



Mortality Associated with Dextromethorphan

Elizabeth H. Crane, Ph.D., M.P.H.
CAPT Kathy Poneleit, M.P.H.
Office of Applied Studies, SAMHSA

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Drug Abuse Warning Network

- Public health surveillance system collecting data on morbidity and mortality associated with drugs
 - Emergency department visits
 - Deaths investigated by Medical Examiners/Coroners





DAWN Mortality Component – 2004

- ME/Cs in 234 jurisdictions across U.S.
 - 6 state-wide systems
 - 46 metropolitan areas
 - Population of 93 million in participating jurisdictions
 - Approx. 32% of U.S. population covered
- No national estimates
- Not representative of U.S.





DAWN Case Criteria

Was the death related to recent drug use?

- Any age
- Any drug
- Any motive (not just drug “abuse”)





What Drugs Are Covered?

- All types of drugs
 - Illicit drugs
 - Prescription and over-the-counter pharmaceuticals
 - Dietary supplements
 - Inhalants
- Alcohol-in-combination (any age)
- Alcohol alone (age < 21)



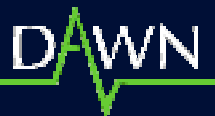
Dextromethorphan (“DXM”)

- A cough suppressant in many OTC cough and cold medications
- Overuse can cause dissociative effects similar to PCP and ketamine



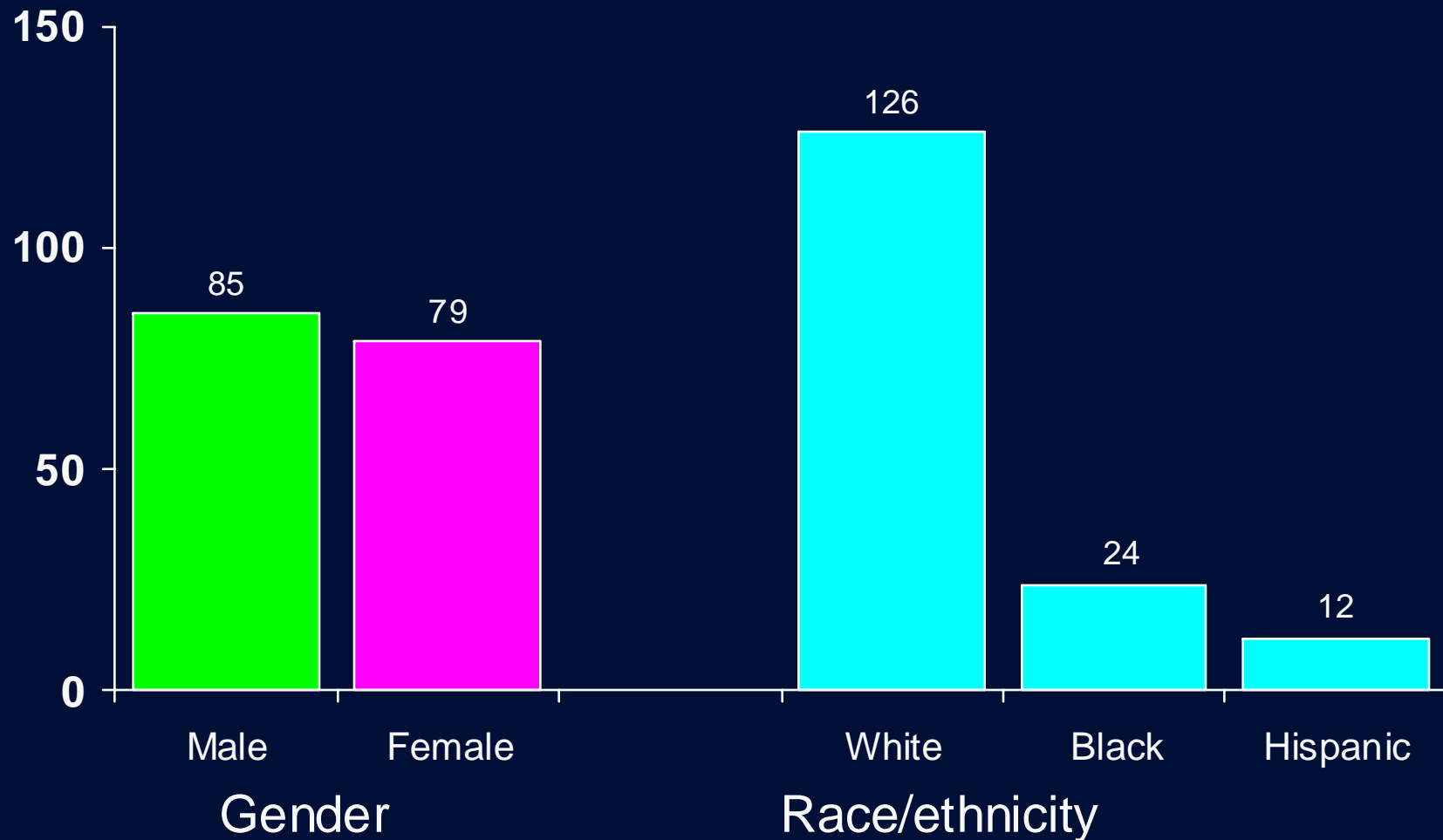
Mortality Associated with DXM

- In 2004, 164 deaths involving DXM reported to DAWN
- Reported from 33 of the 234 jurisdictions
- Manner of death
 - Accidental/natural (58%)
 - Could not be determined (26%)
 - Suicide (15%)
 - Homicide (1%)
- Most died at home (63%)



Source: Unpublished 2004 DAWN mortality data

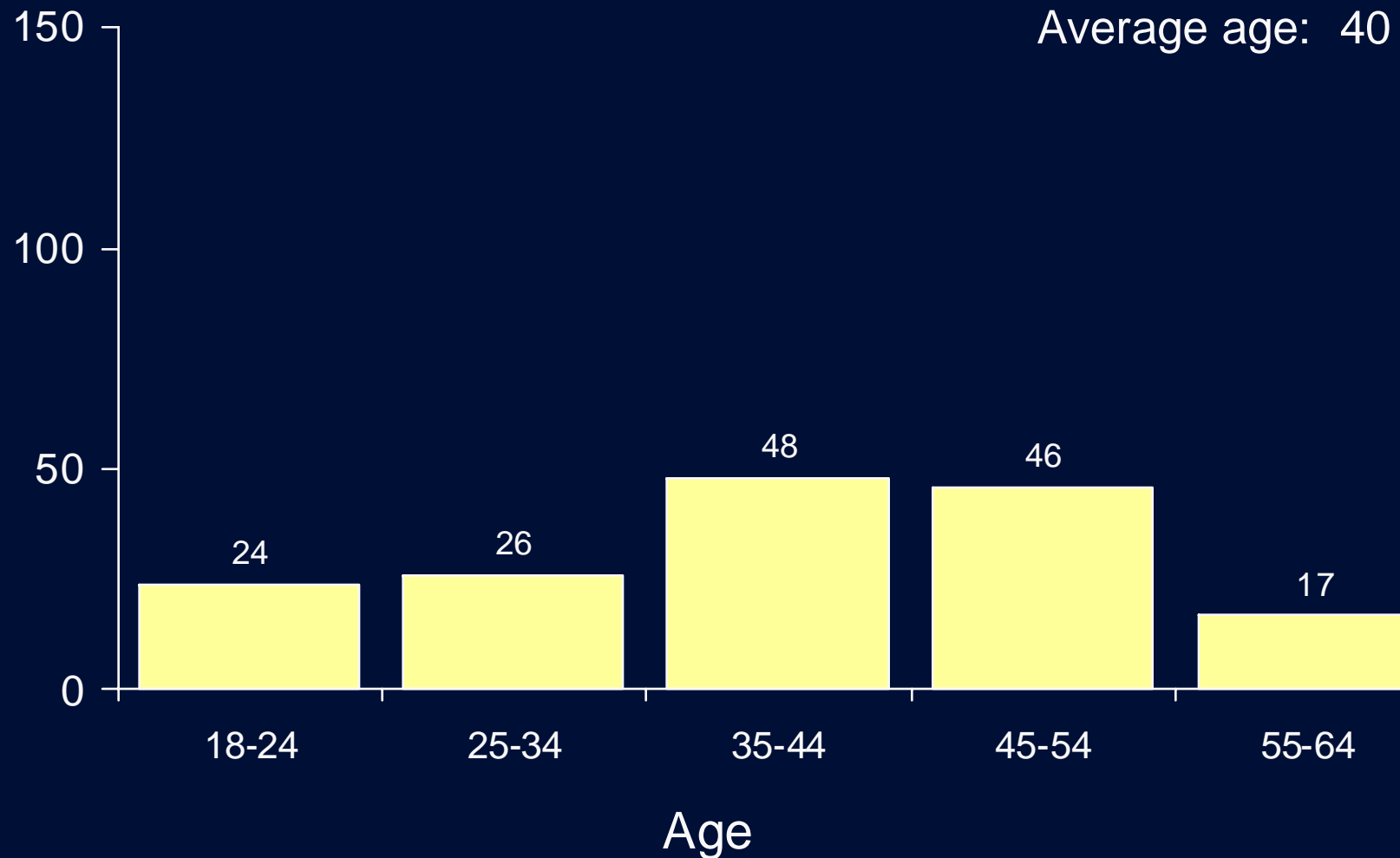
DXM-Associated Deaths, Demographics



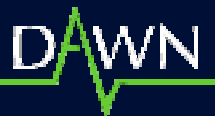
Source: Unpublished 2004 DAWN mortality data



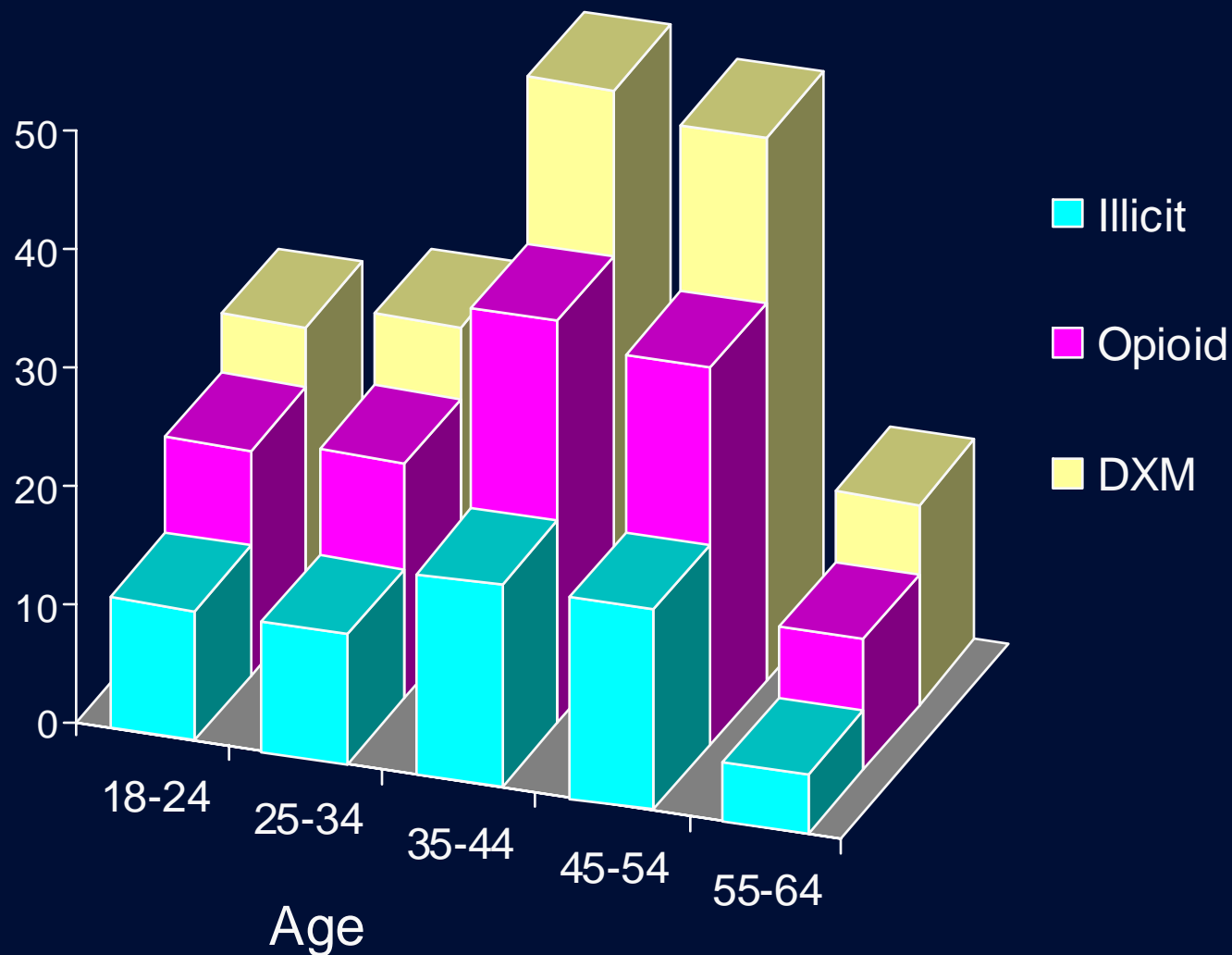
DXM-Associated Deaths, Demographics



Source: Unpublished 2004 DAWN mortality data



DXM, Opioids, Illicit Drugs – by Age Group



Source: Unpublished 2004 DAWN mortality data

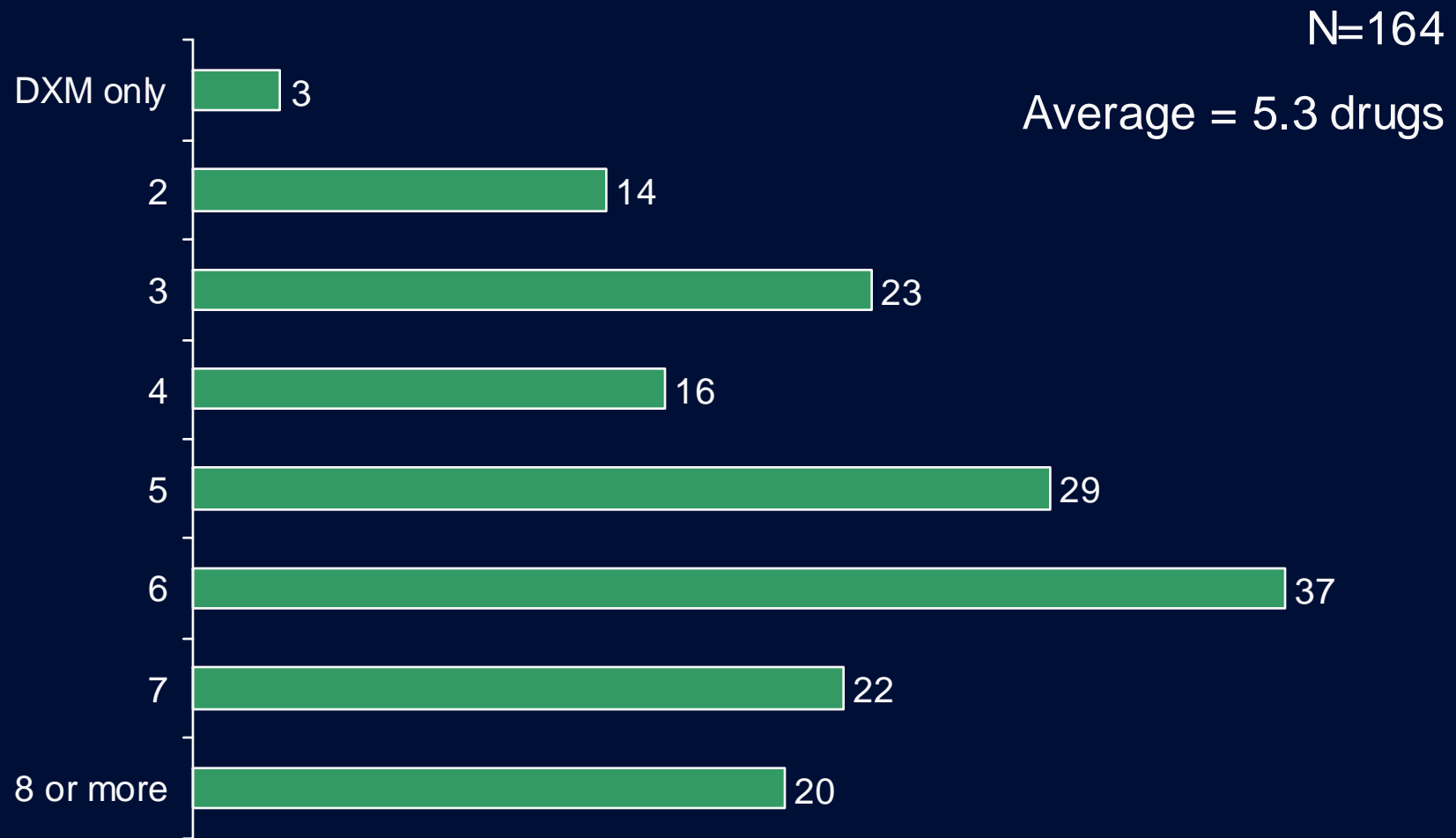




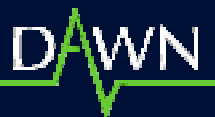
Identifying the Drugs Present

- Most DXM cough/cold medications contain multiple ingredients
 - decongestants
 - antihistamines
 - analgesics
- ME/Cs report individual ingredients because most come from toxicology
- DAWN is rarely able to identify multi-ingredient products in these data

Polydrug Use in Deaths with DXM

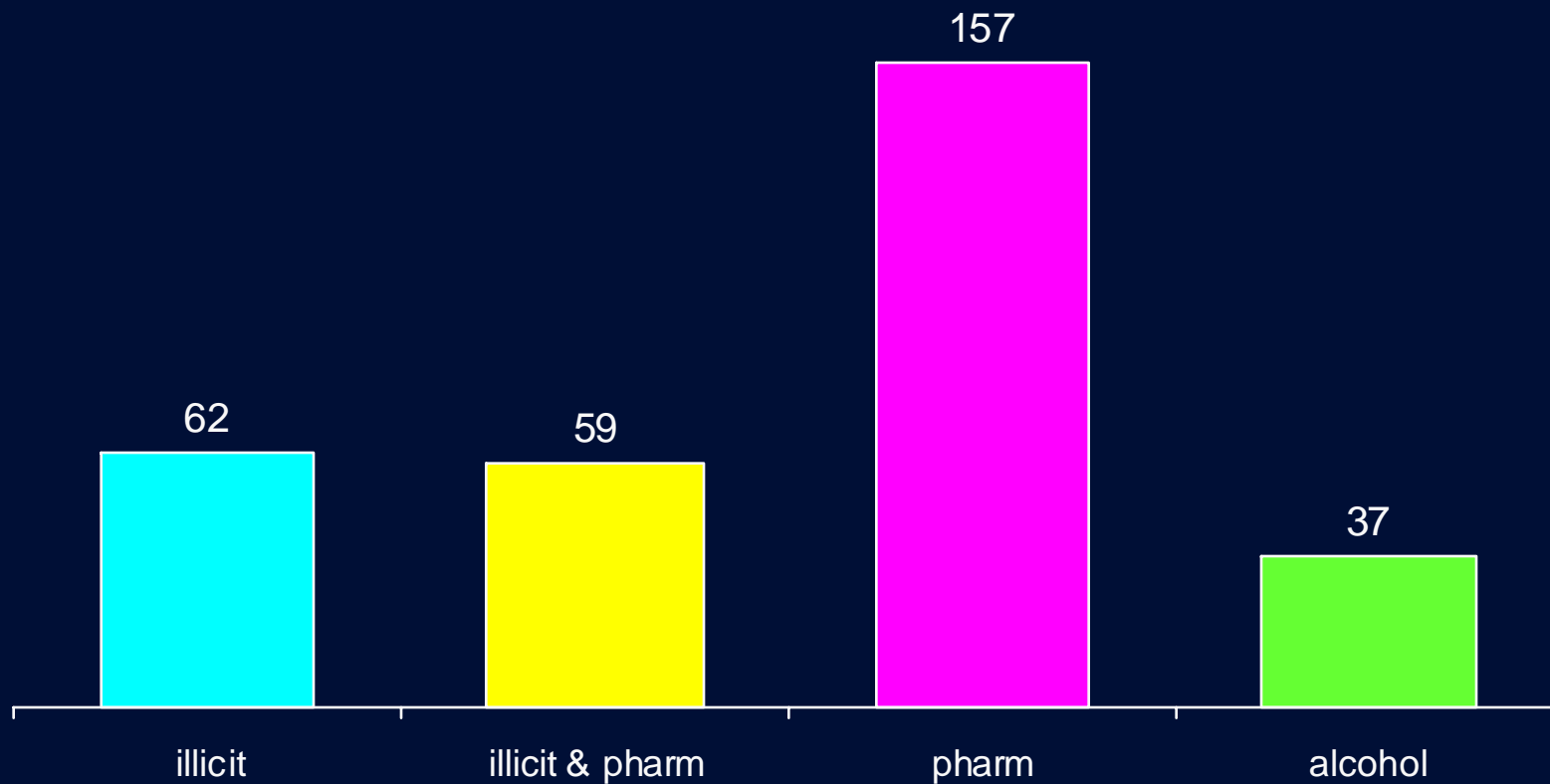


Source: Unpublished 2004 DAWN mortality data



Drugs Reported with DXM – 2004

164 deaths



Source: Unpublished 2004 DAWN mortality data





Types of Drugs Reported with DXM

Drug Category	Drug Reports	Percent of deaths
Total	887	100
Analgesic	219	75
Opioid*#	186	73
Anti-anxiety/sedative/hypnotic	146	57
Benzodiazepine	54	25
Antidepressant	102	41
Illicit	110	52
Cocaine	43	30
Alcohol*	37	23
Antihistamine*	38	22

*Ingredient in cough/cold medication

#Includes heroin



Source: Unpublished 2004 DAWN mortality data



“Cause of Death”

- ME/C determines
 - Immediate cause of death
 - Contributing cause(s)
 - Other significant conditions



Causes of Death

Cause of Death	Number of deaths
Drug involvement	154
Toxicity/overdose/acute intox.	126
Polydrug/combined effects	117
Drug abuse	17
Adverse effects of drugs	5
Illness/injury	47
Other significant condition	35

Source: Unpublished 2004 DAWN mortality data





Causes of Death – Drugs

Cause of Death	Number of deaths
Drug named in COD	98
Opioid*	63
DXM	43
DXM sole cause	3
Illicit drug	34
Cocaine	33
Alcohol	16
Antidepressant	16
Benzodiazepine	11

*Includes heroin

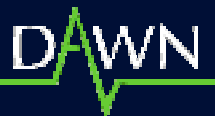
Source: Unpublished 2004 DAWN mortality data





Summary – Characteristics

- In 2004, 164 deaths involving DXM were reported to DAWN from 33 jurisdictions
- Average age 40
- Average of 5 drugs per death





Summary – Cause of Death

- Opioids most frequently cited as a cause of death (63 deaths)
- DXM cited as a cause in 43 deaths
 - 3 deaths attributed to DXM alone
- Therefore cannot assume that DXM was the cause of all 164 deaths



<http://dawninfo.samhsa.gov>

DAWN

