

# **Street-Side Drug Cocktails: Fentanyl-Laced Heroin**



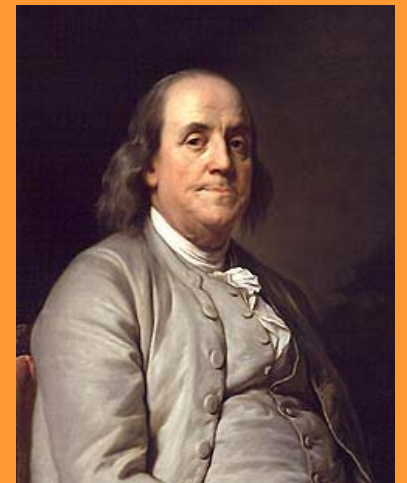
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EMS Medical Director  
Philadelphia Fire Department  
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Fentanyl-Laced Heroin:  
**The Scourge of 2006**



# Philadelphia Fire Department

- Sole 9-1-1 response agency
- 36 ALS units, 9 BLS units
- 90 engines and ladders
- 1300 EMTs, 250 medics
- EMS call volume ~ 250,000/yr



# Laced Heroin

- China White (3-methyl-fentanyl)
- Scopolamine
  - Anticholinergic toxicity
- Clenbuterol
  - $\beta$ -adrenergic agonist used in horses
  - Body-building supplement



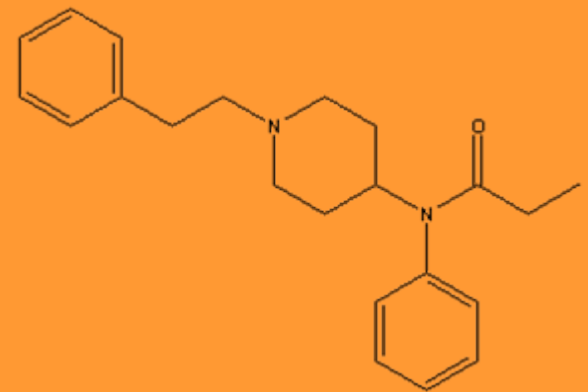
# The Outbreak

- In April 2006 Philadelphia media reported multiple overdoses, including several fatalities, attributed to a heroin brand named “Fefe”.
- Forensic testing of samples obtained by police detected the presence of fentanyl.



# Fentanyl

- 80 times as potent as morphine
- Used extensively for anesthesia and analgesia
  - Including by EMS
- Duration of action ~ 30 min.
- Reversible with naloxone

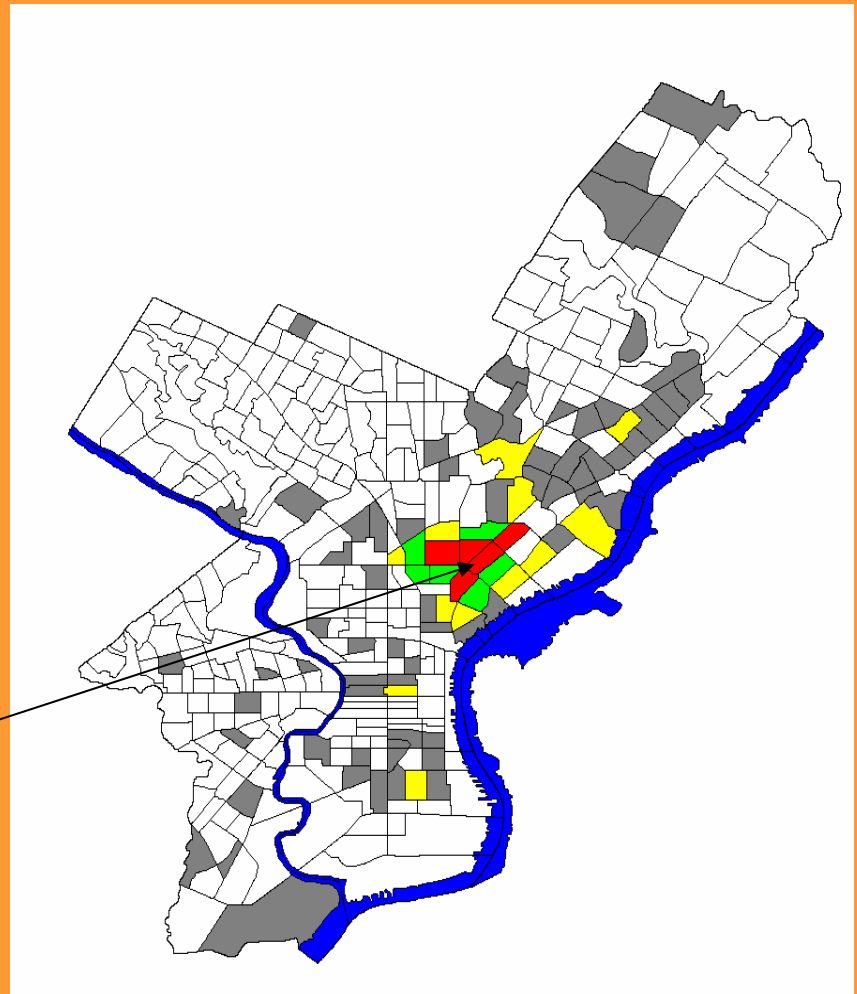


# Naloxone Use 2006

## *Narcan Use 2006*



**Max 70 (Tract 177)**



# The Outbreak

- “Lethal Injection”, “Flat Line”, “Drop Dead”
  - Chicago
  - Atlanta
  - St. Louis
  - New York
  - Pittsburgh
  - Detroit (12 deaths on May 18, 2006)







# The Response

## DEPARTMENT OF HEALTH & HUMAN SERVICES

Center for Substance Abuse Treatment (June 2, 2006)

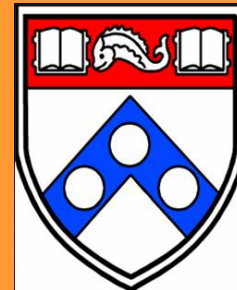
### *ALERT*

- “Suspected overdoses should be treated rapidly with a naloxone injection, 0.4-2 mg IV, SC or IM every 2 to 3 minutes.
  - If there is no response after 10 minutes, a different diagnosis should be considered.

# Fentanyl-Laced Heroin Forum Hosted by White House Drug Policy Office

Friday, July 28, 2006

1. White House Drug Czar
2. Law enforcement
3. EMS
4. Hospital providers
5. Drug addiction programs
6. Poison control centers



# Prevention Point Philadelphia

- Syringe exchange services
- Street-side health services
- Training includes:
  - Calling 9-1-1 in case of OD
  - Rescue breathing
  - Administering naloxone (0.4 mg IM); repeat in 5 minutes if needed



# Philadelphia Fire Dept.- EMS

- Protocol for Unconscious/Altered Mental Status pts, effective 2004
  - ABCs
  - Check blood sugar, correct if low
  - Naloxone, 0.4 mg, repeat x1, then **contact medical command if no response**



# Some Unexpected Consequences

## The Philadelphia Inquirer

### **City Stand on Heroin Risks Lives**

August 20, 2006

“Two months ago, as scores of drug users in the city began dying of heroin overdoses, two city paramedics discovered something alarming. Narcan wasn't working.”

# Some Unexpected Consequences

## **Pair of Philadelphia paramedics discover problems with fentanyl antidote**

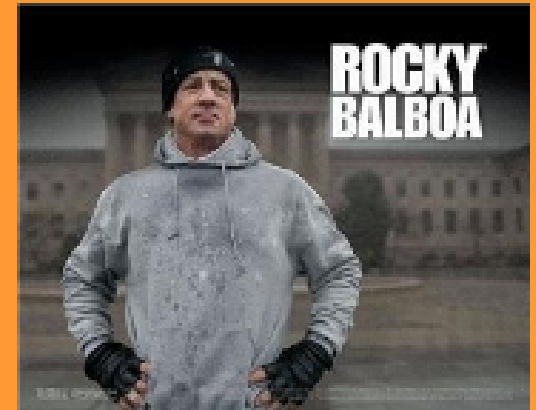
Philadelphia Inquirer, 8/21/2006

“But as the concerns of the two paramedics made their way up the Fire Department's bureaucracy, the city did not make key changes in how it treated people dying of a fentanyl overdose — though experts say that simply increasing the dosage of the antidote would counteract the fentanyl.”

# Some Unexpected Consequences

## The Philadelphia Inquirer

“But C. Crawford Mechem, medical director of EMS, said Philadelphia's protocol...was sufficient, and typical of those in most cities...‘The policy we have in place is perfectly adequate,’ said Mechem.”



# Some Unexpected Consequences

## The Philadelphia Inquirer

“To make matters worse, many people suffering from overdoses didn't receive Narcan because they lived in areas where the number of emergency medical personnel who could administer the drug had been cut.”





# Some Unexpected Consequences

## *The Philadelphia Inquirer*

“This is another example of a real crisis we are experiencing in providing our citizens with fast and effective emergency medical services,’ said City Council President Anna C. Verna.”



- The Media
- The “Experts”
- City Council
- The Union

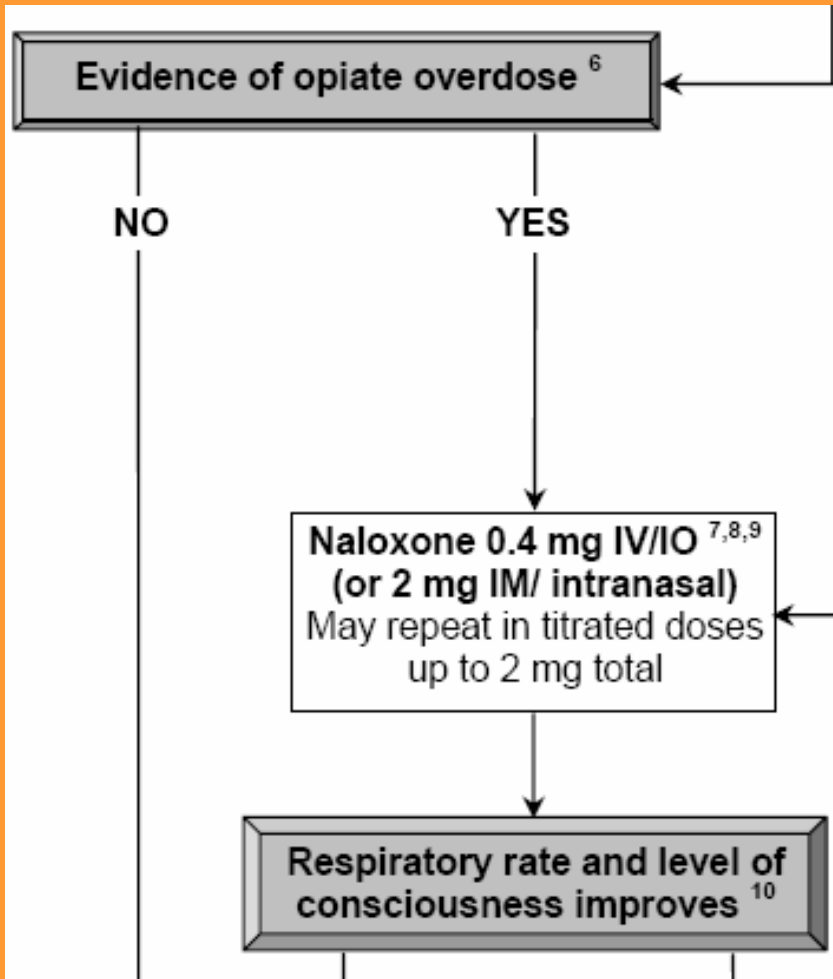
The Medical Director



# Pennsylvania Department of Health Bureau of Emergency Medical Services

Effective by July 1, 2007

ALTERED LEVEL OF CONSCIOUSNESS - Adult  
STATEWIDE ALS PROTOCOL



“Larger individual doses of naloxone can precipitate opiate withdrawal with the potential for a violent or combative patient...”

# Some Unexpected Consequences

## *The Philadelphia Inquirer*

### **City Altering Heroin Overdose Treatment**

August 27, 2006

“The city's emergency medical director said last week that Philadelphia will be changing its policy to give more...Narcan to comply with new state guidelines that are expected to be approved Nov. 1...

In announcing the change last week, the city was not bowing to pressure, said C. Crawford Mechem.”



# How Much Naloxone is Enough?

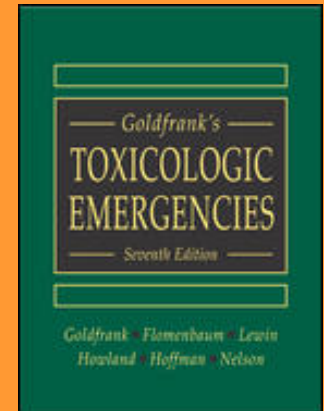
- 0.1, 0.2, and 0.4 mg IV reversed respiratory depression caused by 50 $\mu$ g IV fentanyl administered to anesthetized patients in a dose-dependent fashion.



Naloxone: Dose-dependent antagonism of respiratory depression by fentanyl in anaesthetized patients. Br. J. Anaesth 1977; 49:151-4.

# How Much Naloxone is Enough?

- 0.4 mg IV will reverse the respiratory-depressant effects of most opioids.
- In an opioid-dependent patient, 0.4 mg will usually produce withdrawal.
- 50 $\mu$  (0.05mg) is a practical starting dose in most patients, increasing to 0.4 mg, then to 2 mg, finally to 10 mg.

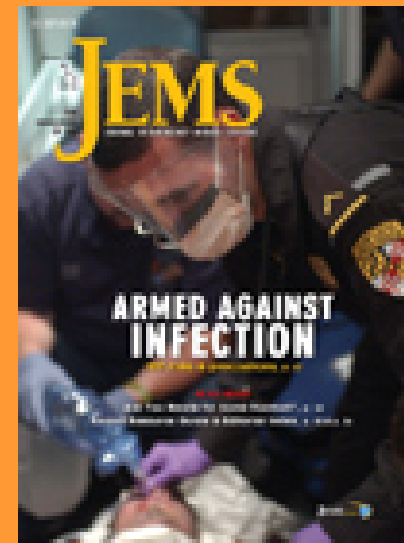


# How Much Naloxone is Enough?

## Clinical Alert: The New High: EMS crews confronted with heroin-fentanyl ODs

“Naloxone should be administered at the lowest dose possible to allow a return of spontaneous respirations but prevent opioid withdrawal.

In patients suspected of chronic heroin abuse and therefore opioid dependence, a dose of 0.2–0.4 mg IV naloxone is typically all that's required.



JEMS Jan 2007



# How Much Naloxone is Enough?

## *The Philadelphia Inquirer*

### Medical Director Uses Too Much Narcan



# Some Long-Term Solutions?

- EMTs administering nasal naloxone?
  - Prohibited under current PA EMS statutes
  - Introduction of advanced EMTs to PA's scope of practice underway
- Partnering with substance abuse prevention programs

# Take Home Messages?

- Tainted drugs are an EMS reality.
- EMS staffing shortages call for more efficient use of available resources.
- When dealing with the media, have a consistent message.

“What have you learned, Dorothy?”



# Questions?

