *Addiction*; 104, 441-453.

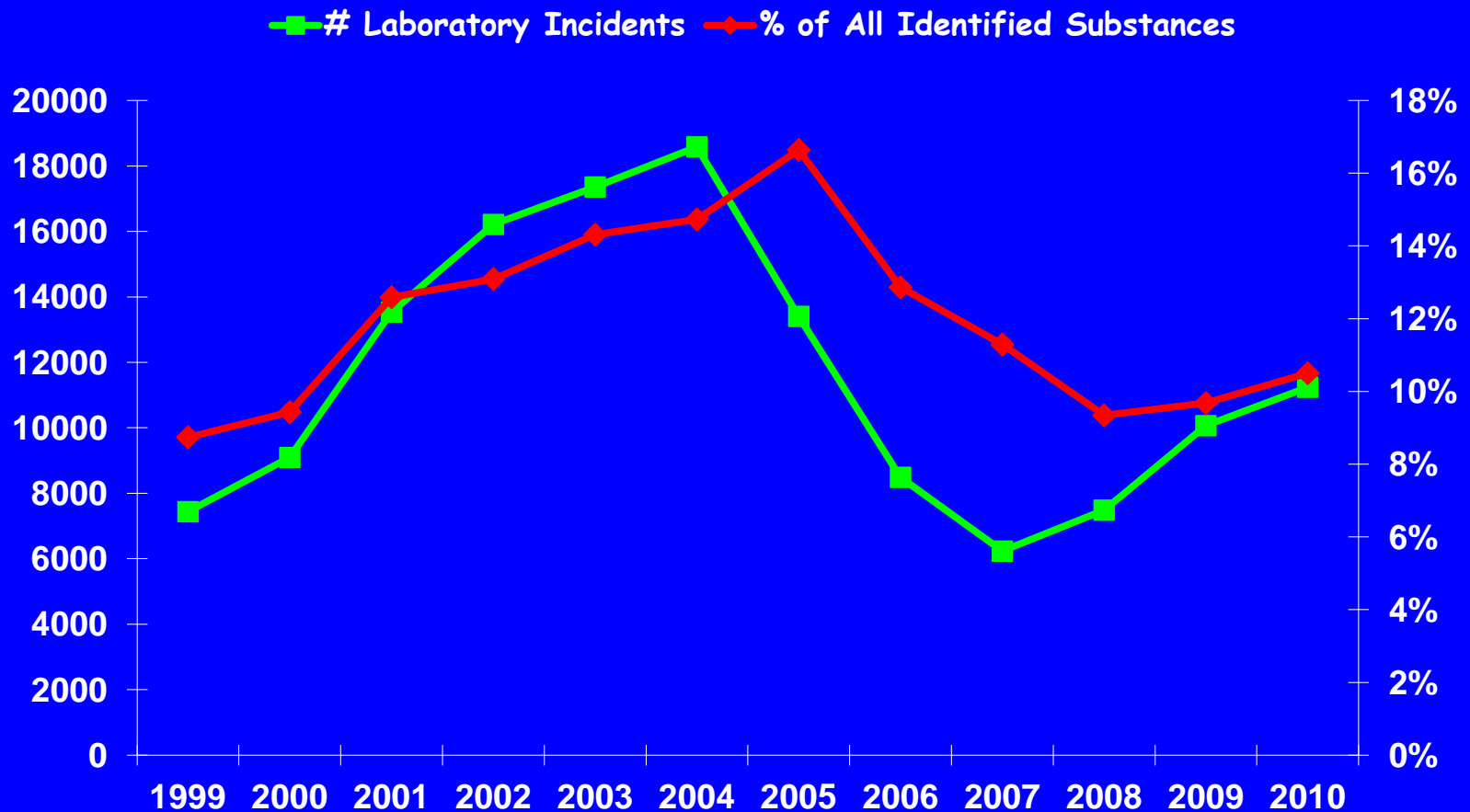


All Methamphetamine Purchases Domestic STRIDE Data January 2007 – June 2011

From July 2007 through June 2011, the price per pure gram of methamphetamine decreased 69%, from \$290 to \$90 while the purity increased 127%, from 39% to 88%.



Methamphetamine Clandestine Laboratory Incidents and Methamphetamine as % of All Substances Identified in the US: 1999-2010



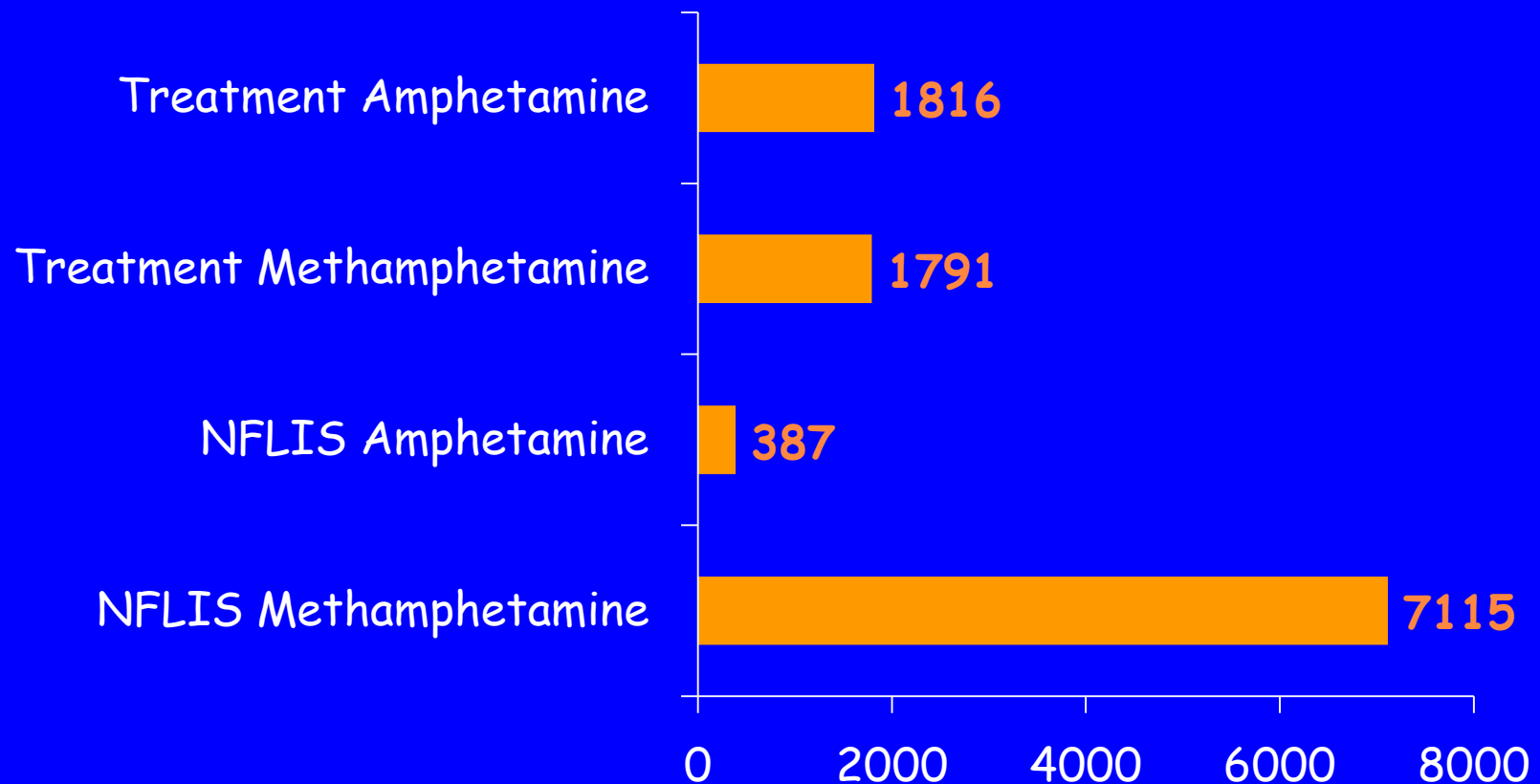
Different Manufacturing Processes

- I. Methylsulfonylmethane (MSM) being used to cut meth (or sold instead of meth).
- II. Ephedrine/Pseudoephedrine Based (d-form):
 - A. "Nazi Method"-lithium, anhydrous ammonia
 - B. Cold method-red phosphorus, iodine crystals
 - C. "One Pot" and "Shake and Bake" cooking using dry ammonia nitrite and cough syrup rather than liquid anhydrous ammonia.
- III. P2P/Phenylacetone (Illegal in US-Schedule II, precursors legal in Mexico) (l and d,l-forms).

DEA Methamphetamine Profiling Program

- *d*-meth (made with ephedrine) has more potent physiologic and behavioral effects and higher abuse liability than *l*-meth (Mendelson et al., 2006).
- In 2nd Q 2010, only 50% of DEA samples were from the P2P process; in 3rd Q 2011, 85% of samples were from P2P process (*d*/*l* or *l*-meth), 8% phosphorus-iodine (*d*-meth).
- If meth is 0% potent, then it is *l*-isomer only; if 100% potent, it is 100% *d*-isomer. For 3rd Q 2011, potency was 75%. Purity was 92%.
- Mexican cooks are refining the P2P product so very little *l*-meth is left in the P2P product, which means potent meth is back. BUT MSM still used as a cut and not as much higher purity/potency may be seen on the street yet.
- Fascinating stories about ingredients, appearance, etc.

Comparison of Amphetamine and Methamphetamine Indicators in Texas: 1st Half 2011







Characteristics of participants in Texas meth study: Preliminary Results

- N=222; 83% White; 54% female.
- 46% injected, 34% inhaled, 19% swallowed, 60% smoked.
- More females completed high school (83% vs. 76%).
- Females had more children living with them.
- Females scored 8 on Severity of Dependence Scale vs. 7 for males
- 63% had seen a mental health professional; 67% had been given meds for depression and 60% meds for anxiety.
- Over 89% said a family member had drug problem, 94% said a family member had a drinking problem, 90% said family had psychological problem, and 87% had a family member who had been in jail.
- 41% as youths had drunk with family members and 34% had done drugs with family members.

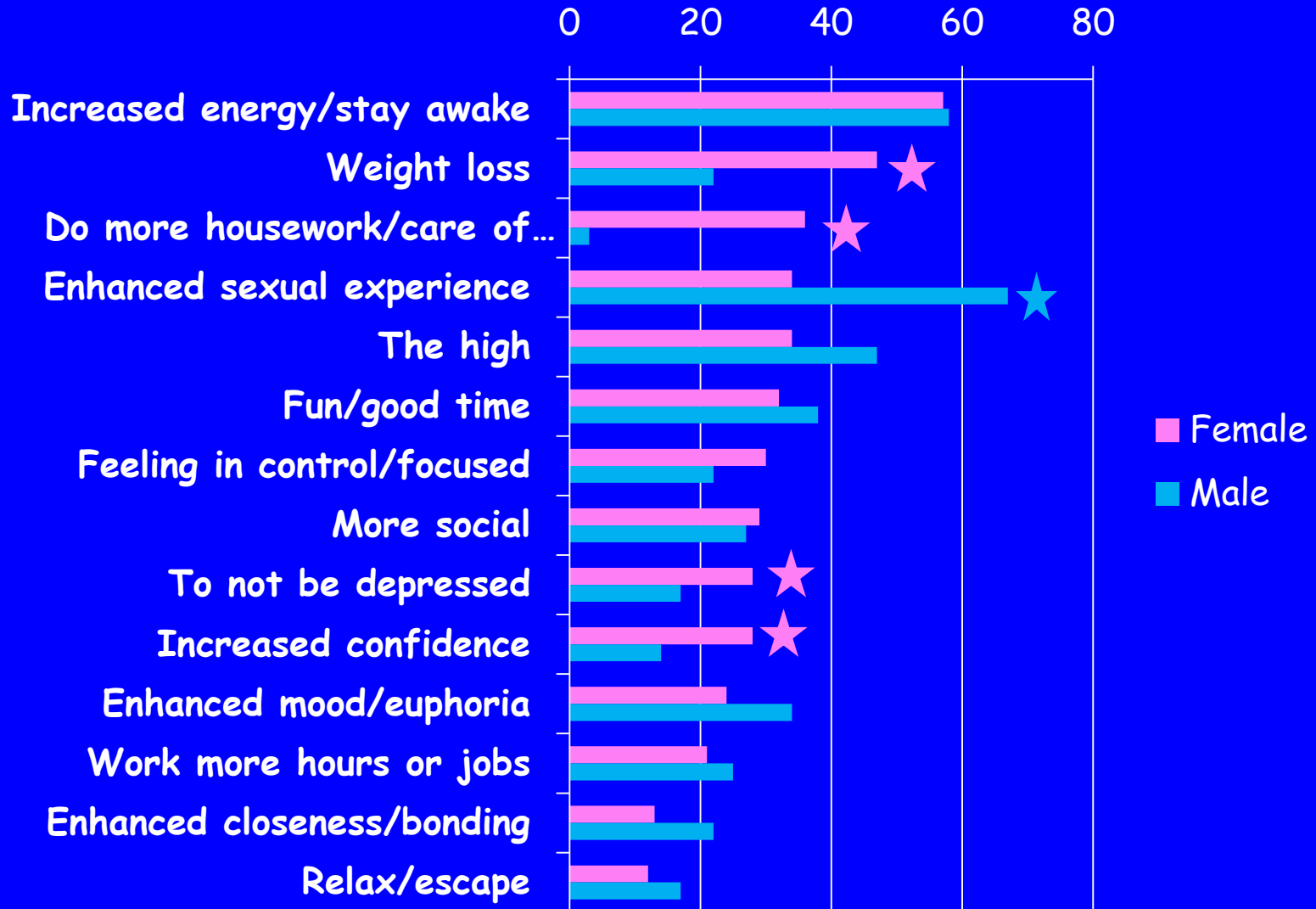
Biggest Risks of Meth Use: Mental

	%
Paranoia	37.9
Depression	35.1
Anxiety/panic	35.1
Damage to brain function	27.6
Psychosis	17.3
Aggressive/violent behavior	15.9
Memory impairment	12.2
Cognitive impairment	4
Long-term physical problems	9
Lack of motivation	8

Biggest Risks of Meth Use: Personal Problems & Drug Use Problems

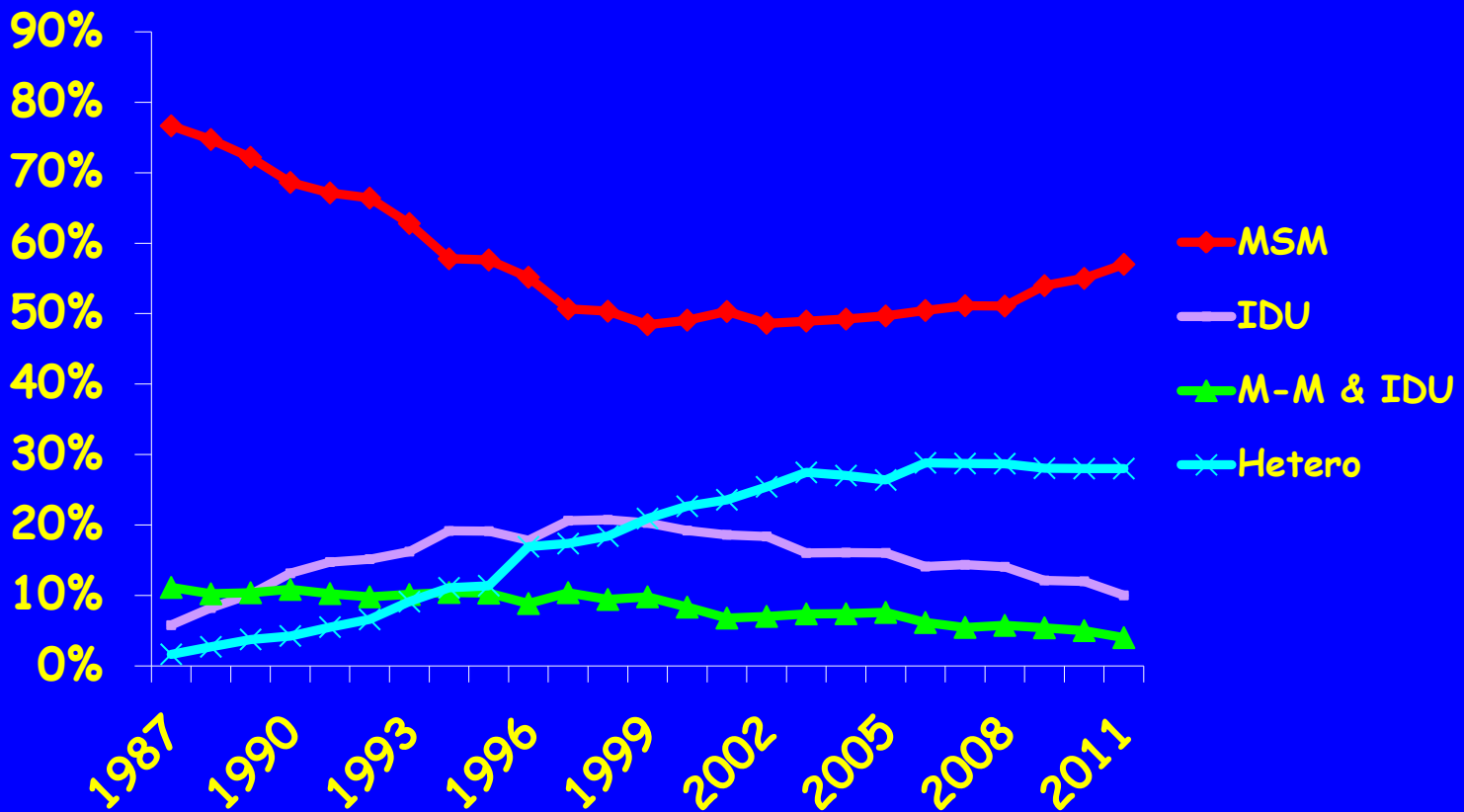
	%	
Legal/police problems	28.5	
Family & child social services	22.4	
Financial problems	19.6	
Social/relationship problems	19.6	
Employment problems	18.2	
Addiction/dependence	38.3	
HIV/AIDS	15.9	
Hepatitis	14.5	
Overdose	10.8	
Unknown strength/contents	8	
Taking more than intended	5	

Biggest Benefits of Meth Use

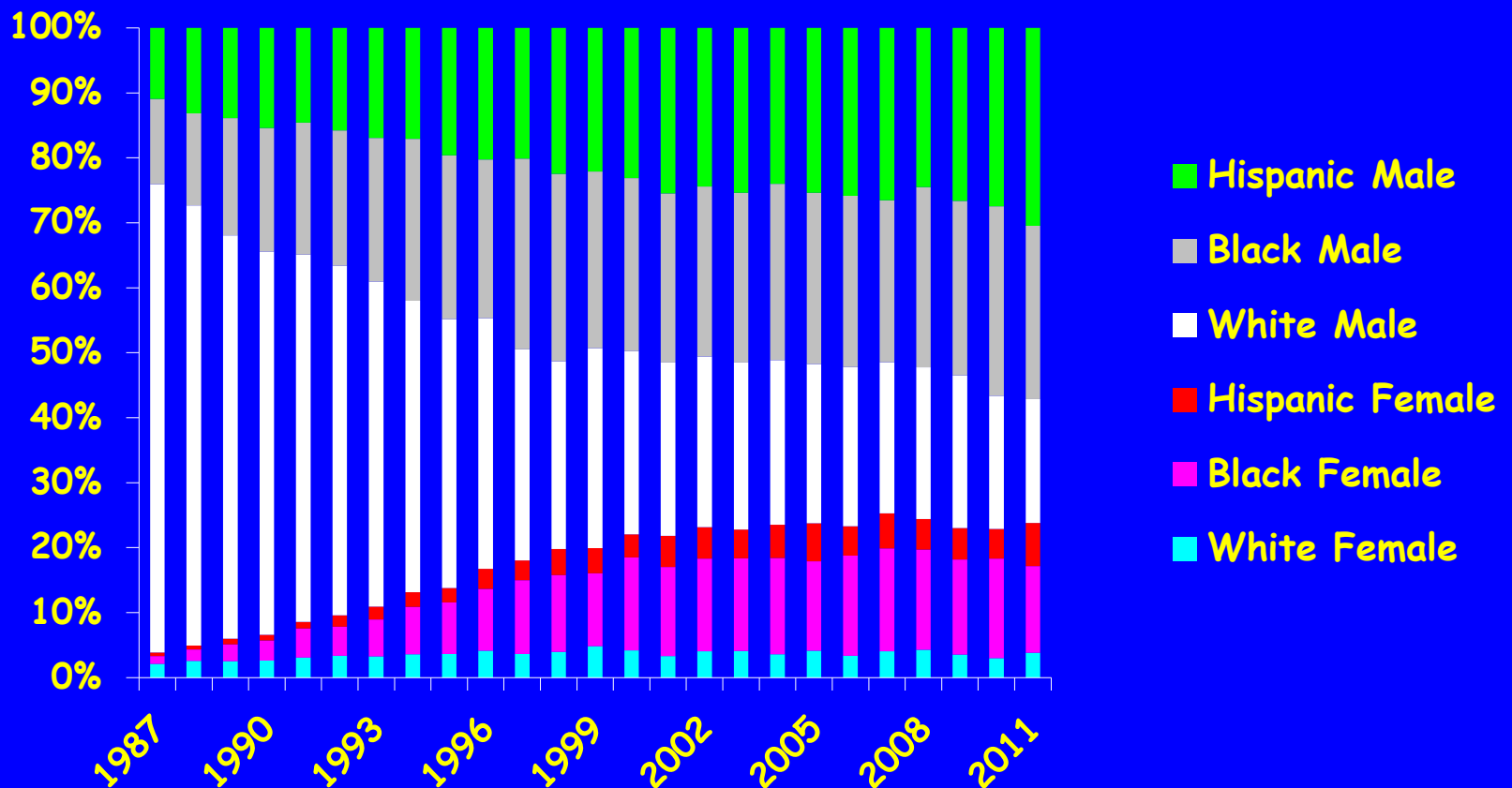


p=.05

Percent of Texas AIDS Cases Reported by Selected Modes of Exposure: 1987-1/2 2011



Texas Male and Female AIDS Cases by Race/Ethnicity: 1999-1/2 2011



Data Sources

- Death data (DSHS) - 2009
- Poison Control Center cases (DSHS) - 2011
- Treatment admission records (DSHS) - 2010
- Surveys (DSHS) 2010 and (YRBS) 2009
- Forensic laboratory tests (NFLIS) - $\frac{1}{2}$ 2011
- DEA Dallas, El Paso, and Houston Field Division Intelligence Reports - 2011
- AIDS cases (DSHS) -2011
- NIDA, R21 DA025029

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