



# **PREFACE- FENTANYL EXPOSURES TO EMERGENCY RESPONDERS**

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69<sup>th</sup> Meeting, NIOSH Board of Scientific Counselors  
September 26, 2017

# OPIOID CRISIS A TOP DHHS PRIORITY

- CDC coordinating response across organization
- NIOSH Workgroup – May 2017



# NIOSH WORKGROUP

- Dawn Castillo and Lore Jackson Lee (Co-Leads)
- Sophia Chiu (DSHEFS)
- Lauren Cimineri (WTCHP)
- Jennifer Hornsby-Myers (EPRO)
- Sudha Pandalai (EID)
- Rene Pana-Cryan (ERSO)
- Kellie Pierson (DART, TWH)
- Ashlynn Richardson (OPPE)
- Kerry Souza (DSHEFS)
- Stephanie Stevens (COM)
- Romina Stormo (TWH)
- Hope Tiesman (DSR)
- Doug Trout (DSHEFS)
- Steve Wurzelbacher (CWCS)

## WORKGROUP CHARGE

- Coordinate work across NIOSH, and with CDC
- Explore associations between work and the opioid epidemic
- Identify potential expansions of NIOSH work



# WORKGROUP ACTIVITIES AND PRELIMINARY FINDINGS

## ▪ **Activities**

- Inventory of intramural and extramural activities
- Research questions/needs
- Make recommendations to NIOSH Leadership

## ▪ **Multiple and complex associations**

- Work injuries and illness reason for prescription
- Safety and health issues for workers using opioids
- Work organization and exposures influencing opioid use
- Work exposures to fentanyl

# **FENTANYL EXPOSURE TO EMERGENCY RESPONDERS**



# FENTANYL EXPOSURES TO EMERGENCY RESPONDERS

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# CONCERN ABOUT FENTANYL POTENCY

- **Gray death: It's 10,000 times more powerful than morphine**
  - USA Today Vic Ryckaert and Shari Rudavsky, The Indianapolis Star Published 8:46 p.m. ET May 24, 2017
- **Gray Death – The Deadliest Drug Cocktail in Town**
  - By Pamela Kulbarsh, Jun 6, 2017 from Officer.com
- **Fentanyl Crisis: Ohio Cop Accidentally Overdoses During Drug Call”** Published May 15, 2017, NBC Nightly News with Lester Holt
- **Florida boy, 10, dies of fentanyl overdose after visiting swimming pool,** Published July 18, 2017, Tribune Media Wire



# EXPOSURE OF RESPONDERS TO FENTANYL

## ▪ **What we know**

- Many reports in the news of responders' exposure to opioids
  - Anecdotal reports in the media causing real fear in the responder community.
- **Responders need guidance to protect themselves**
  - NIOSH receiving multiple calls/emails every week from first responders
    - Law Enforcement
    - Emergency Medical Staff (EMTs, Paramedics)
    - State Public Health Departments
    - Medical Examiners

# EXPOSURE OF RESPONDERS TO FENTANYL

## ▪ **What we don't know**

- How responders are exposed, and how frequent?\*
- Which activities have highest risk for exposure?
  - Are there other factors? \*\*
- Which route(s) of exposure is most likely (or least likely) to lead to a negative health outcome
    - For example, dermal may be most likely route of exposure but least likely to cause symptoms
  - How responders can modify their current standard operating procedures to protect themselves

# WHAT NIOSH HAS DONE

- Developed NIOSH webpage as interim guidance with interagency workgroup (DOJ, FBI, DEA, HHS, DHS), Nov 2016
- Updated NIOSH webpage with interagency group (DOJ, FBI, DEA, HHS, DHS, NHTSA, ACMT) input, Aug 2017
- NIOSH provided input to the InterAgency Board's guidance

## The National Institute for Occupational Safety and Health (NIOSH)

Workplace Safety & Health Topics

Fentanyl

Protecting Workers at Risk

Illegal Use of Fentanyl

Resources

Promoting productive workplaces  
through safety and health research



[NIOSH](#) > [Workplace Safety & Health Topics](#)

### Fentanyl: Preventing Occupational Exposure to Emergency Responders



#### Follow NIOSH



#### Overview

Fentanyl is a powerful synthetic drug that is similar to morphine and heroin but is 50 to 100 times more potent. Fentanyl and its analogs are members of the class of drugs known as rapid-acting synthetic opioids that alleviate pain. Other drugs in this class include fentanyl analogs, such as acetylfentanyl, butyrfentanyl, carfentanil, alfentanil, sufentanil and remifentanil. Fentanyl acts quickly to depress central nervous system and respiratory function. Exposure to fentanyl may be fatal.

The U.S. Drug Enforcement Administration (DEA) classifies fentanyl and some of its analogs as schedule II prescription drugs, which are typically used to treat patients with severe pain or to manage pain after surgery. They are sometimes used to treat patients with chronic pain who are physically tolerant to other opioids; however per the [CDC Guideline for Prescribing Opioids for Chronic Pain](#), only clinicians who are familiar with the dosing and absorption

# NIOSH Recommendations for Emergency Responders

## ▪ Job categories

- Pre-Hospital Patient Care
- Law Enforcement
- Investigation and Evidence Handling
- Special Operations and Decontamination

## ▪ Exposure levels

- Minimal (suspected but not visible)
- Moderate (small amounts visible)
- High (liquid or large amounts visible)

## Personal protective equipment recommendations for protection against fentanyl

Personal Protective Equipment	Pre-Hospital Patient Care			Law Enforcement Routine Duties			Investigations and Evidence Collection			Special Operations and Decontamination					
	Exposure Level	Minimal	Moderate	High	Minimal	Moderate	High	Minimal	Moderate	High	Minimal	Moderate	High		
<i>Respiratory Protection</i>															
Disposable N100, R100, or P100 FFR <sup>1</sup>			✓	<b>Not recommended</b>		✓	<b>Not recommended</b>		✓			✓			
Elastomeric APR <sup>2</sup>										●	✓		●	✓	
PAPR <sup>3</sup>											●		●	●	
SCBA <sup>4</sup>											■			■	
<i>Face and Eye Protection</i>															
Safety goggles/glasses <sup>5</sup>			✓			✓				✓	✓		✓	✓	
<i>Hand Protection</i>															
Nitrile gloves <sup>6</sup>		✓	✓		✓	✓		✓	✓		✓	✓			
Nitrile gloves, double or use of thicker gloves			●			●			●	●	●	✓			
<i>Dermal Protection</i>															
Wrist/arm protection <sup>7</sup>			✓			✓			✓			✓			
Particulate hazards protective ensemble (i.e., NFPA 1999 Single or Multi-Use or NFPA 1994 Class 4 Ensemble)										✓			✓		
Chemical hazards protective ensemble (i.e., NFPA 1994 Class 3 Ensemble or Higher)										●			●		

✓ Minimum protection recommended.

● When an on-scene health risk assessment is conducted and higher protection is warranted.

■ If particulate + gas/vapor hazard is expected above the immediately dangerous to life or health (IDLH) values or concentration is unknown, SCBA is recommended.

Not recommended, refer scene to special operations response workers (such as local hazmat team)

# WHAT NIOSH IS DOING

- Actively seeking opportunity for Health Hazard Evaluations (HHE)
  - NIOSH has reached out to multiple departments to provide information on the HHE program
- Working with the Interagency through the National Security Council, Director for Law Enforcement
  - Developing “one-pager” for first responders

# WHAT NIOSH IS DOING (continued)

- **Coordination Role**

- Connected Sheriff Departments in FL
- Connected different public health partners within KY
  - NIOSH ERC at UK with the State Public Health Department\*
- Providing consultation to individual inquiries from many other state and local entities
- Connected Provincial public health partners in Canada

# GAPS IN KNOWLEDGE

- **Issues we need to address:**

- Which route(s) of exposure is/are most likely (or least likely) to cause illness?
- Decontamination of responders/workers and equipment
- Should law enforcement field test if fentanyl is suspected?
- Are there other workforces that need guidance?
  - Health Care Providers, Parks and Sanitation workers, other state/local government workers?

# RELATED RESEARCH

- Ongoing funded project in DART to develop a wipe sample field test for law enforcement (using lateral flow immunoassay method).\*
- Providing input to a survey of first responders led by Central Appalachian Regional ERC\*\*

# QUESTIONS FOR THE NIOSH BSC

- **Thoughts on prioritization of needs?**
  - How should NIOSH prioritize the gaps?
    - Routes of exposure
    - Decontamination
    - Standard operation procedures
    - Other workers
  - What other research gaps exist?

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

