

Unintentional Poisonings

NC IOM Prevention Task Force
February 20th, 2009

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POISONING: Definition

A poison is anything that can harm someone if it is:

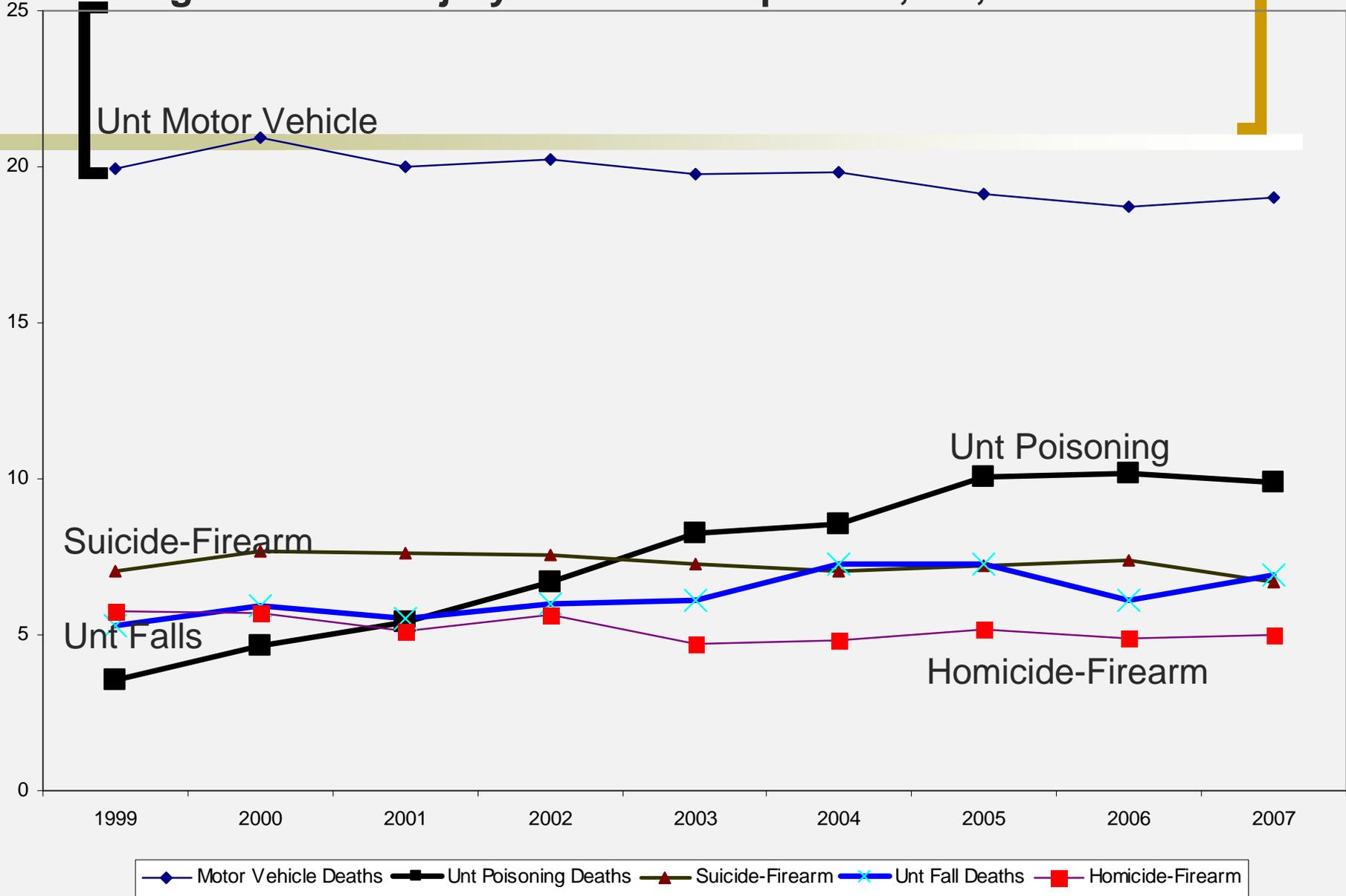
- 1) used in the wrong way
- 2) used by the wrong person,
or
- 3) used in the wrong amount.

IOM 2004 Report: Forging a Poison Prevention and Control System

- Annual U.S. Estimates for Poisonings
 - > 4 million poisoning episodes
 - (actual or suspected)
 - 300,000 hospitalizations
 - 30,800 deaths
 - Economic burden = \$12.6 billion
 - (2002 dollars, excludes costs of alcohol deaths)

IOM. The National Academies Press, 2004.

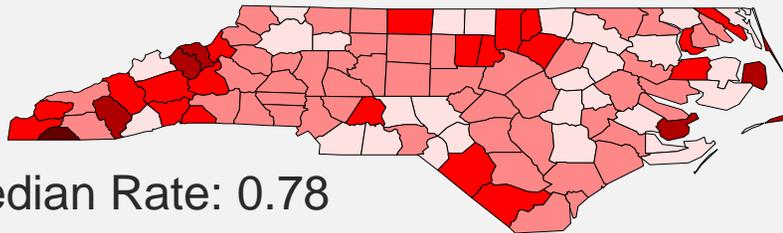
Leading Causes of Injury Death Rates per 100,000, NC 1999-2007



WISQARS™ Produced By: Office of Statistics and Programming, National Center for Injury Prevention and Control,
Centers for Disease Control and Prevention Data Source: National Center for Health Statistics (NCHS), National Vital Statistics System
NC State Center for Health Statistics Death file 2006-2007; NC Injury Epidemiology & Surveillance Unit

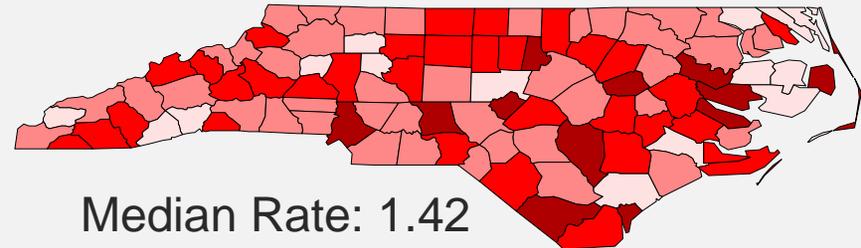
NC Fatal Overdose Rates, Three Time Periods

1979-1985



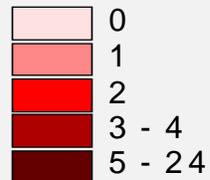
Median Rate: 0.78

1989-1995

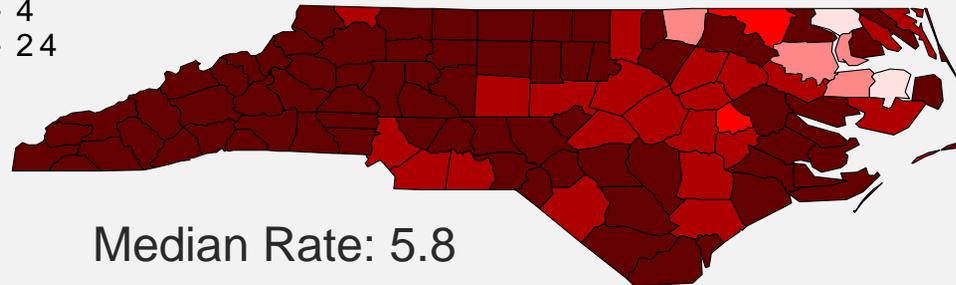


Median Rate: 1.42

NC Fatal Overdose Rates

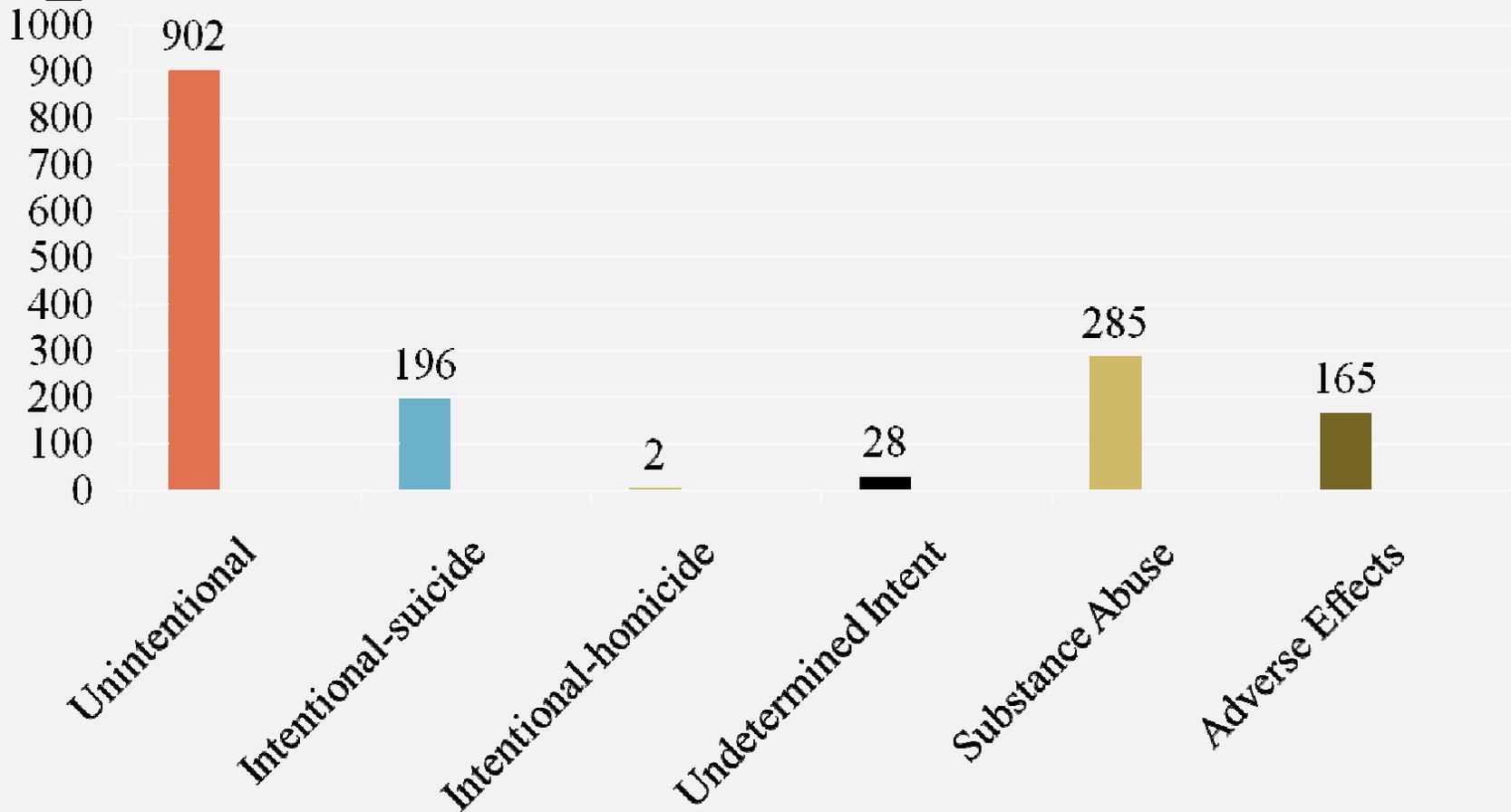


1999-2005



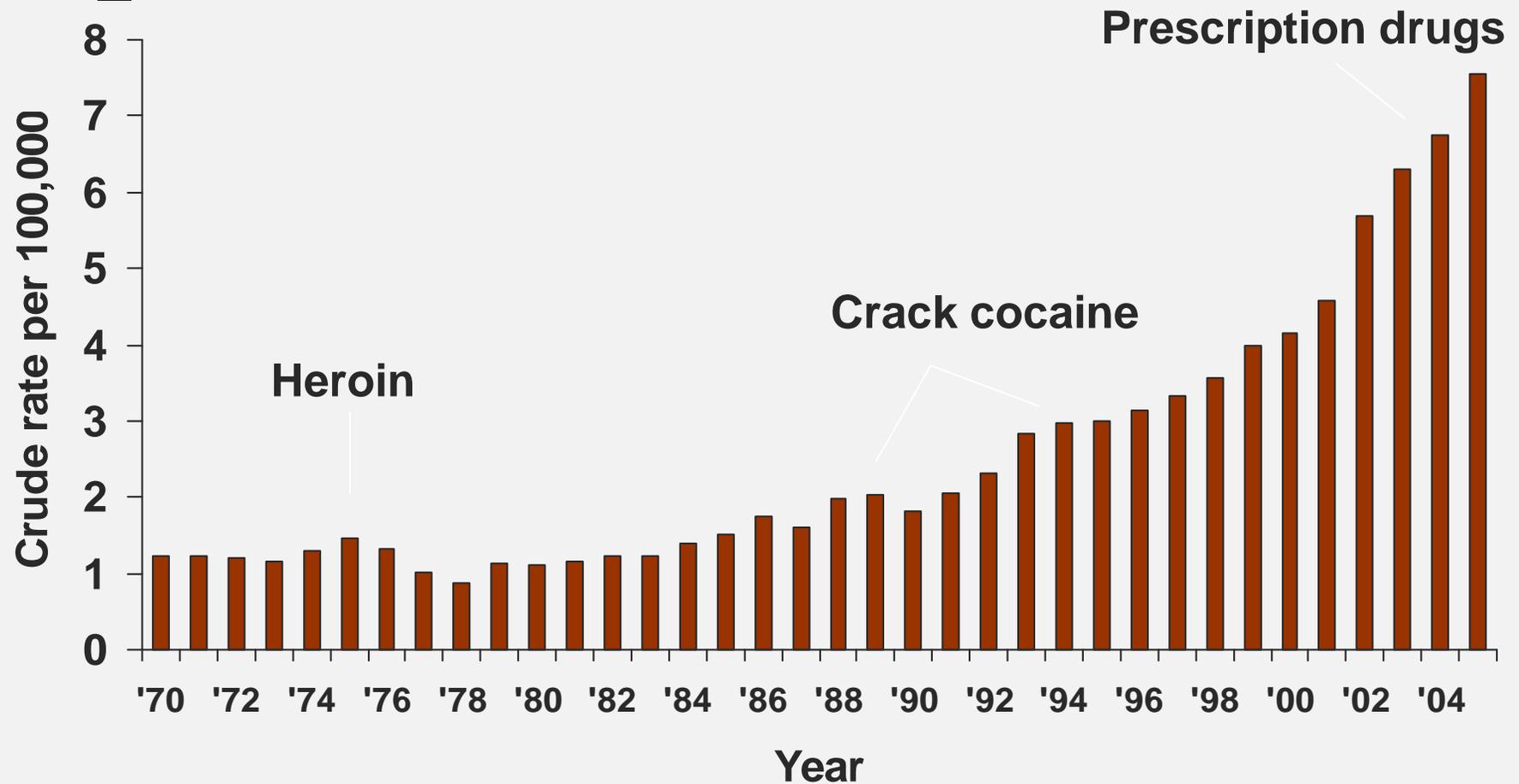
Median Rate: 5.8

Poisoning-Related Deaths by Manner (Underlying Cause of Death): NC, 2006



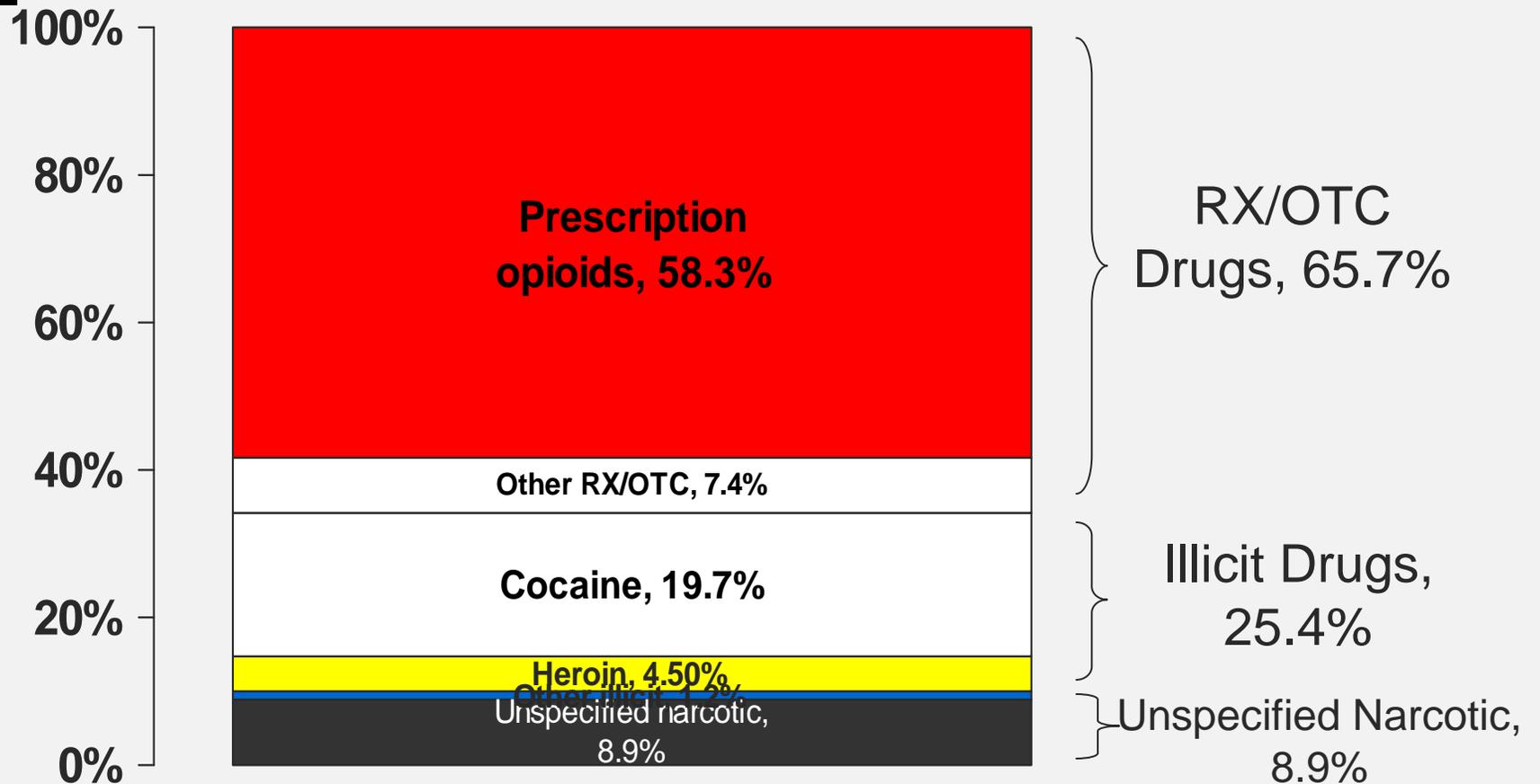
Total deaths = 1,578, and increase of 450 deaths by adding last substance abuse and adverse effects of drugs

Epidemics of unintentional drug overdose deaths in the United States, 1970-2005



Source: Paulozzi, L. April 2008

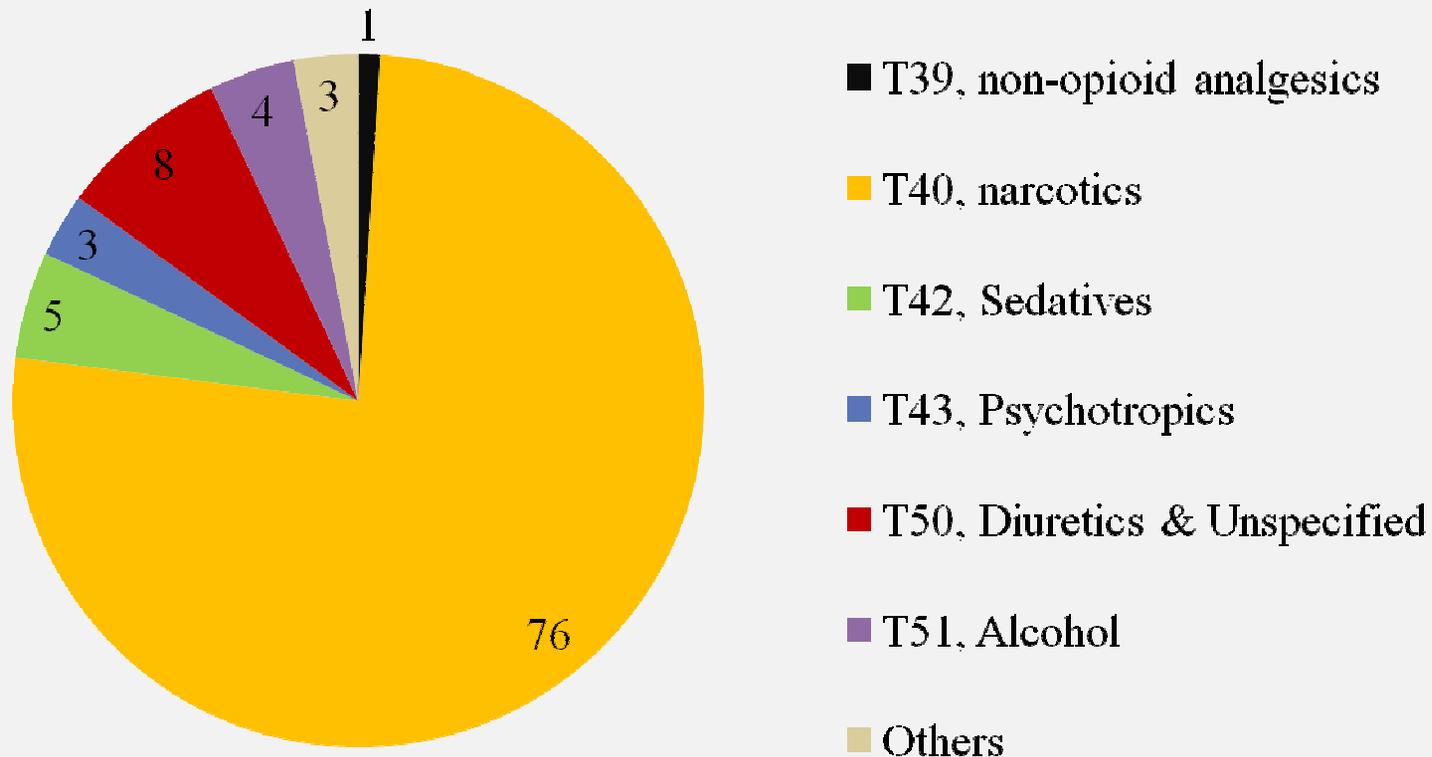
Distribution of listed specified drugs among unintentional drug overdose deaths, N.C., 2007



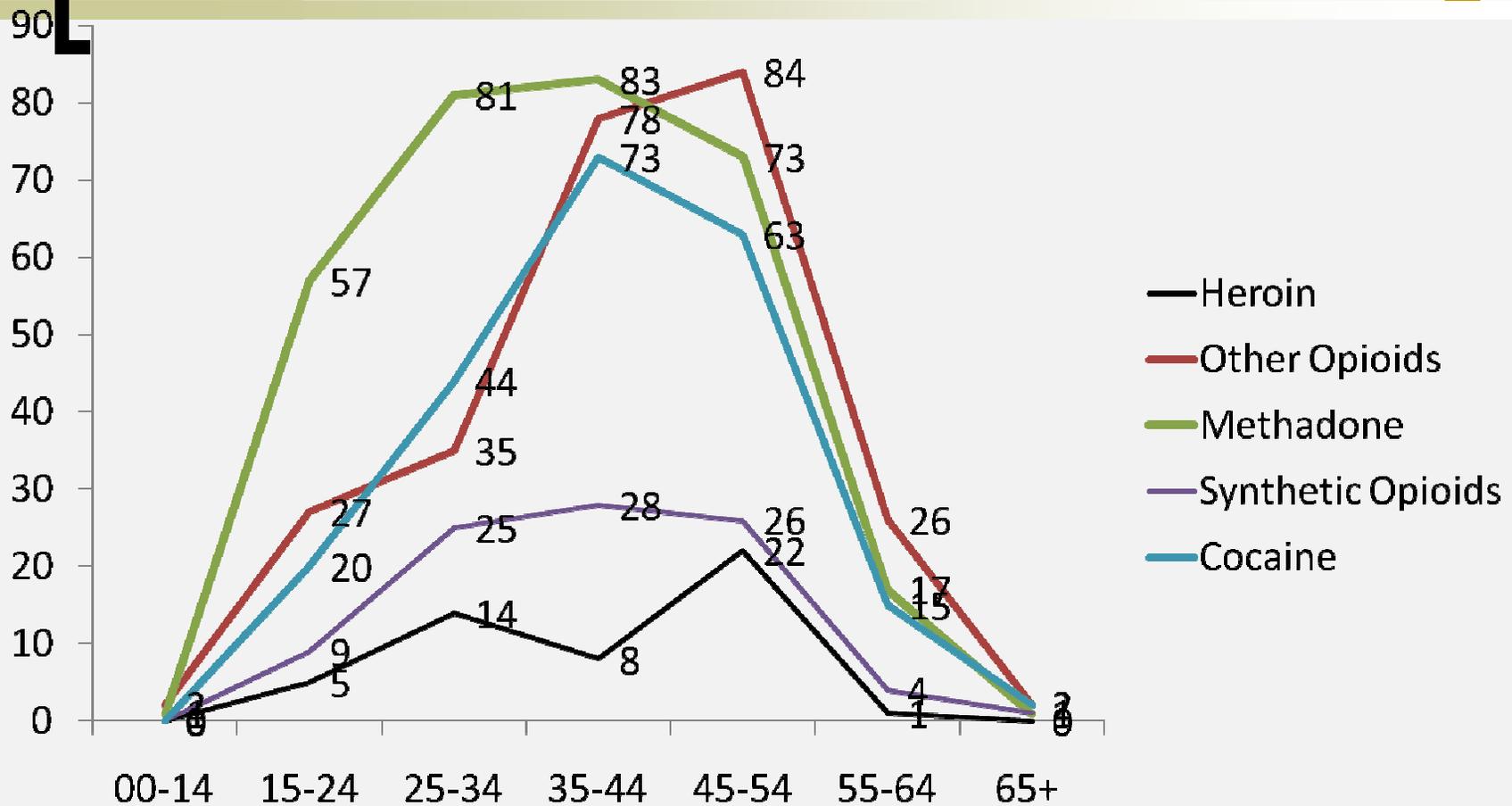
Source: NC SCHS Death Certificates, 2007. Analysis by SCHS & Injury Epidemiology and Surveillance Unit

Substances Reported by Medical Examiners for Unintentional and Undetermined Fatal Poisonings by ICD10 T-Code Categories: NC, 2006

Percent of T-code Categories Identified on Death Certificates

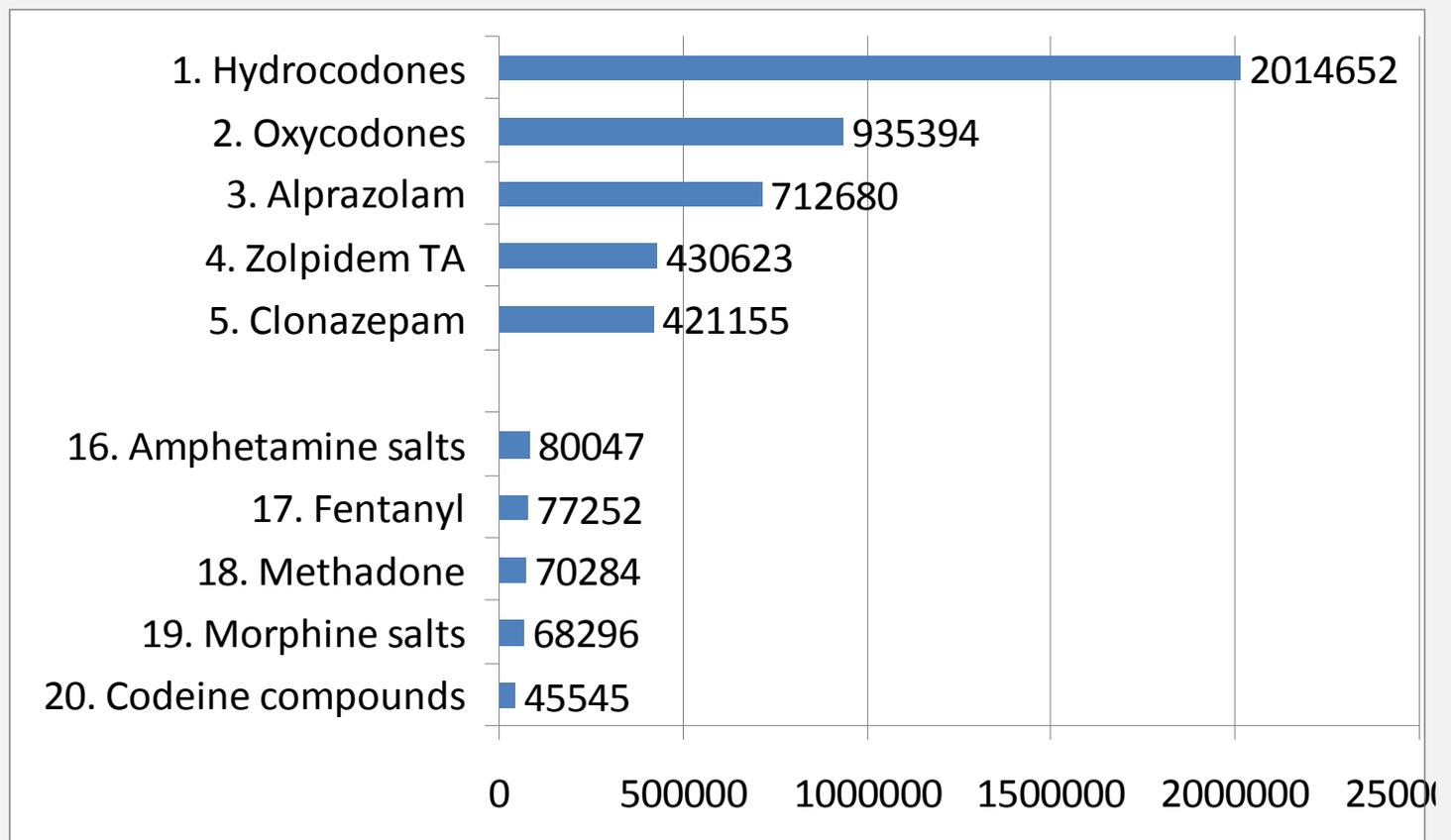


Fatal Unintentional and Undetermined Poisonings from Narcotics* by Type and Age: NC Residents, 2007



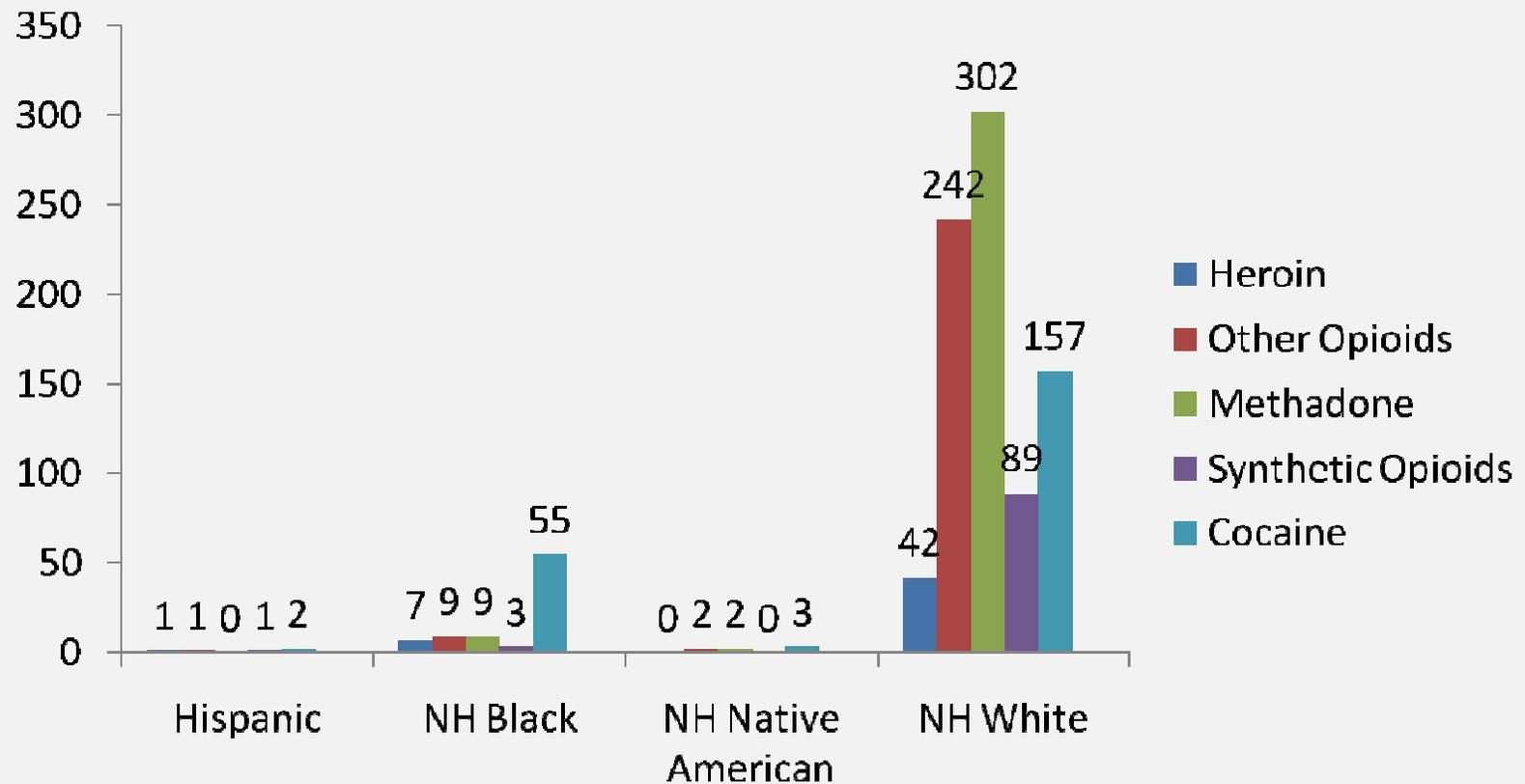
Source: NC State Center for Health Statistics, Feb 2009; *based on mention of T-codes 40.1, 40.2, 40.3, 40.4, and 40.5

Top 20 Controlled Substances Dispensed in North Carolina: Number of Prescriptions, July-December 2007



Source: Preliminary data: NC Controlled Substances Reporting System, March, 2008

Fatal Unintentional and Undetermined Poisonings from Narcotics by Type and Race/Ethnicity*: NC Residents, 2007



Source: NC State Center for Health Statistics., Feb 2009, based on mention of T-40 codes. * One death each for NH Other and NH Unknown. NH= Non-Hispanic

Deaths are the tip of the iceberg.....

2007 NC Emergency Department (ED) Data

- Substance Abuse/Dependence & Alcohol Intoxication/Withdrawal – Primary or Comorbid Diagnoses
 - 430,698 ED admissions (11.2% of total)
- Poisoning by drugs, medicinal substances, biologicals, other solid and liquid substances, gases, and vapors
 - 11,561 ED admissions (0.3% of total)

SOURCE: NC DETECT 2007 Annual Report, <http://www.ncdetect.org/>, accessed Feb 15, 2009.

Adverse Drug Events (ADEs)... are also unintentional injuries

- Institute for Safe Medication Practices
 - ~ 23,000 cases of serious ADEs reported to FDA in April-June 2008
 - 1,397 cases attributed to error
 - 2,968 deaths
 - 585 cases of disability or birth defects

SOURCE: ISMP QuarterWatchT (2nd quarter 2008), Jan 15, 2009,

<http://www.ismp.org/Newsletters/acutecare/articles/20090115.asp?%20ptr=y>, accessed Feb 17, 2009

..Whose numbers and importance are increasing

- **Medication use leading to ED* visits for ADEs in older adults.**
 - Among U.S. patients 65 years of age or older, an estimated 177,504 ED emergency department visits (95% CI, 100,155 to 254,854 visits) for ADEs occurred in 2004-2005
 - Budnitz DS, et al. Ann Intern Med.2007;147:755-765.
- **National surveillance of ED* visits for outpatient ADEs in children and adolescents.**
 - Among patients \leq 18 years old, an estimated 158,520 patients (95% CI, 117,745 – 199,295; 2 per 1000 persons) were treated in EDs for ADEs annually, based on data collected 1/1/2004 to 12/31/2005.
 - Cohen AL, et al. J Pediatr 2008;152:416-421.

*ED = emergency department

Task Force to Prevent Deaths from Unintentional Drug Overdoses in NC

**Findings and Recommendations
of the Task Force to Prevent Deaths from
Unintentional Drug Overdoses
in North Carolina, 2003**

Submitted to

Carmen Hooker Odom, Secretary, Department of Health and Human Services
Roy Cooper, Attorney General, Department of Justice
April 2004



N.C. Department of Health and Human Services
Division of Public Health
Injury and Violence Prevention Branch

[Task Force Recommendations]

- Create state and local leadership.
- Enhance public health surveillance.
- Fund more diversion law enforcement agents.
- Enact legislation to support poisoning prevention programs and policies.
- Develop/evaluate poisoning education and interventions for the general public.

[Task Force Recommendations, cont.]

- Develop/evaluate poisoning education and interventions for professionals.
- Develop/evaluate out-patient clinical interventions for unintentional drug overdoses, substance abuse, and mental illness.
- Develop/evaluate comparable in-patient clinical interventions.

NC DOJ/DHHS Drug Overdose Prevention Leadership Team: 2005 – on going

Medical Practice

Law and Criminal Justice

Pharmacy

**Co-chaired by
DPH-CDI Section Head
and SBI Ass't Director**

Public Health

Mental Health Substance Abuse Services

Special sub-
committees

Recommendation #1

- **Revitalize, rename & broaden the scope/charge of the Drug Overdose Prevention Leadership Team**

Coordinated Planning for Clinical Interventions



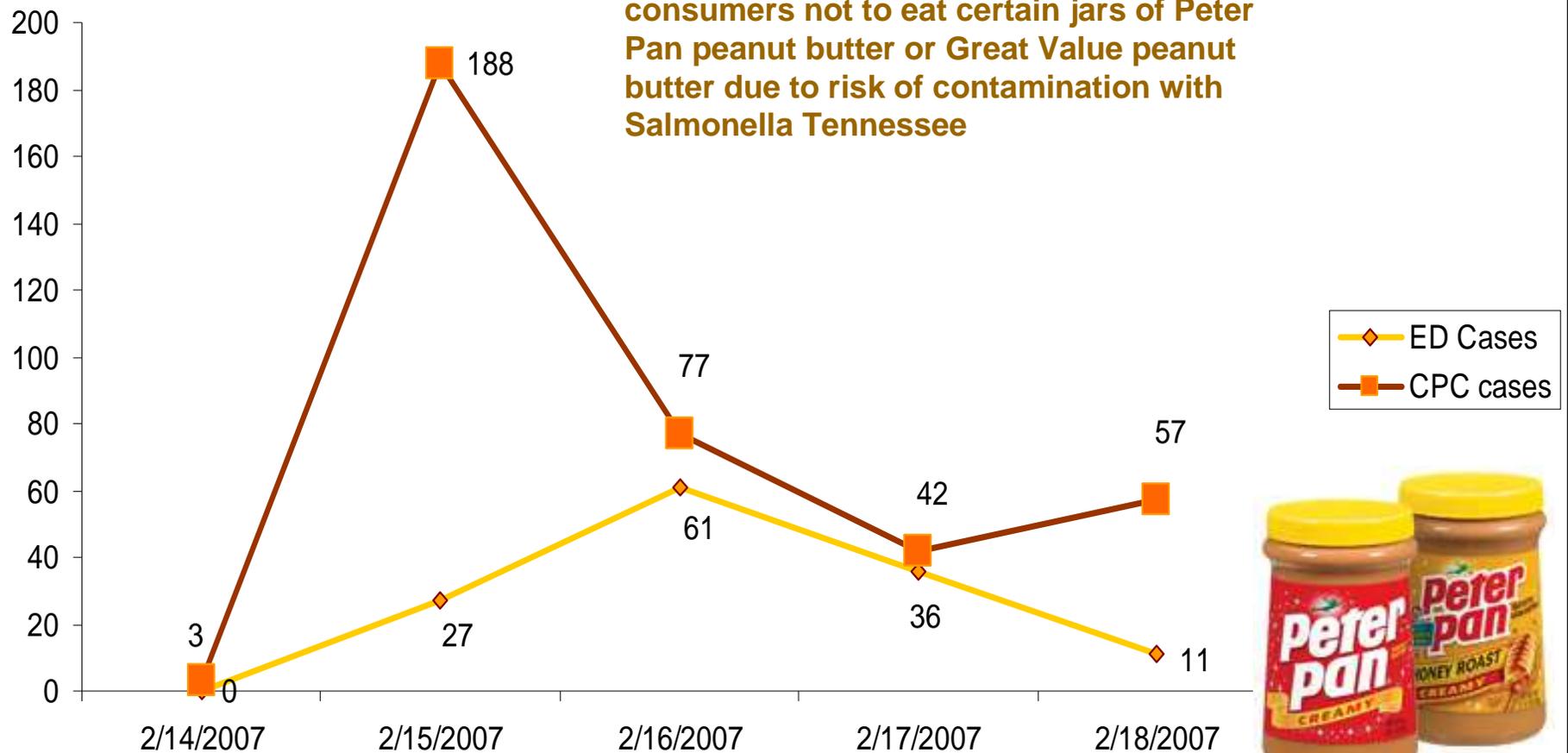
[Recommendation #2]

- **Expand/improve/fund poisoning-related surveillance, including improved data collection, coding, sharing and reporting.**

Examples of Poisoning Intervention for General Public: Salmonella Tennessee-Contaminated Peanut Butter, 2007

PB Related Complains

On February 14, 2007, the FDA warned consumers not to eat certain jars of Peter Pan peanut butter or Great Value peanut butter due to risk of contamination with Salmonella Tennessee



Surveillance activities

- Fatal unintentional poisonings
 - Office of Chief Medical Examiner
 - State Center for Health Statistics
 - Injury and Violence Prevention Branch
- Non-fatal overdoses/other poisonings
 - Carolinas Poison Center
 - NCDETECT
 - PreMIS

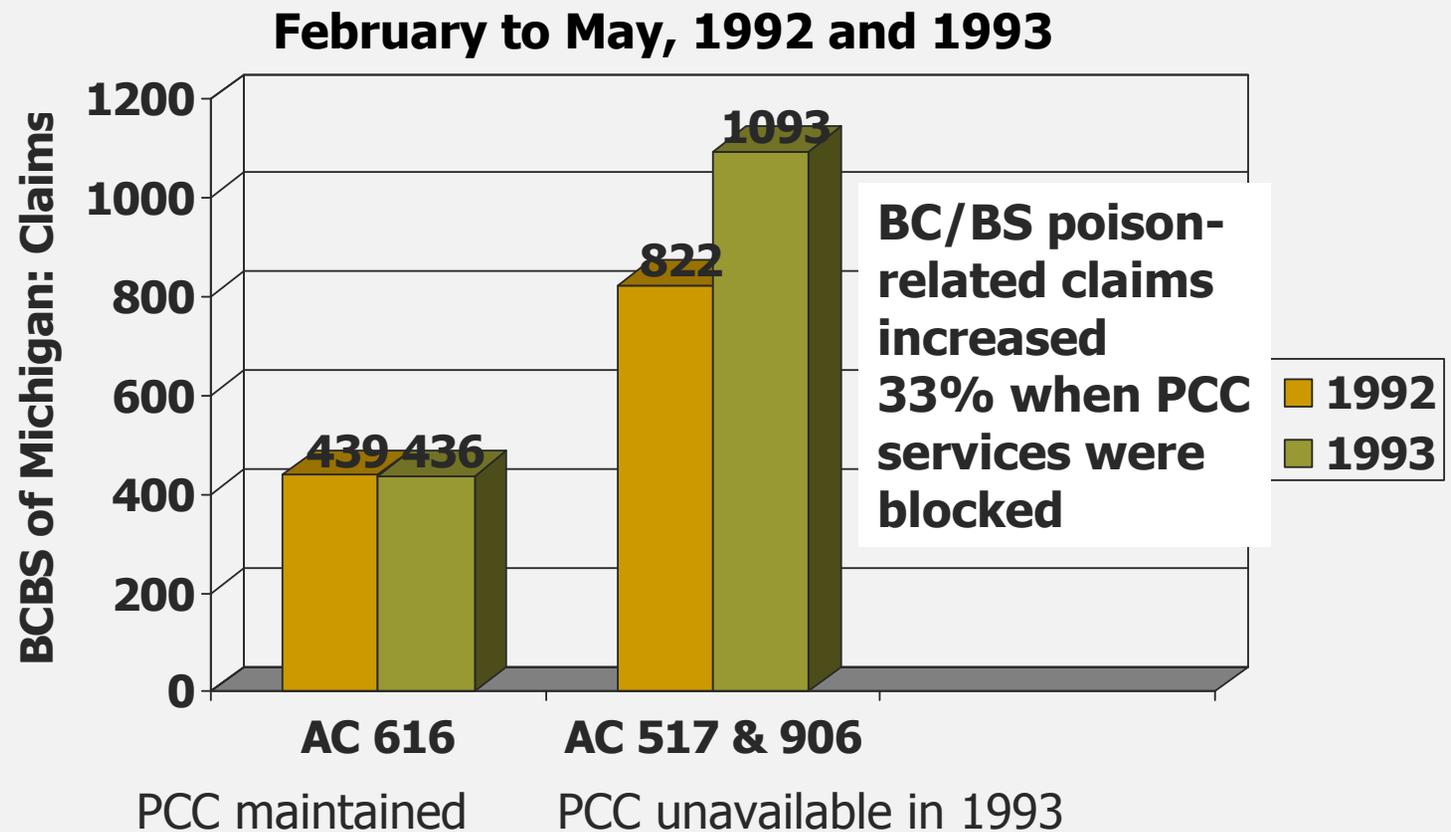
Surveillance activities (cont.)

- Adverse Events
 - Carolinas Poison Center
 - NCDETECT
 - PreMIS
- Prescription monitoring
 - Controlled Substances Reporting System
 - NC Board of Pharmacy

Recommendation #3

- **Develop and support appropriate triage and medical management of patients who are known or suspected to be poisoned**

BCBS-MI Study: The Value of Poison Center Triage



Recommendation # 4

- **Develop state medical and community-based plans for optimizing medical treatment of pain and offer strategies for improving survival in the event of a drug overdose**

Summary

- Poisonings are a significant emerging public health threat –let's recognize that
- Revitalize, rename & broaden the scope/charge of the Drug Overdose Prevention Leadership Team

Summary

- Additional needs/strategies include:
 - Expand/improve/fund poisoning surveillance
 - Develop and support appropriate triage and medical management of patients who are known or suspected to be poisoned
 - Develop state medical and community-based plans for optimizing medical treatment of pain and offer strategies for improving survival in the event of a drug overdose

Questions

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