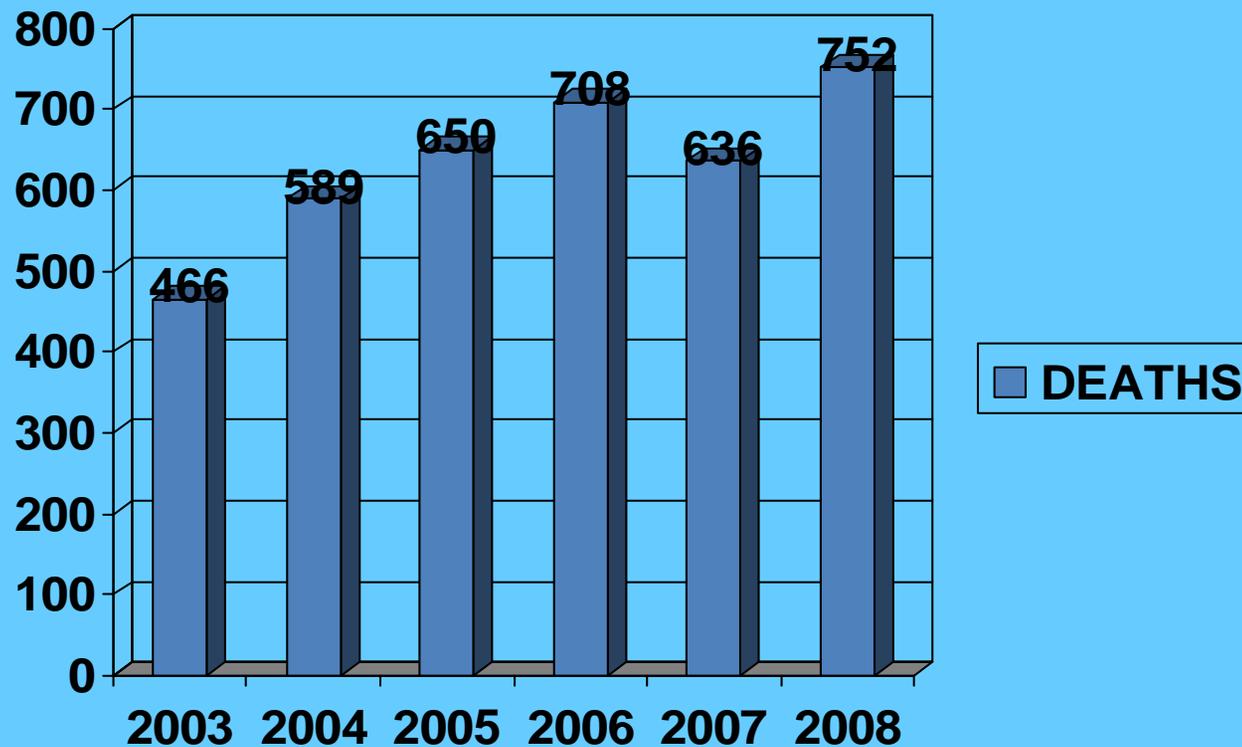


PRESCRIPTION DRUG MISUSE AND MORTALITY AND THE CSRS NORTH CAROLINA

William Bronson, Program Manager
North Carolina Division of Mental Health
Drug Control Unit

UNINTENTIONAL DEATHS DUE TO PRESCRIPTION DRUGS 2003- TO 2008

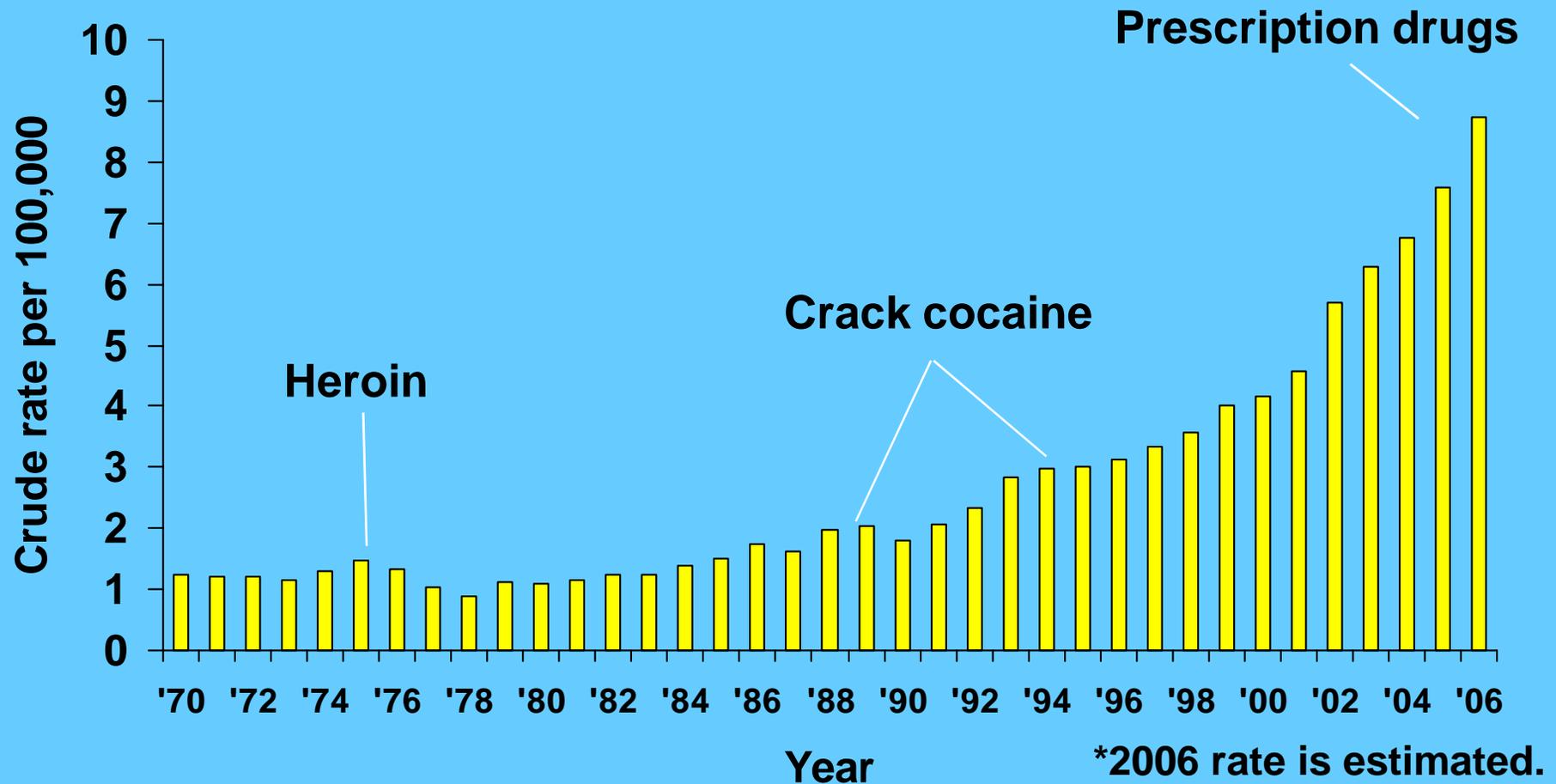


2008 is extrapolated. There were 376 deaths in the first 6 months.

Numbers of drug-induced deaths, U.S., 2005

Cause of Death	Manner of Death	No. of Deaths
Drug Poisoning	Unintentional	22,448
Drug Poisoning	Suicide	4,240
Drug Poisoning	Homicide	57
Drug Poisoning	Undetermined	3,068
Adverse effects	NA	337
Mental and behavioral disorders	NA	1,080
All other	NA	2,311
Total	All	33,541

Epidemics of unintentional drug overdose deaths in the U.S., 1970-2006*

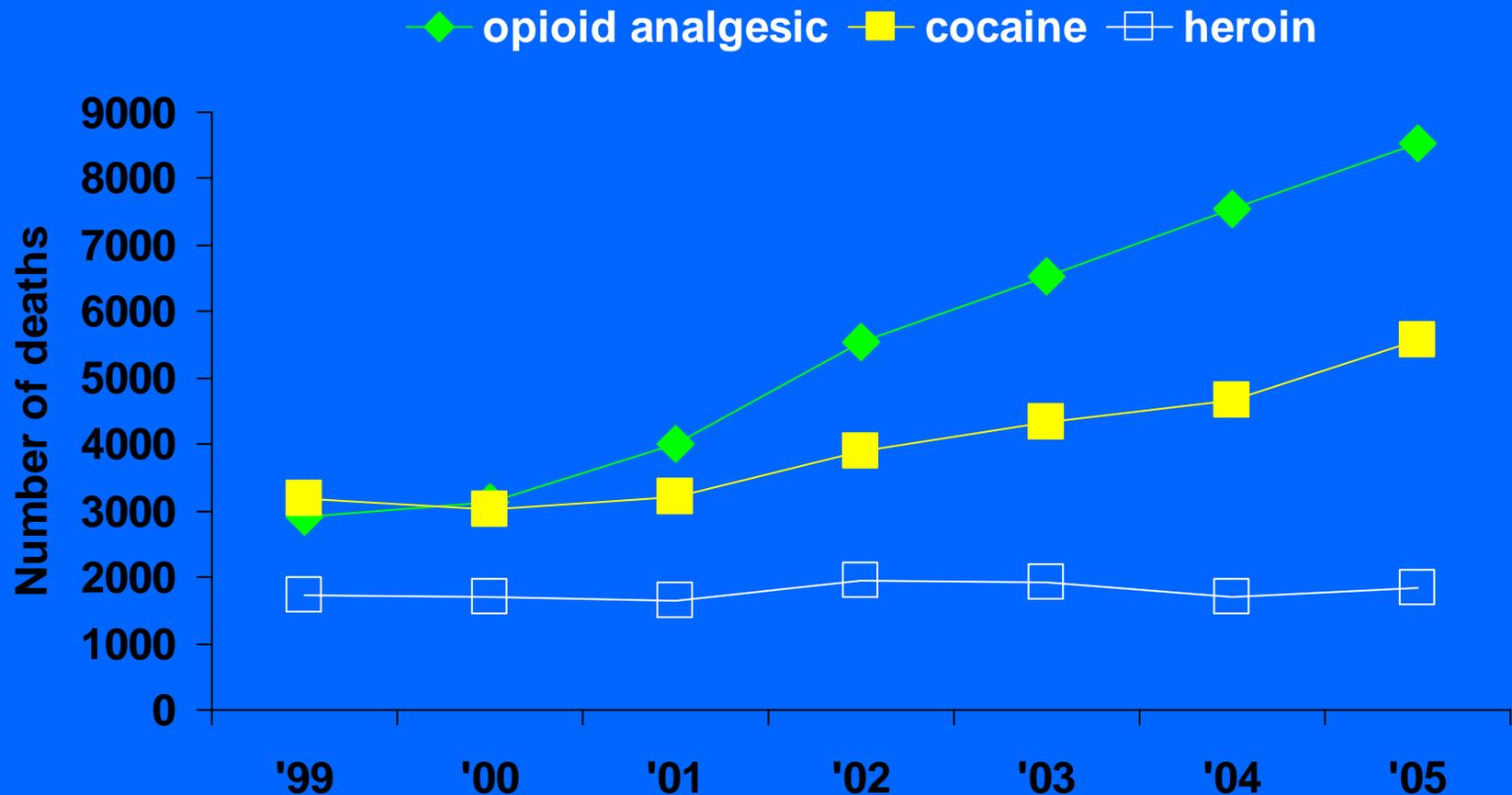


Len Paulozzi, MD, MPH

National Center for Injury Prevention and Control

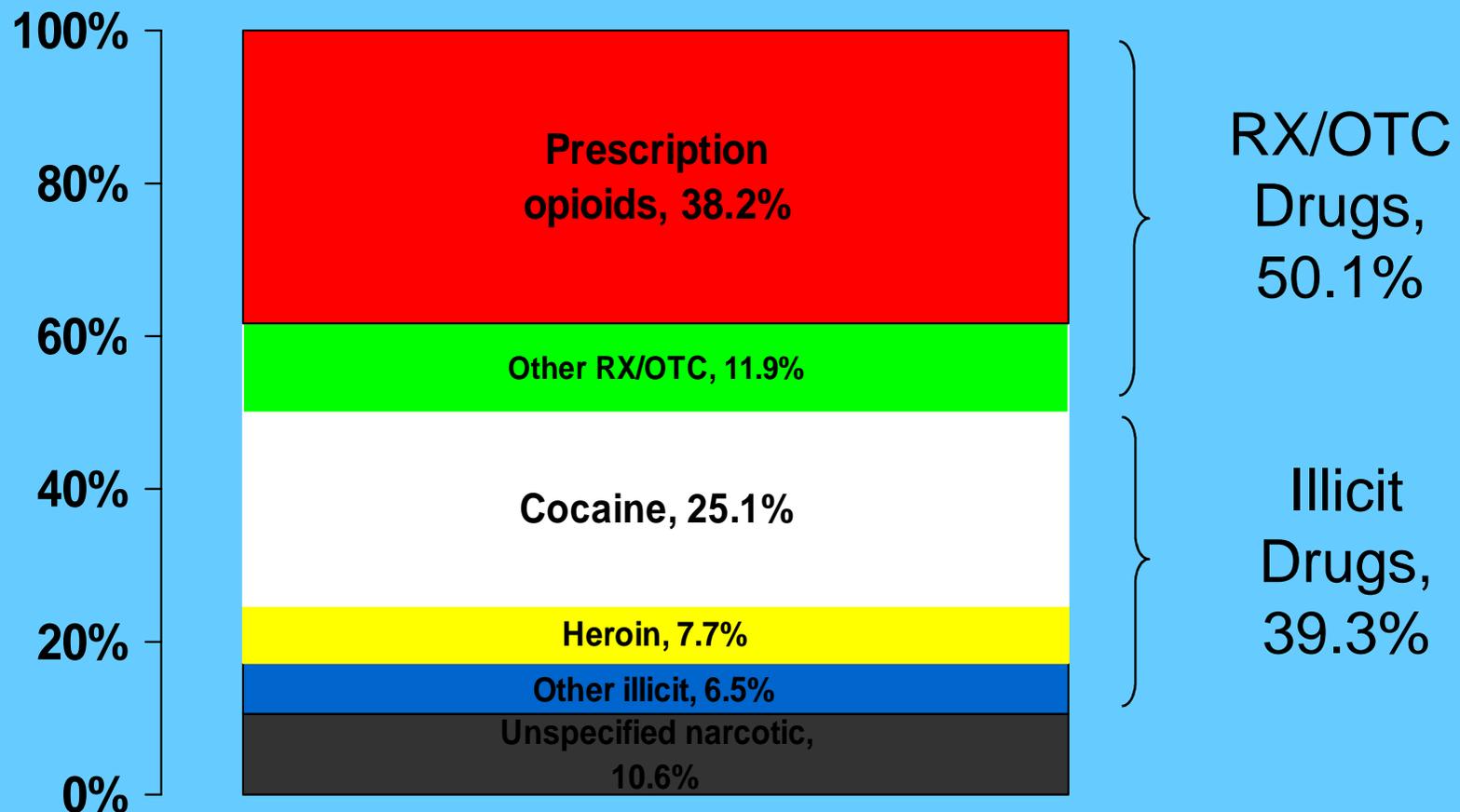
Centers for Disease Control and Prevention

Unintentional drug overdose deaths by major type of drug, U.S., 1999-2005

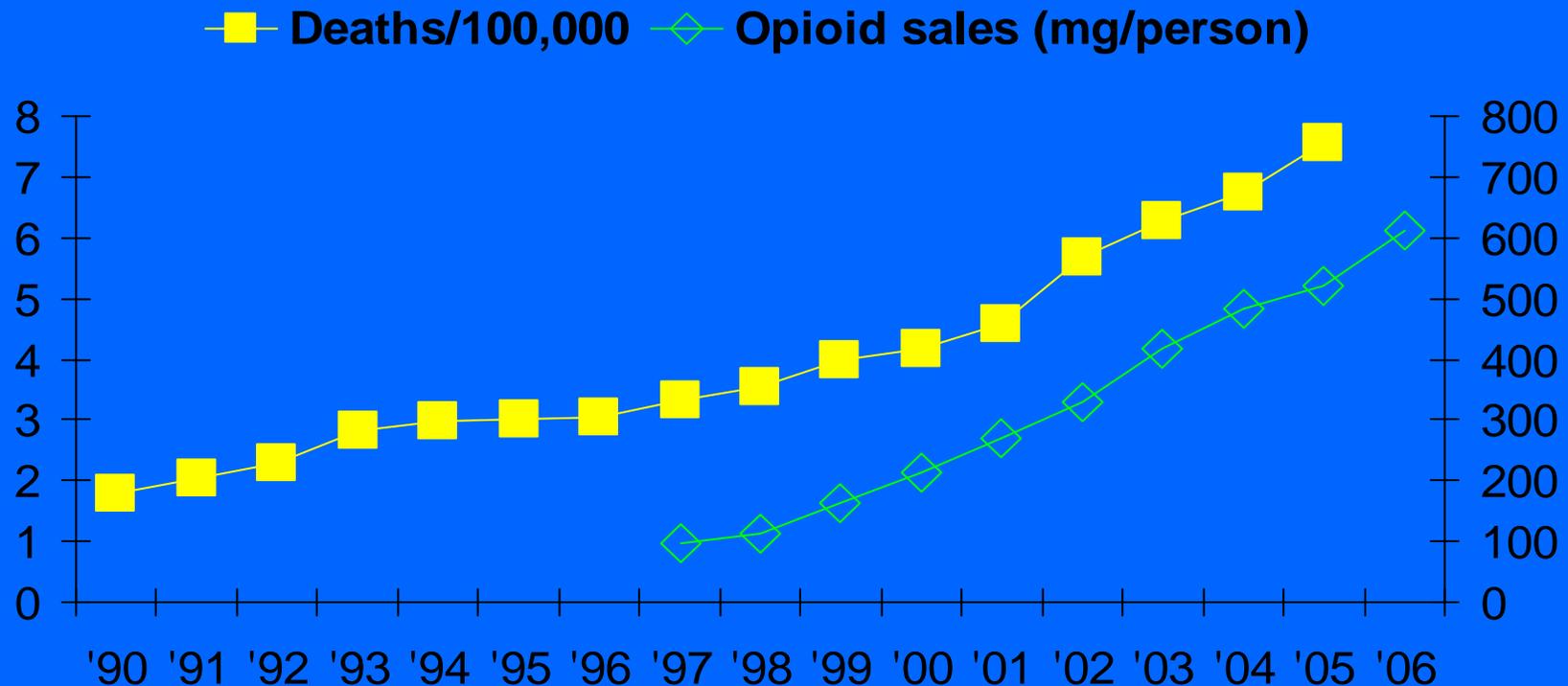


Len Paulozzi, MD, MPH Centers for Disease Control and Prevention

Distribution of first-listed specified drugs among unintentional drug overdose deaths, U.S., 2005



Unintentional drug overdose death rates and total sales of opioid analgesics in morphine equivalents by year in the U.S.



Len Paulozzi, MD, MPH Centers for Disease Control and Prevention

Characteristics of people dying from prescription drug overdose that suggest drug misuse/abuse, based on medical examiner studies

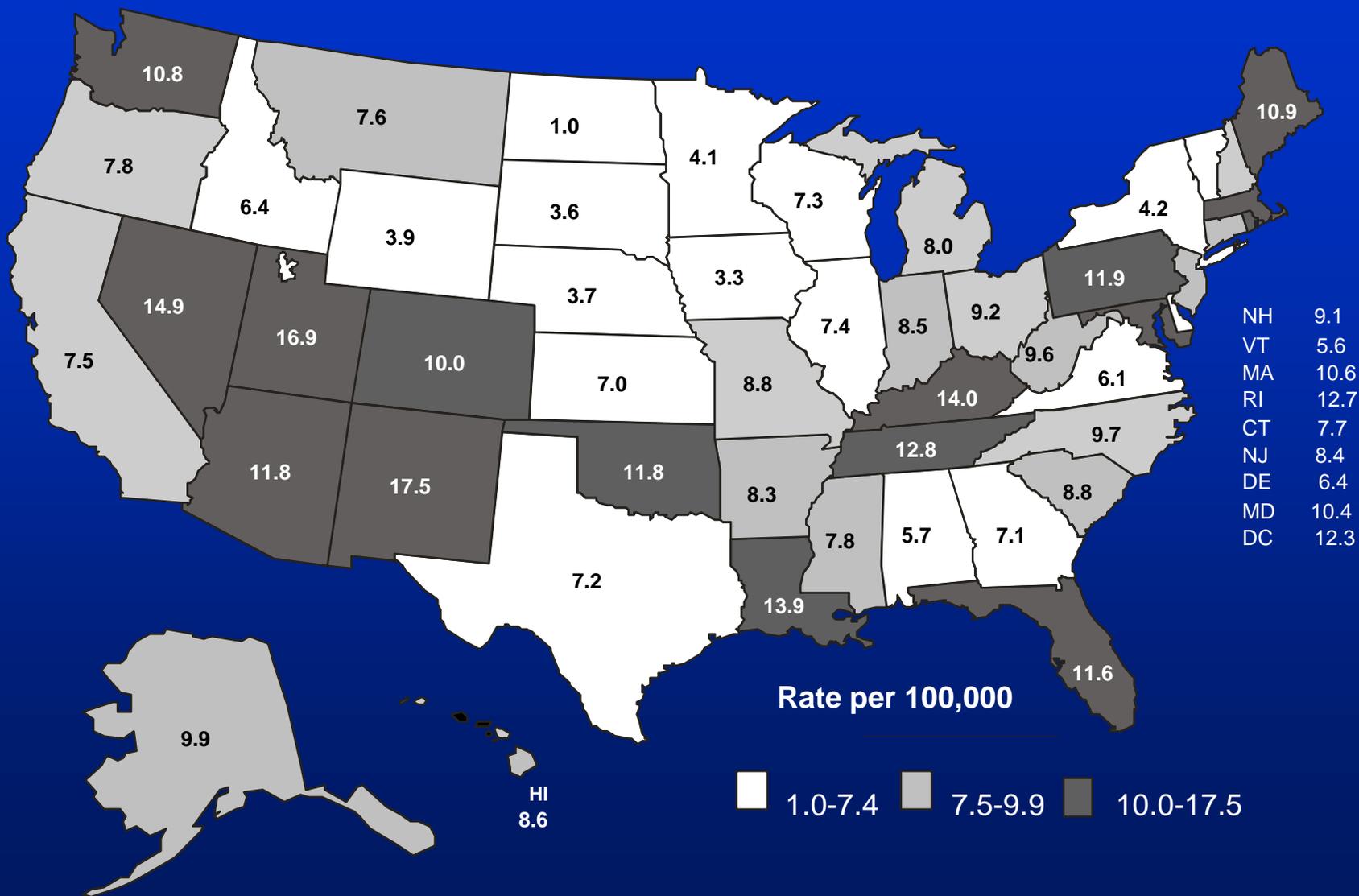
- Large majorities have a history of substance abuse
- Half or more lack prescriptions for their drugs
- Substantial minorities:
 - **Die of street drugs combined with prescription drugs**
 - **Inject, snort or otherwise manipulate the drugs to enhance the “high.”**
 - **Have a history of previous overdoses**

Conclusions: Geographic Analysis

- Manyfold variations exist in drug overdose mortality and prescribing rates by state
- To some extent, prescribing patterns match mortality patterns
- Both prescribing and mortality patterns follow state boundaries in some cases
- These results suggest that state-level policies related to prescription drugs have the potential to reduce the risk of overdose.

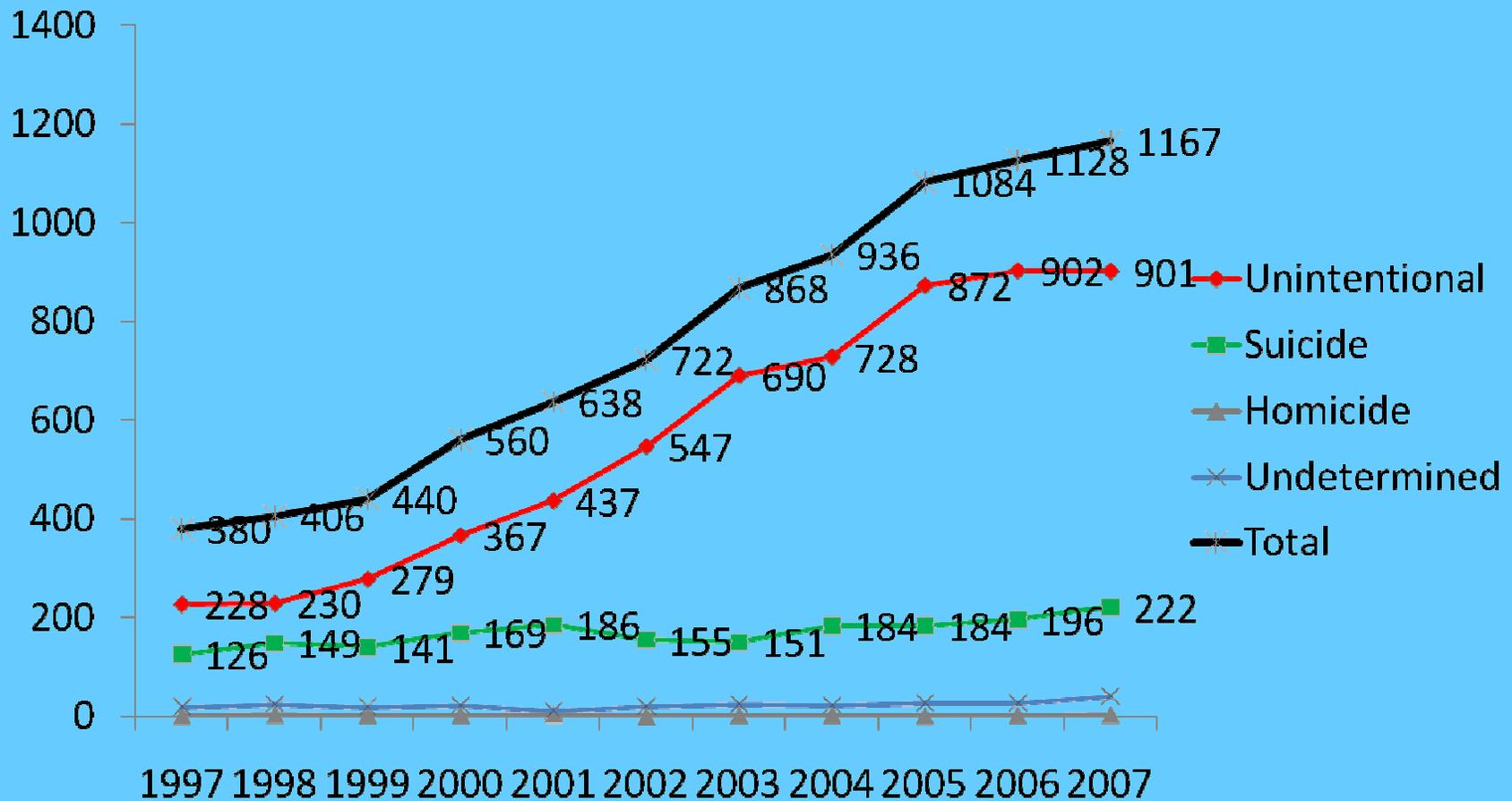
Len Paulozzi, MD, MPH Centers for Disease Control and Prevention

Unintentional and undetermined intent drug overdose death rates by state, 2005



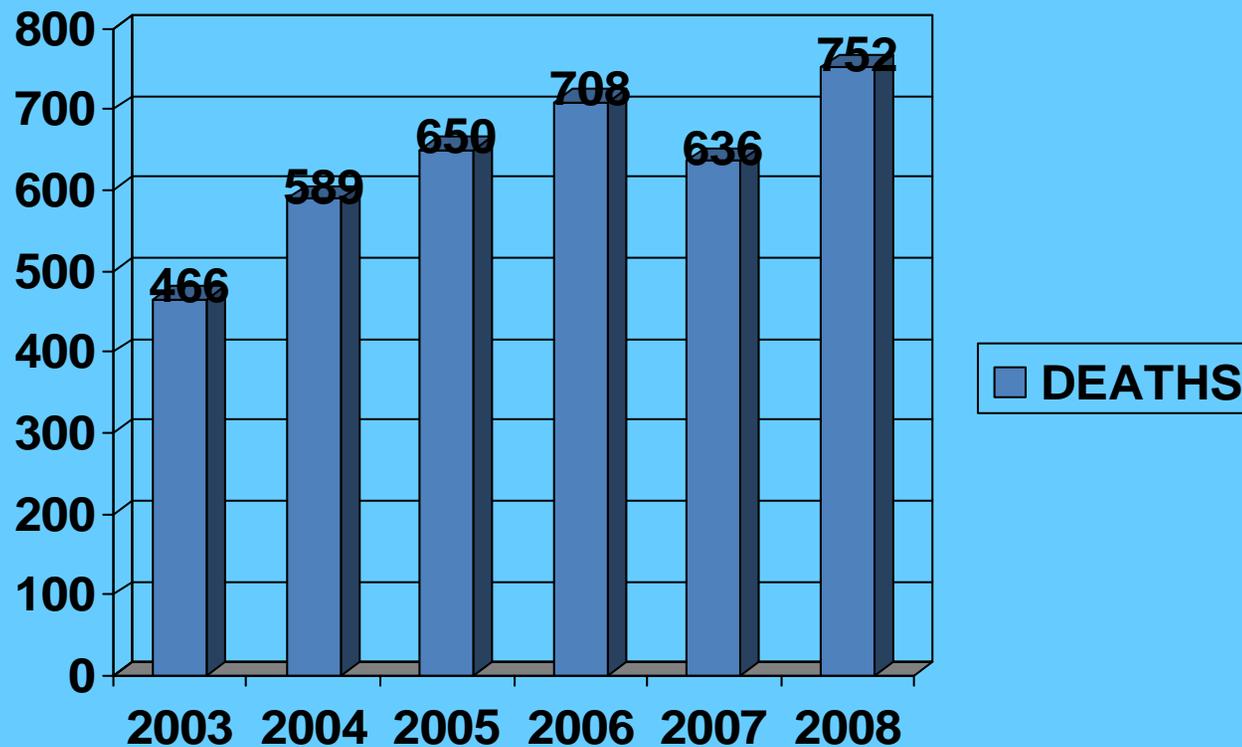
Len Paulozzi, MD, MPH Centers for Disease Control and Prevention

Number of Fatal Poisonings by Manner of Death: NC Residents, 1997-2007



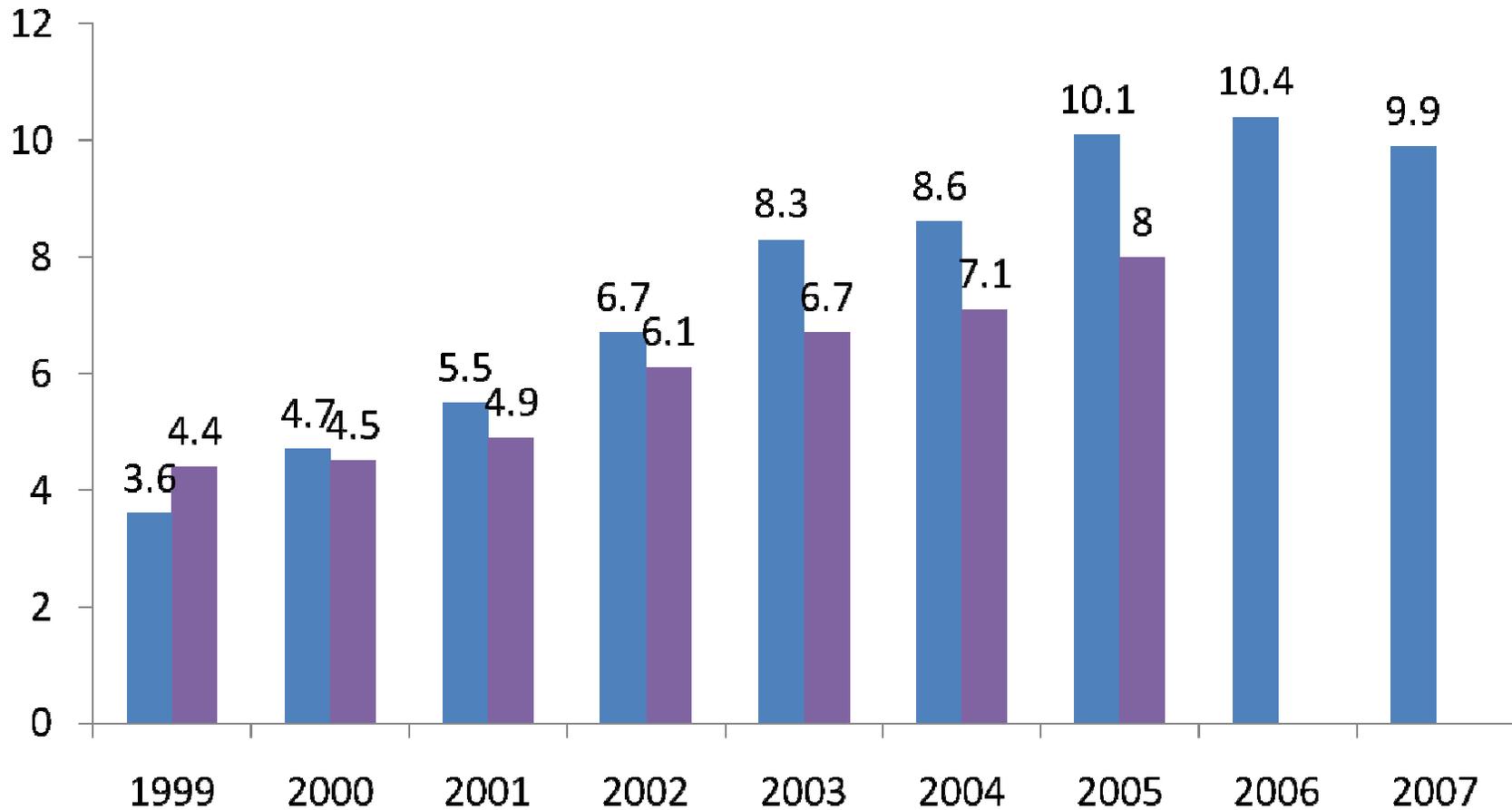
Source: NC State Center for Health Statistics, August 2008

UNINTENTIONAL DEATHS DUE TO PRESCRIPTION DRUGS 2003- TO 2008



2008 is extrapolated. There were 376 deaths in the first 6 months.

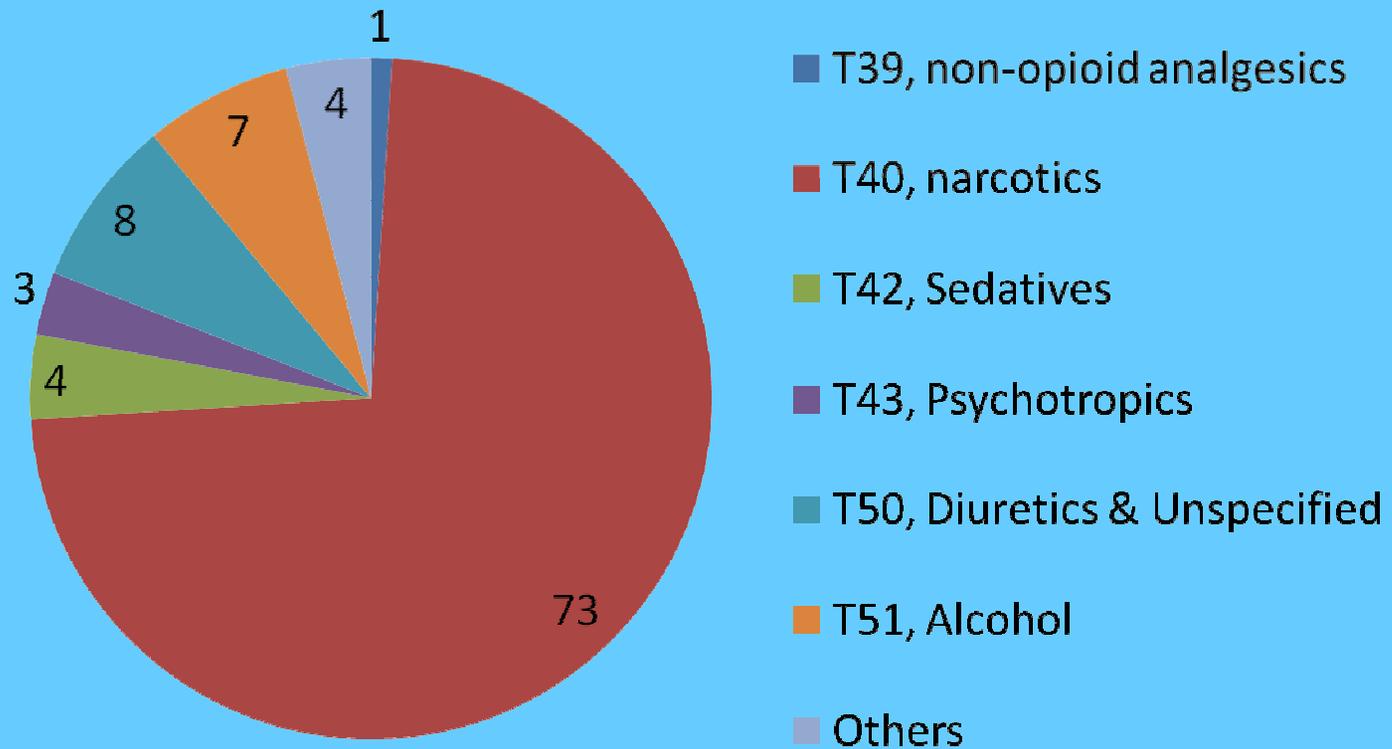
Fatal Unintentional Overdose Mortality Rates: NC (blue) and US (purple), 1999-2007



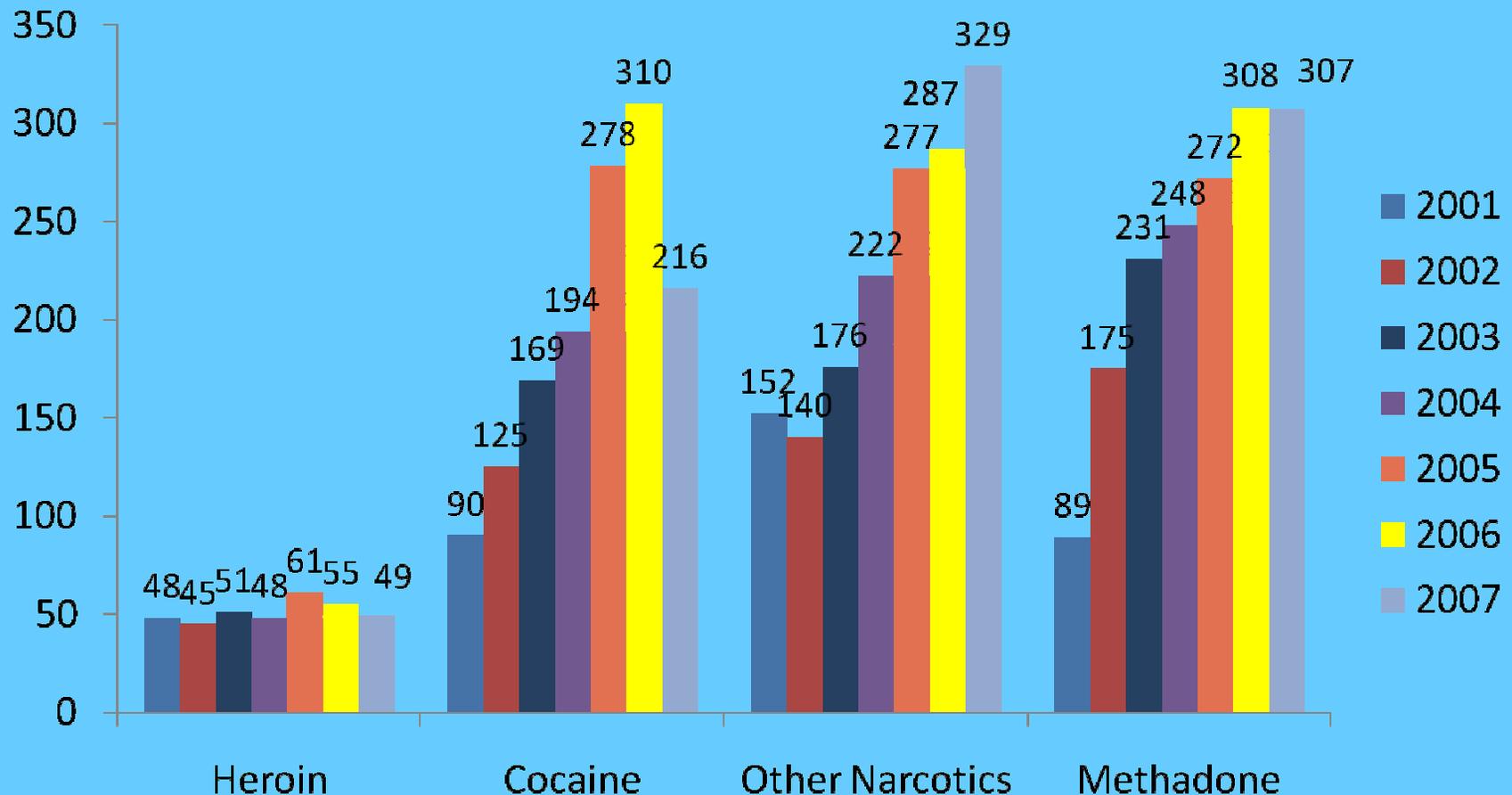
Source: Mortality data - NC and US 1999-2005 – WISQARS, obtained 9/1/08. NC rates, NC State Center for Health Statistics, 2006-2007, obtained 8/17/2008

Substances Reported by Medical Examiners for Unintentional Fatal Poisonings by ICD10 T-Code Poisoning Categories: NC, 2007

Percent of T-code Categories Identified on Death Certificates

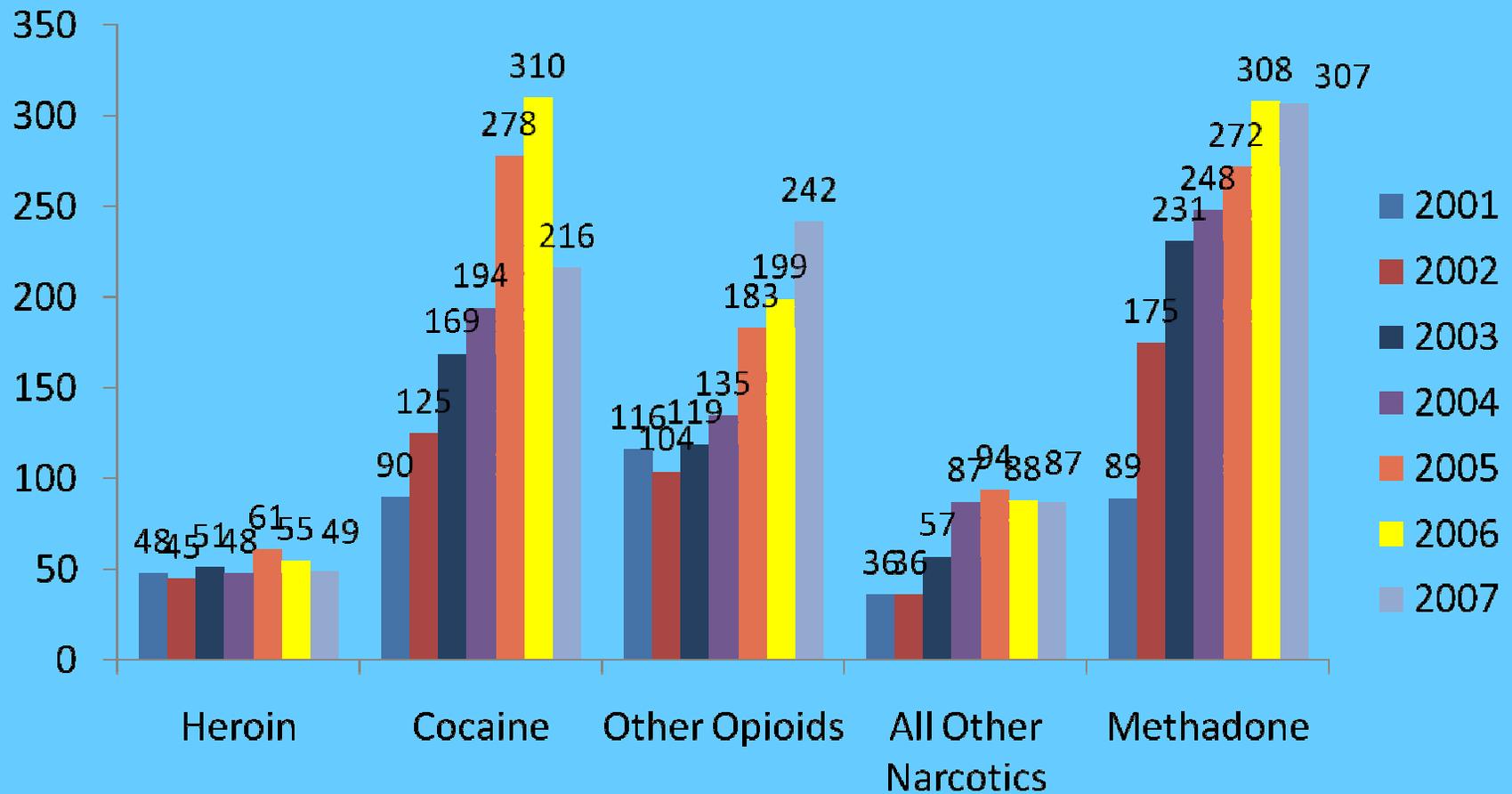


Fatal Overdoses from Narcotics (condensed categories): NC Residents, by ICD-10 Drug Category, 2001-2007



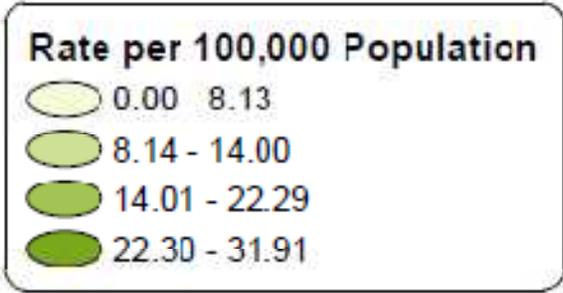
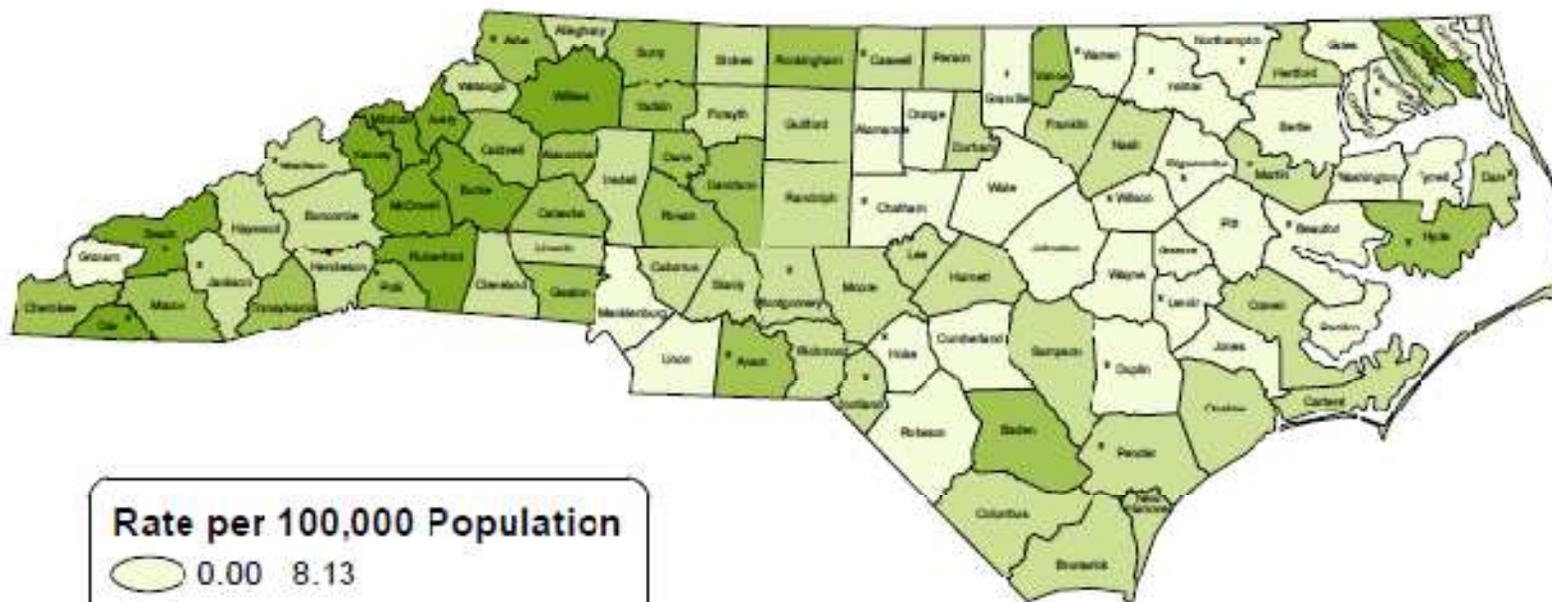
Source: NC SCHS Death Certificates (8/ 2008): T-codes Heroin 40.1; Cocaine, 40.5; Other narcotics 40.2,.4,.and .6; Methadone 40.3. No deaths from cannabis or hallucinogens.

Fatal Overdoses from Narcotics: NC Residents, by ICD-10 Drug Category, 2001-2007



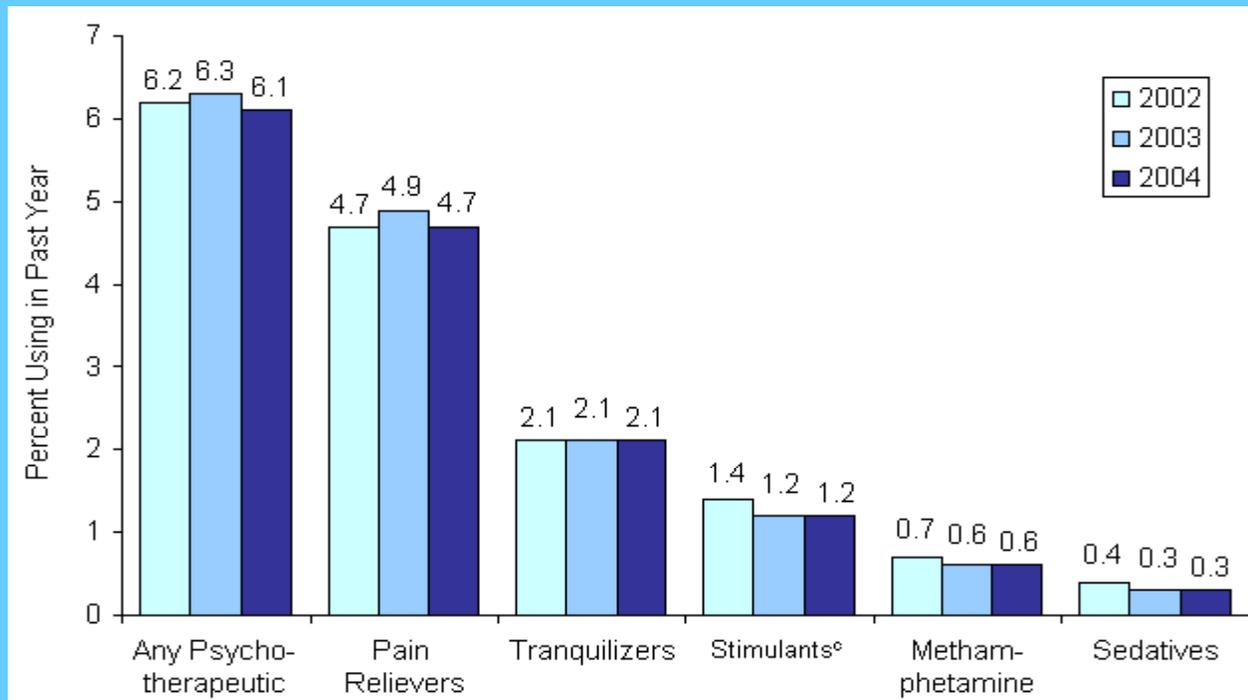
Source: NC SCHS Death Certificates, T-codes 40.1; 40.5; 40.2; 40.4,.6-.9; 40.3, 8/2008

North Carolina Resident Unintentional and Undetermined Poisoning Death Rates 2006-2007



*Note rates based on less than 10 deaths are unreliable and should be interpreted with caution.

Past Year Nonmedical Use of Prescription Psychotherapeutic Drugs among Persons Aged 12 or Older, by Drug Type: Percentages, 2002-2004



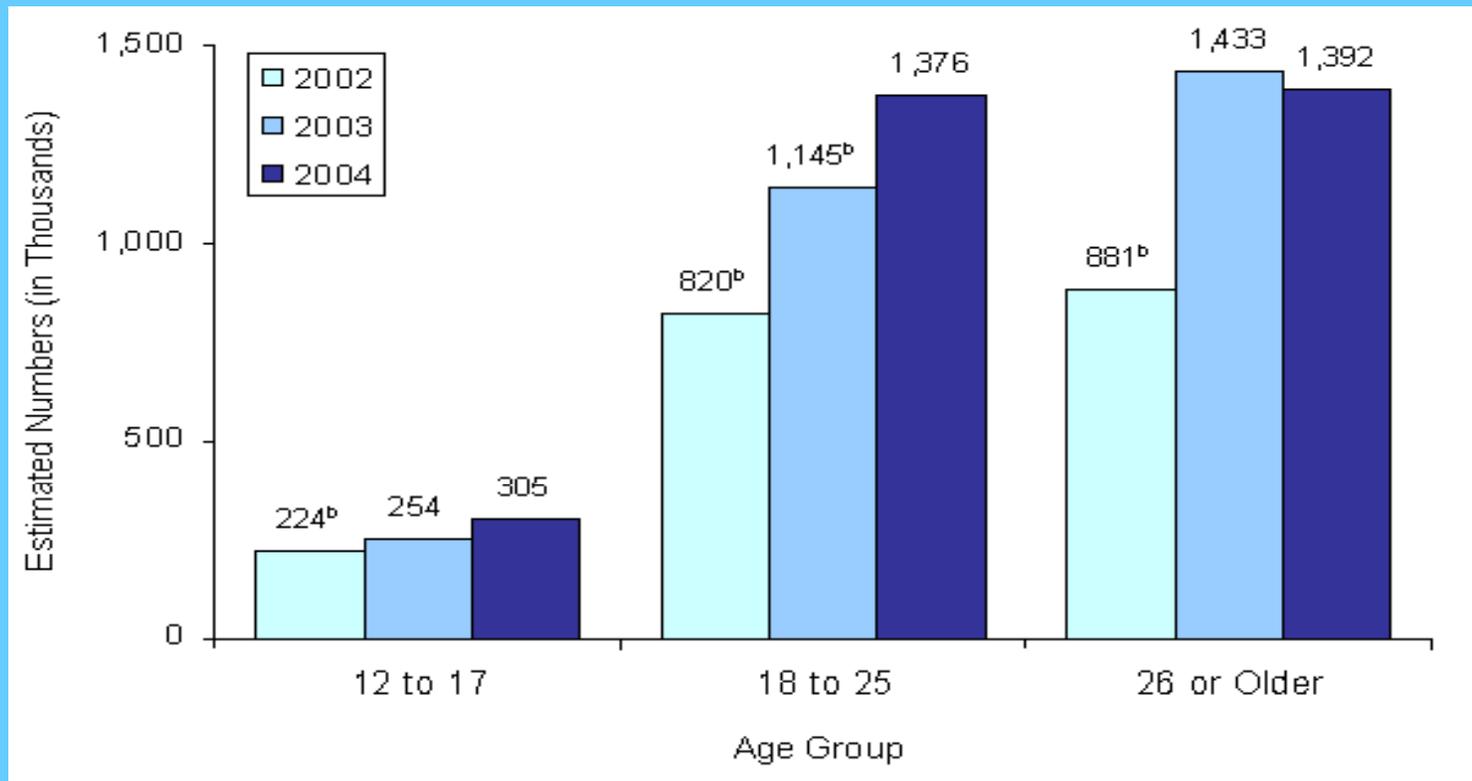
^a Difference between this estimate and the 2004 estimate is statistically significant at the .05 level.

^b Difference between this estimate and the 2004 estimate is statistically significant at the .01 level.

^c Includes methamphetamine.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

Lifetime Nonmedical Use of OxyContin®, by Age Group: Numbers of Users, 2002-2004

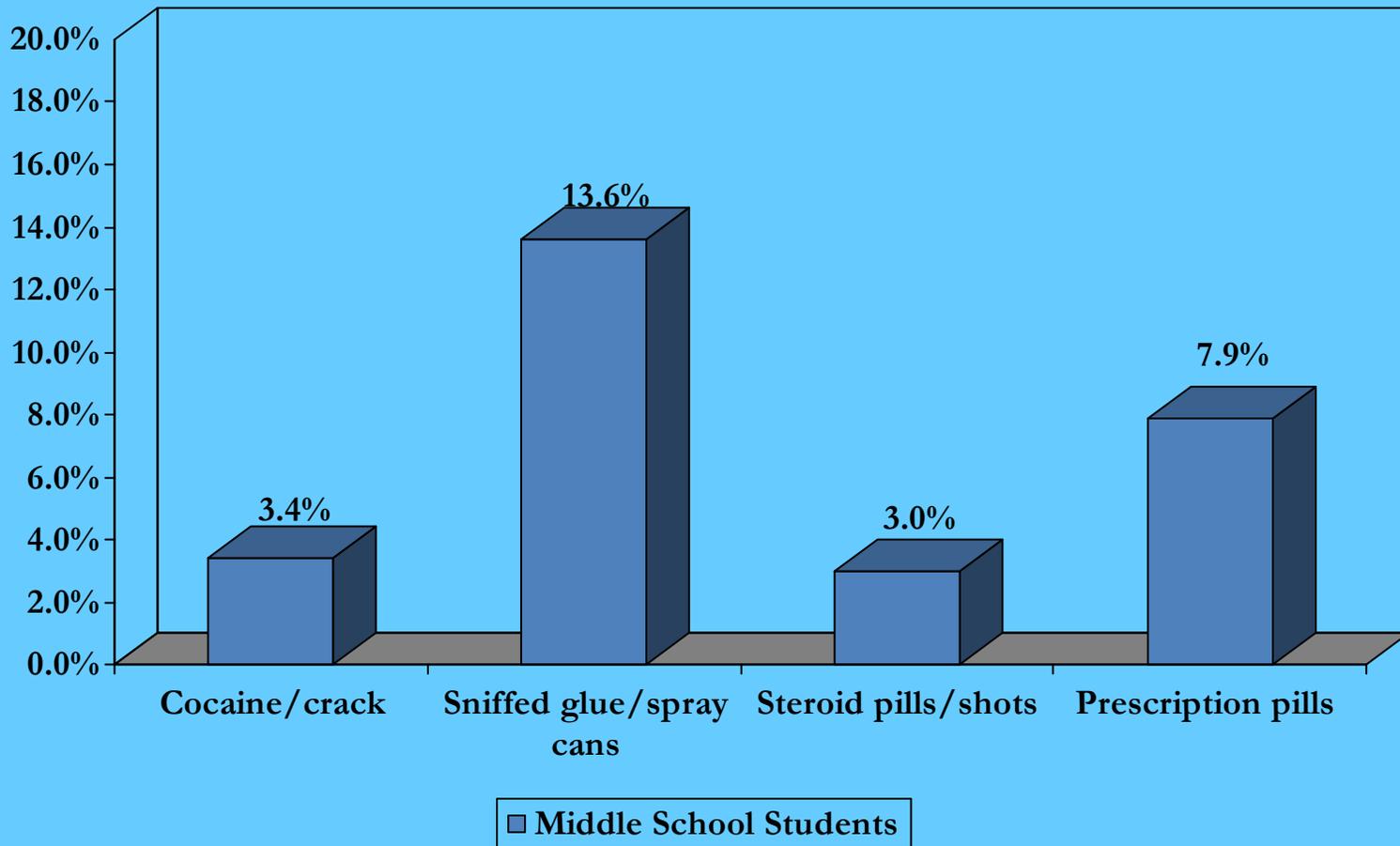


^a Difference between this estimate and the 2004 estimate is statistically significant at the .05 level.

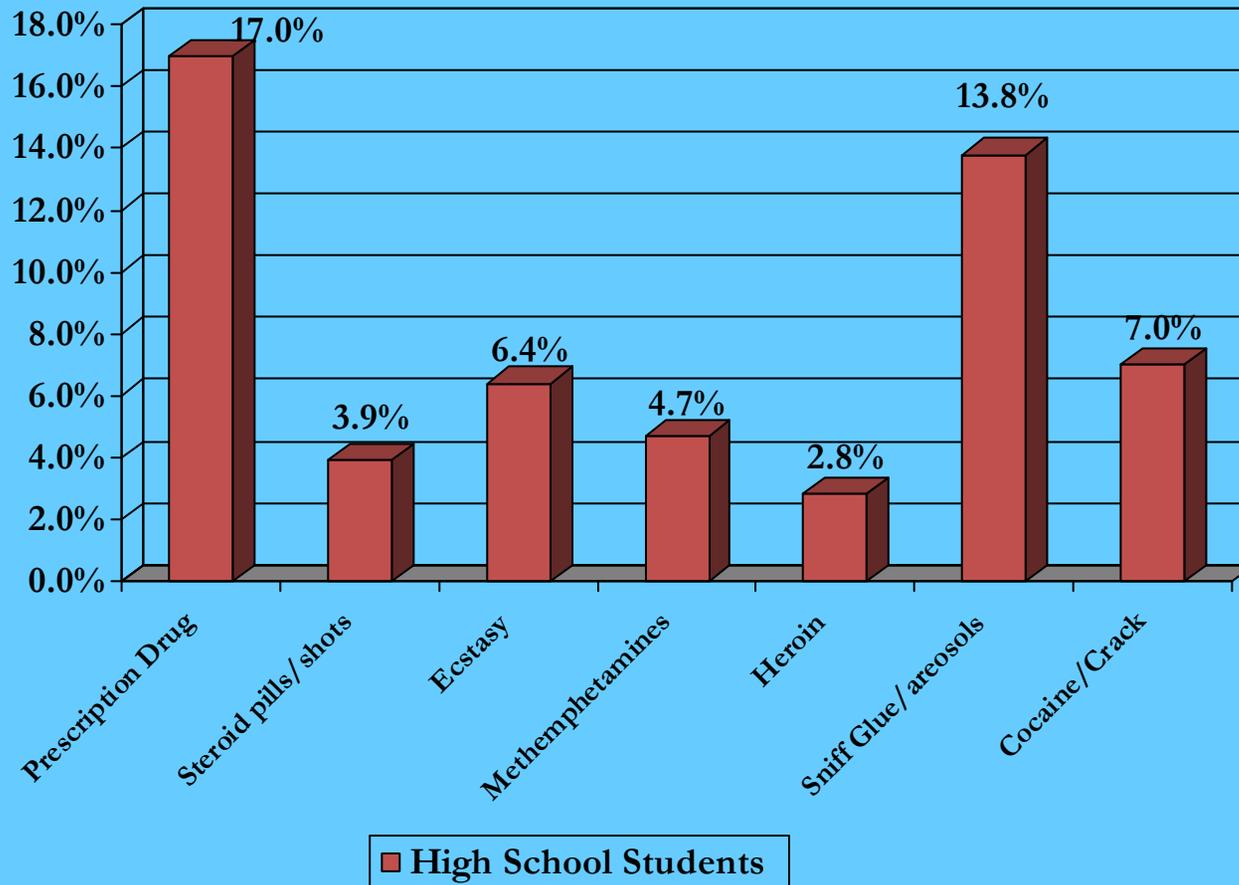
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Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

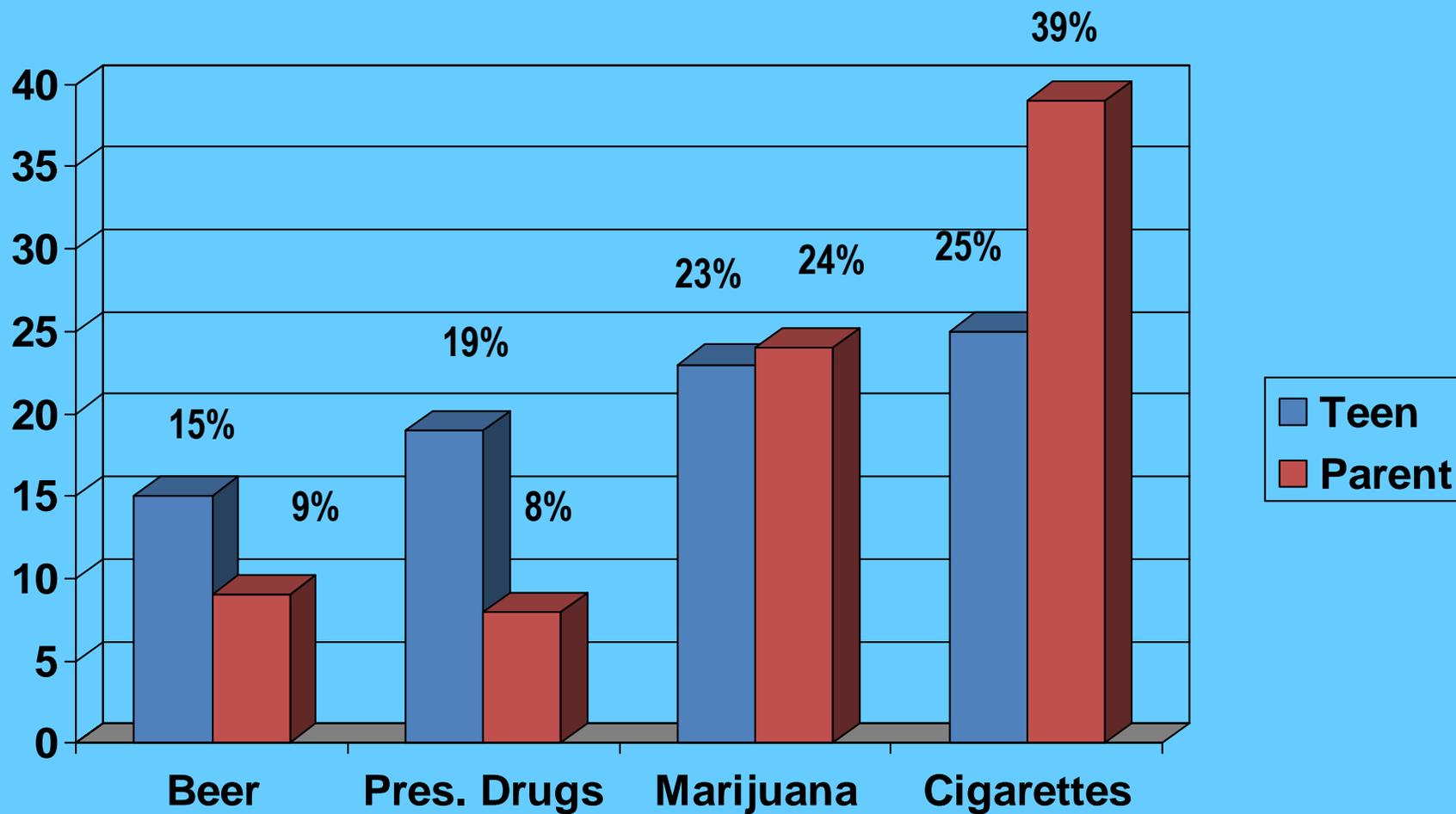
Illegal Drug Use Patterns Among Middle School Students ('ever used')



Illegal Drug Use Patterns Among High School Students ('ever used')

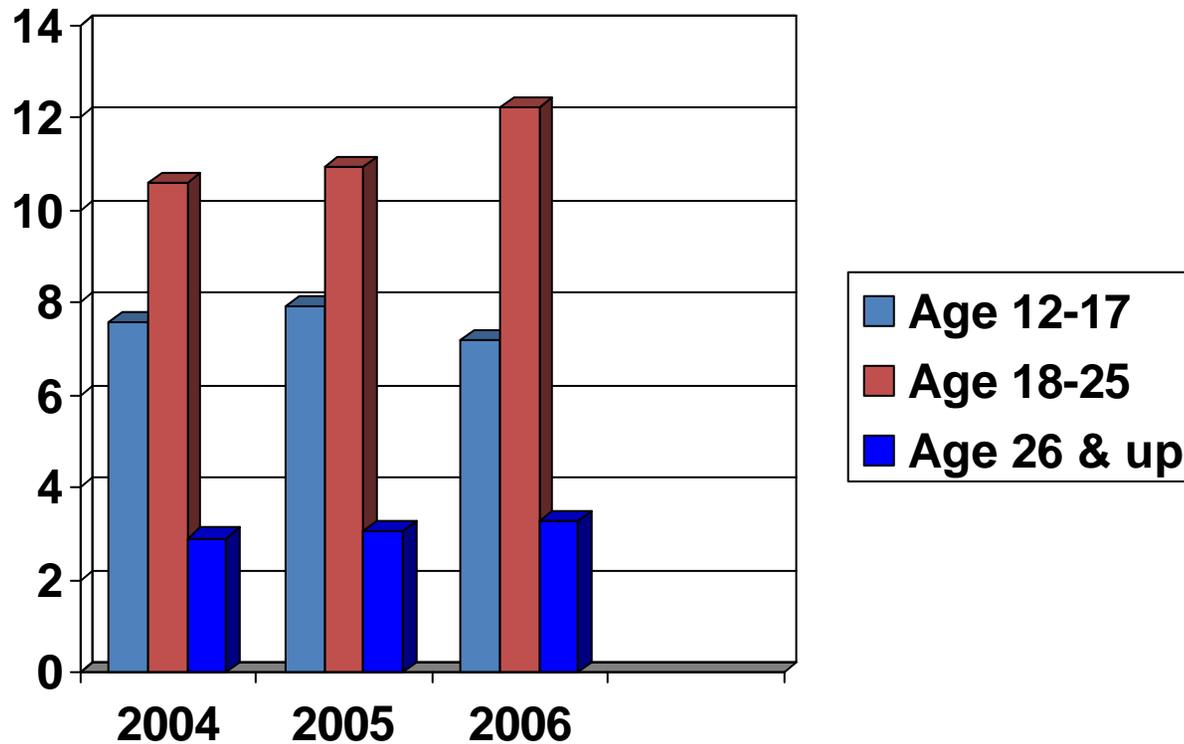


Percentage of Teens (Ages 12 to 17) and Parents of These Teens Reporting Which Is the Easiest for Teens to Buy, 2008



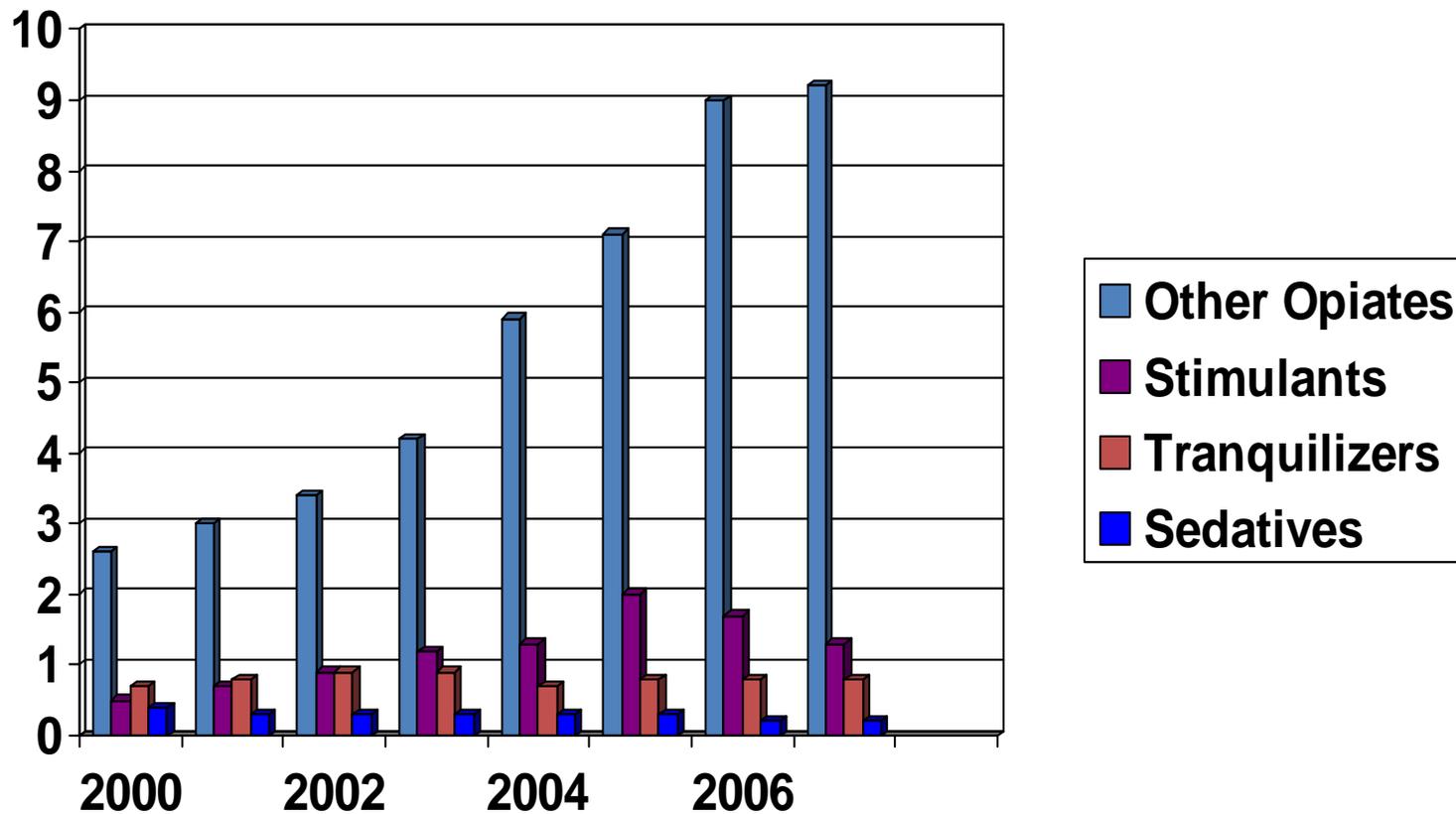
Source: CESAR

% Non Medical Use of Pain Relievers During Past Year – NC



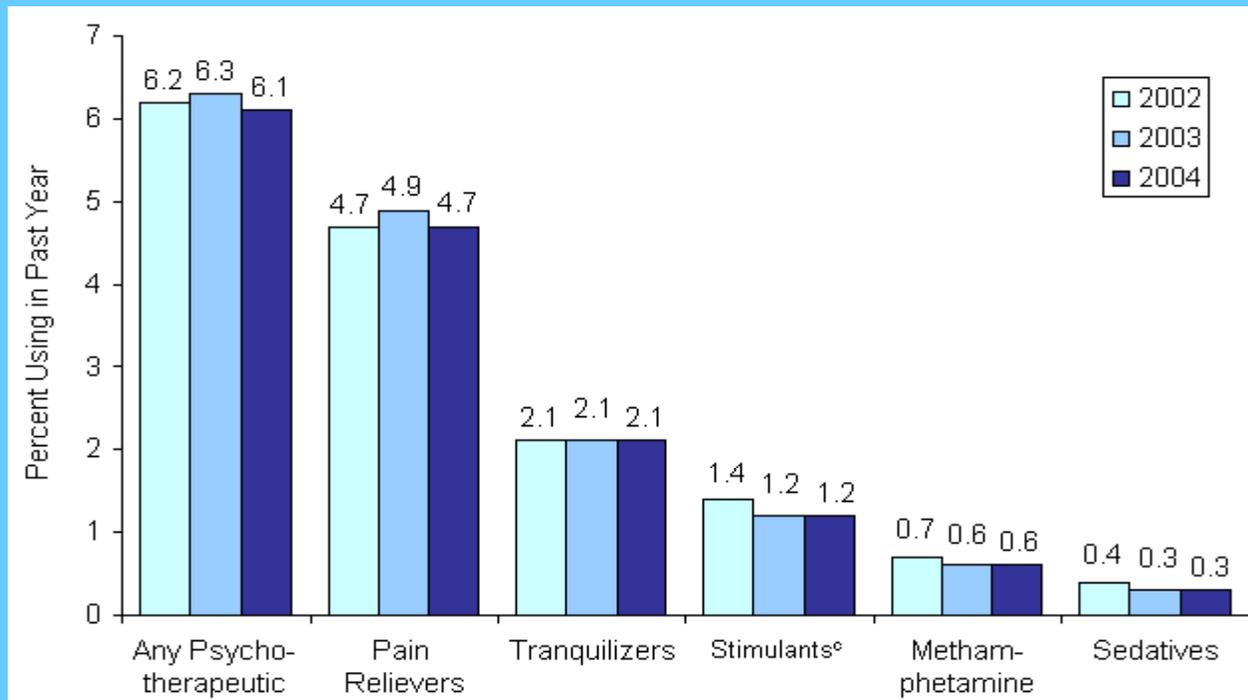
NSDUH Survey

NC Admissions To SA Treatment by % of Total



TEDS DATA

Past Year Nonmedical Use of Prescription Psychotherapeutic Drugs among Persons Aged 12 or Older, by Drug Type: Percentages, 2002-2004



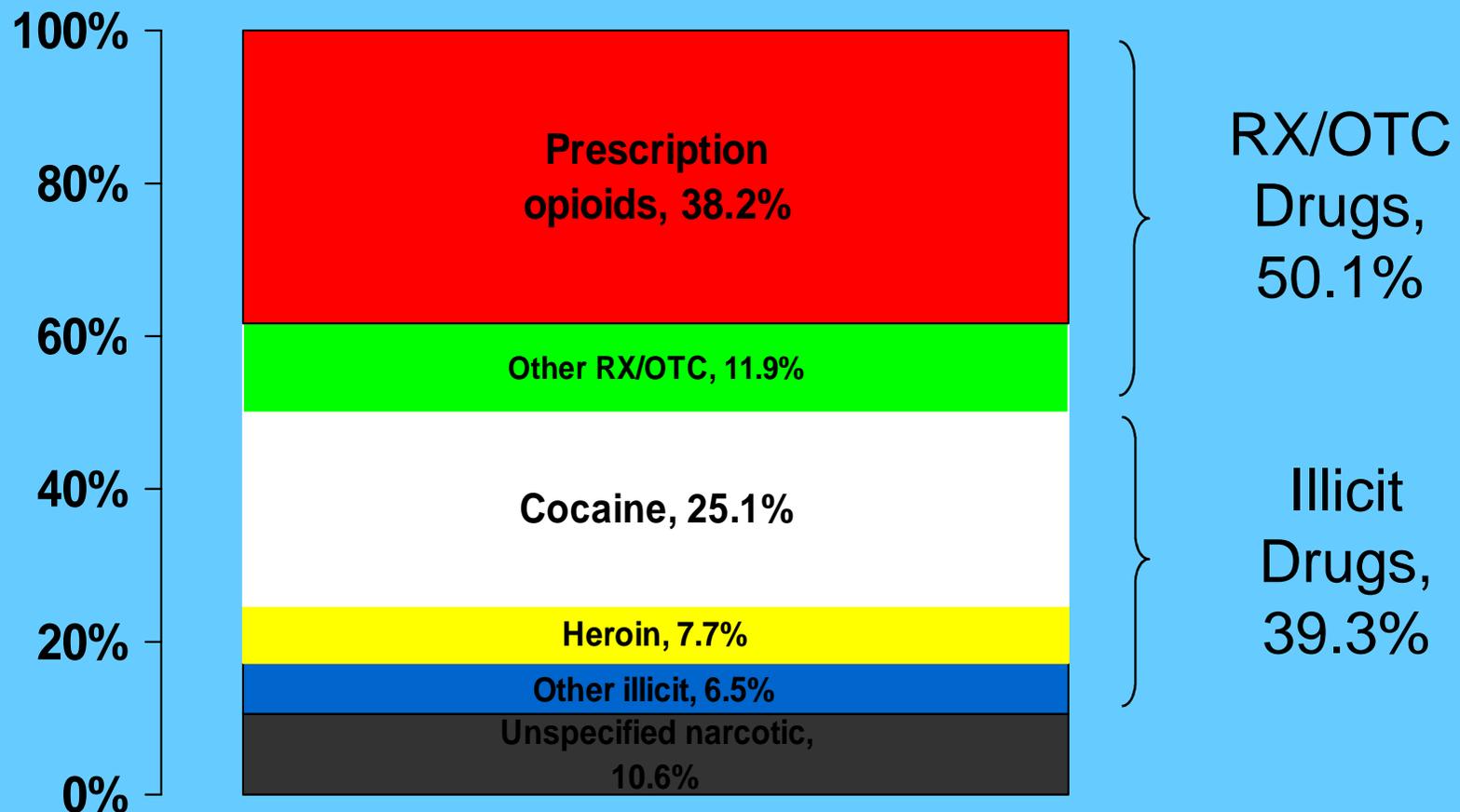
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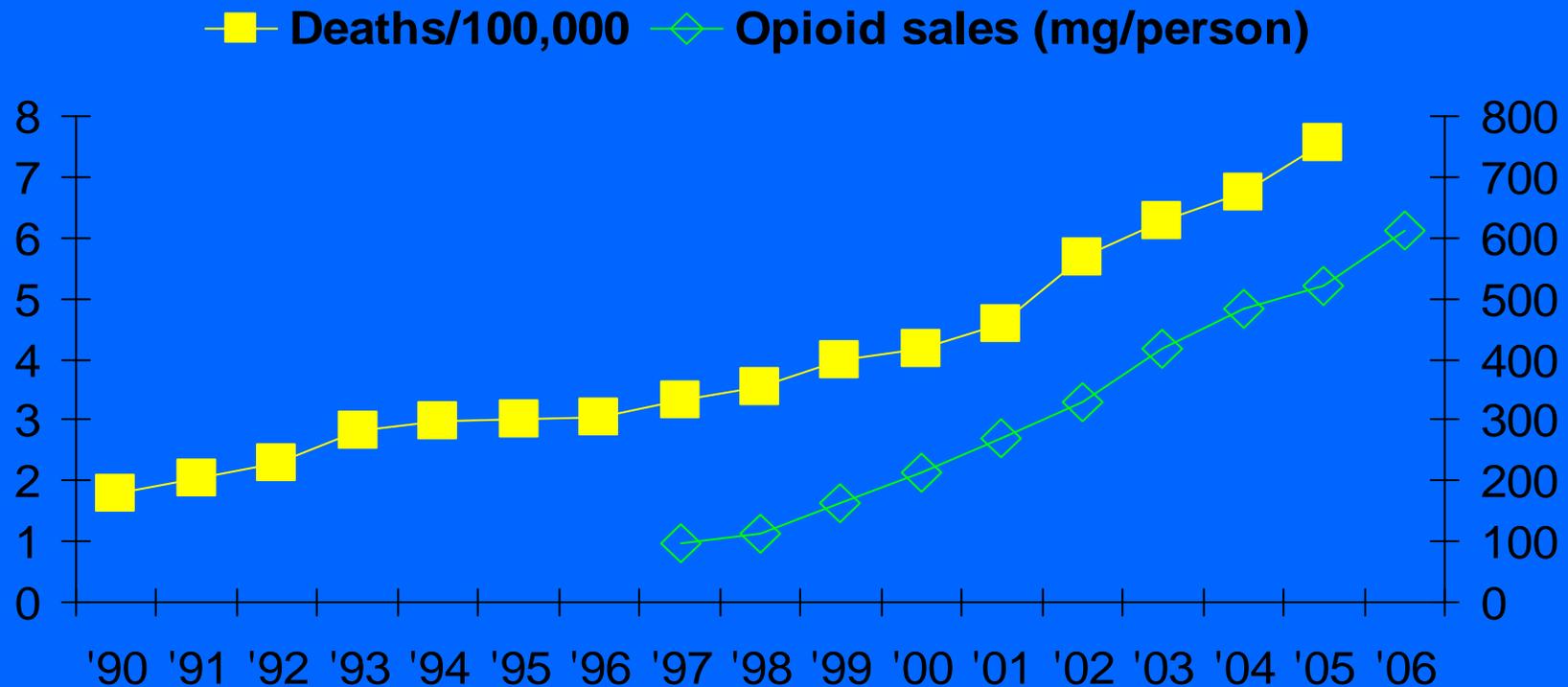
^c Includes methamphetamine.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, and 2004.

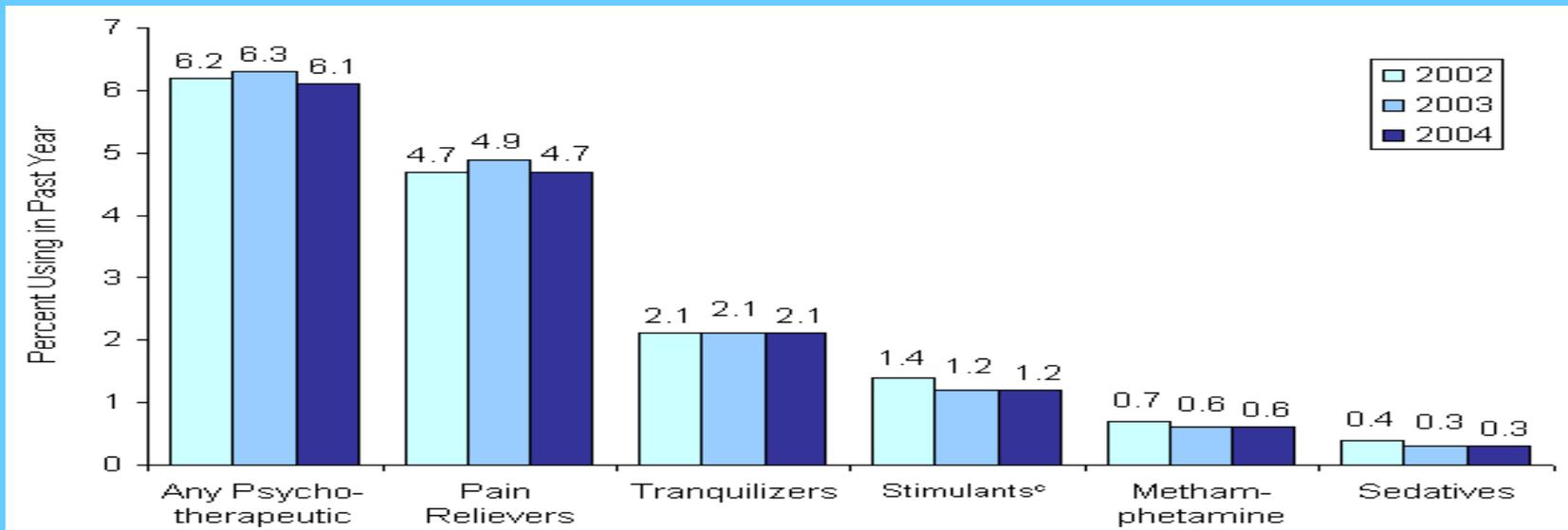
Distribution of first-listed specified drugs among unintentional drug overdose deaths, U.S., 2005



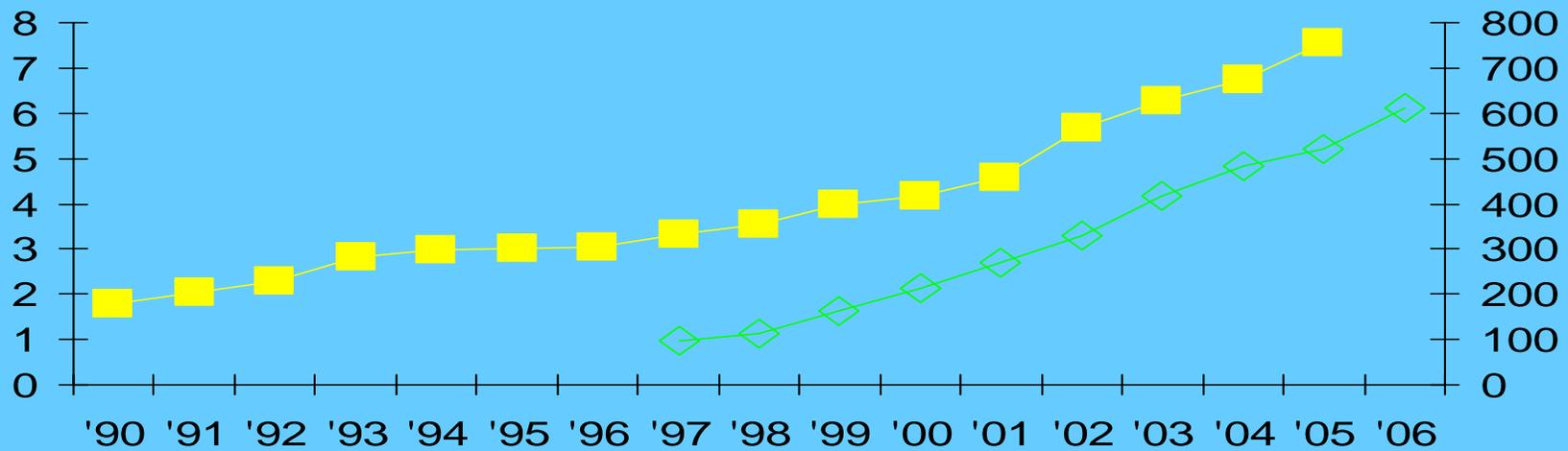
Unintentional drug overdose death rates and total sales of opioid analgesics in morphine equivalents by year in the U.S.



Len Paulozzi, MD, MPH Centers for Disease Control and Prevention



■ Deaths/100,000 ◇ Opioid sales (mg/person)



Summary

- Increased Unintentional Deaths Due to Prescription Drugs (Opiates in particular)
- Increased misuse but not as significant as death increase
- Youth use shifting to RX drugs (due to perception of safety?)
- Diversion Crimes up (60 % per SBI)
- Multi-faceted Problem – both misuse and legitimate medical use

North Carolina General Statute 90-113.70-76 (CSRS)

- Passed in August 2005
- Reporting began July 2007
- Required all dispensers to report to a centralized data base
- Reporting first year was 1x per month
- Requires reporting on the 15th and 30th per month (August 1, 2008)

CSRS DATA 6 MOS Period January-June 2008

- 714,309 Prescriptions for Schedule II Drugs
- 114,139,084 Doses (12.54 for each person in NC)
- 1,917,767 Prescriptions for 202,340,297 Doses of Schedule II and Schedule III drugs
- 3,026,045 prescriptions for 304,762,331 doses of Schedule II,III, and IV Drugs (35 doses for each person in NC)

CSRS Data (continued)

- Over 20,000,000 prescriptions in the database (started July 1, 2007).
- Over 180,000 queries have been made of the system
- Over 2900 dispensers and practitioners currently registered to use the system.

PRESCRIPTION DRUGS

SUPPLY

DEMAND

Legal

Distribution

USE System-

Pharmacies

Facilities

Programs

**Practitioners
& Dispensers**

Prescriptions

**Patients – Legitimate
and Lawful Medical
Use**

PRESCRIPTION DRUGS (cont.)

SUPPLY

Friends, Family

Theft from

**MIS
USE**

Manufacturers

Distributors

Transit

Hospitals

Pharmacies

Facilities

Patients/Family

DEMAND

**Perceived Medical
Need**

**Self Medication for
mood, sleep,
pain, enhanced
performance**

**Use for reward,
recreation, high**

PRESCRIPTION DRUGS (cont.)

SUPPLY

DEMAND

**MIS
USE**

**Improper,
Indiscriminate
Prescribing
Illegal Internet**

**Compulsive use due
to addiction**

ABUSE

**Pharmacies
Forgery
Misrepresentation
of need
Finding multiple
prescribers
Improper Disposal**

**Self Relief of
withdrawal**

CURRENT CONTROLS/INTERVENTIONS

SUPPLY

DEMAND

FEDERAL

- **FDA Regulations**
- **Controlled Substances Act**
- **H&HS Rules and Regulations**
- **Regulatory Oversight-
FDA & DEA Inspections**
- **Federal Enforcement**

- Public Education and
Prevention efforts**
- Intervention**
- SA Treatment**
- Appropriate medical
screening diagnosis and
care**
- CSRS**

CURRENT CONTROLS/INTERVENTIONS (cont.)

SUPPLY

DEMAND

State of North Carolina

Regulatory

- **Controlled Substances Act (H&HS)**
- **Pharmacy, Medical, Veterinary Boards and Regulations**
- **Dept of Agriculture**
- **State Methadone Authority**
- **Regulatory Inspections**

CURRENT CONTROLS/INTERVENTIONS (CONT.)

SUPPLY

DEMAND

State of North Carolina Law Enforcement & Investigation

- SBI Diversion
- Local Law Enforcement
- Licensing Boards
- Drug Control Unit

CSRS Monitoring

OPPORTUNITIES FOR IMPROVEMENT (cont)

SUPPLY

Federal – Increased regulatory oversight & law enforcement

Improved data gathering integration & utilization
(DAWN, ARCOS, NSDUH, Epidemiological Data, CSRS Data)

Improved coordination of effort communication at the Federal, State and Local levels

DEMAND

Education of Public and Students Parents re: Prescription Drug Misuse /Abuse

Targeted Training of Practitioners in SBIRT using CSRS as part of S

Improved timeliness of CSRS in monitoring care and screening patients (Real Time Reporting)

OPPORTUNITIES FOR IMPROVEMENT (cont)

SUPPLY

- Targeted training and education of persons with Prescriptive Authority**
- Increase Information gathered through the CSRS**
- Increased accountability and monitoring of caregivers and facilities**
- Improved return and disposal systems and state regulations**

DEMAND

- Unsolicited Reporting to prescribers**
- Increased Training of practitioners in use of Opiates, Benzodiazapines, and in Pain Management**
- Increased availability of treatment resources for prescription drug abusers**
- Evidence based treatment**

OPPORTUNITIES FOR IMPROVEMENT (CONT.)

SUPPLY

**Ability to provide CSRS
Data where
appropriate in a timely
fashion**

DEMAND

**Increase usage of CSRS by
practitioners and
dispensers**